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BLOIS, an important city of France on the river Loire, in the department of Loir et Cher. It is 96 miles from Paris in a straight line, S.W. by S., or 105 miles by the road through Étampes and Orléans. It is in 47° 33' N. lat. and 2° 20' E. long.

Blois is a town of considerable antiquity. An aqueduct cut in the rock, which brings water from a spring at the distance of half a mile to a reservoir close to the walls of the town, is thought to be a Roman work; but no Roman geographer has mentioned any place that can be identified with Blois. Gregory, bishop of Tours, a writer of the sixth century (in his History of France), is the first who makes any clear and distinct mention of this town: he calls it Bleso.

Under Charles le Chauve, or the Bald (grandson of Charlemagne), who reigned from 840 to 877, it was a place of some consequence; and under the princes of the second, or Carolingian, race, money was coined here. Under these princes Blois with its surrounding territory was erected into a county, and the counts of Blois seem to have acquired considerable power, but their history and succession are confused and uncertain. Stephen, who usurped the throne of England upon the death of Henry I. in 1135, and his brother Henry, bishop of Winchester, were sons of one of the counts of Blois, by Adela, daughter of William the Conqueror; and the house of Blois was more than once united by marriage with the royal family of France. At length the county of Blois, having been sold to Louis, duke of Orléans, brother of Charles VI., came by inheritance to his grandson, Louis; and upon the accession of this prince in 1498 to the throne of France, under the title of Louis XII., his domains, including this county, became attached to the crown. (Expiilly, Dictionnaire des Gaules, &c.; Millin, Voyage dans les Départements du Midi de la France.) The county of Blois was subsequently made part of the appanage of Gaston, duke of Orléans, brother of Louis XIII., and of Philip, only brother of Louis XIV., from whom it was inherited by the subsequent dukes of Orléans.

After the county was united to the crown, Blois was not unfrequently the residence of the court, and the scene of several important events. Here Louis XII. signed several treaties; and here were celebrated the festivities and tournaments which signalized the marriage of the Duke of Alençon with Margaret, sister of Francis I. Blois was also the scene of festivities in the reign of Henry II., son and successor of Francis; and here Henry IV., married Margaret of Valois, daughter of Henry II. But the most remarkable event of which this city was the scene, was the assassination in the castle of the Duke of Guise and his brother the Cardinal, in the year 1558, during the reign, and by the order, of the king, Henry III. [See Guise.]

The city stands on the north or right bank of the Loire about midway between Orléans and Tours. It is built on the slope of a hill, the summit of which is crowned by the castle: a bridge, erected in 1724, in the place of a more ancient structure, the date of whose foundation was unknown, and which had been carried away by the breaking up of the ice after the hard winter of 1709, unites it with the suburb of Vienne on the opposite side of the river. The upper part of the town, which is the most ancient, has steep and narrow streets; more modern edifices occupy the lower part, and accord well with the fine quay that lines the bank of the Loire. According to local tradition, the most ancient building, if indeed it yet remains*, is the prison. The bridge over the Loire is of stone and has eleven arches.

The curve formed by the road-way is considerable, and the centre is consequently much raised above the bed of the river: in the middle of the bridge rises a pyramid of about 60 feet high (exaggerated in some geographical works to 100), the effect of which is described as at once striking and agreeable. The castle was originally built by the Counts of Blois, and some part of the structure erected by them (viz., a large tower) still remains. The eastern front, under which is the gateway of the court, was built by Louis XII., whose statue, representing him on horseback, which once adorned this part of the building, has been thrown down. The northern front of the building was erected in the reign of Francis I., and another part towards the west by the celebrated architect Mansard at the order of Gaston, duke of Orléans, brother of Louis XIII., to whom (as already noticed) the county of Blois was given as an appanage. When M. Millin visited Blois (in the early part of the present century) the castle was occupied as a barrack; to what use it is devoted at present we are unable to say. The ‘hall of the States’ was, at the time of M. Millin’s visit, used as a place for exercising recruits in bad weather. A tower in this castle is called ‘the tower of Château Renauld or Regnard,’ because from it that place, which is distant eighteen miles, can be seen. The garden attached to the castle was planted by Henry IV., and improved while in the possession of Gaston of Orléans. Morison, an Englishman (who having followed the disastrous fortunes of Charles I., found an asylum in France), published a catalogue of the plants of this garden, which had acquired considerable celebrity.

Of the other public buildings at Blois, the bishop’s palace, which appears to have served for a time as the hotel or office of the prefecture, is one of the handsomest: from its terraced gardens there is one of the most agreeable prospects in France. The present office of the prefecture, built in a large place, or open space: the Hôtel de Ville, or town house, containing the valuable public library; the nunnery of the Carmélites, now used as a dépôt des étoffes; and the Palais de Justice, or court-house, a building erected at various periods, are among the objects best worthy of notice. The public fountains contribute to the cleanliness of the place and the health of the inhabitants. These fountains are supplied by means of leaden channels or conduits from a reservoir to which water is brought by the Roman aqueduct already noticed. The public walk,
which is very beautiful, stretches along the river. (Malte-
Brun.)

Before the Revolution Bois possessed many religious
houses; there were two abbeys, one of Benedictines (called the
Abbey of St. Launer), very ancient, and celebrated for
its school as early as the twelfth century; and one of the
order of St. Augustin, called the Abbey of Bourg Moyen;
convents for Cordeliers, Capuchins, Minimes, and nun-
cerits. In the people one of the Visitation, and the
so-called Véroniques. There was a Jesuits' college pre-
vious to 1764, when that order of ecclesiastics was expelled
from France. There was also an hospital for the sick
(Hôtel-Dieu), attended by the nuns called Hospitalières, an
hospice for poor children, and a seminary for the
education of the priesthood. The buildings at Bois were
very much injured by the Protestants in the religious wars
of the sixteenth century. The buildings of the Abbey
of St. Launer are now used as an hospital, and those of the
Abbey of Bourg Moyen, for the college or high school
for the church of the Abbey of St. Launer, now called St. Nicholas.

is a remarkable monument of the architecture of a period
when the Gallo-Roman style was passing away.

The gates of Bois have an image of the Virgin placed
over them all, in commemoration of the deliverance of the
townsmen from a dreadful pestilence which ravaged the
place in 1631, and from which they were, as they deemed
it, miraculously delivered in consequence of a vow which
they made to the Virgin. (Expi. Dictionnaire des
Géographes.)

On the side of the Loire opposite to Bois is the populous
suburb of Vienne. As it is not mentioned separately in
the returns of the population for 1832, we presume its
population was included in that of Bois, which at that
time was 2,089 souls; for the town of Vienne has kept
from the whole commune. The people of this town have the reputa-
tion of speaking French with great purity, free from any
provincialism; but the justness of the eulogy has been dis-
puted by some, who consider it to have been a mere com-
plimentary inference from the frequent residence of the
court here. There are at Bois a Collège or high school, which
however is not of any great importance or repute, two
hospitals, a cabinet of natural history, an agricultural so-
ciety, a public library (already noticed), and a theatre. (M.
Robert. Dictionnaire Géographique...) Near Bois are the schools of
Menars, established by the Prince of Chima, of which an
account is given in No. XIII. of the Journal of Education,
and of which we subjoin the following particulars transmitted
to us (1835) from Bois:

is a large five miles W. of Bois on the
bank of the Loire, containing in the midst of a large park a
very fine château, which was for some time the residence of
Madame de Pompadour. A new and more powerful inte-
rest now attaches to that magnificent building, as the Prince
Joseph de Chimay, the successor of the 'Château de Menars,' has,
derived, under the title of the 'Prytaneum,' extensive esta-
blishments for instruction, rational in its character, and
designed for special purposes,—instruction which corresponds
to the varied wants of the different classes of which society
is composed. Thus the first division of the Prytaneum,
called the 'Institute of Commerce and the Belles Lettres,'
embraces on the one hand a complete course of scientific
and literary instruction, and on the other a complete com-
mercial education.

the School of Arts and Trades. There are seven workshops in this
department; those of the wheelwright, joiner and cabinet-
maker, blacksmith, polisher and finisher of hardwares,
turner in wood, saddler, and cutter. Theoretical and prac-
tical instruction are combined in the School of Arts and
Trades. Lastly, the third division, called the 'School of Pioneers' (Ecole des Pionniers), a term employed in an
enlarged sense, comprehends the trades of tailor, shoe-
maker, bricklayer (maçon), Sawyer, gardener, &c. Dif-
ferent localities are assigned to each division of the Pry-
taneum.

The success of the Prytaneum, which was founded only
three years ago, has settled the question of education for
special purposes which has so long occupied attention, and
which some men of liberal minds have at different times
suggested. The Prytaneum of Bois has solved this question
never yet been solved as it now is by the 'Prytaneum de
Menars.' This work of civilization and of moral improve-
ment has inscribed in the list of benefactors to their country

The name of Prince Joseph de Chimay, who, with rare per-
severance, and at great sacrifices, has so completely dedi-
cated himself to the noble labour of improving education,
at an age when so many men have scarcely finished their

The manufactures of this town consist of serges and
other light woollens, leather (which branch of industry has
declined), Yarn, and hessian, glass, glues, and

These articles, there being a market in each trade is carried on, as timber, drugs, wine, brandy, and

Bois is the capital of the department. It has a tribunal de
première instance, of subordinate court of justice, and a
tribunal de commerce, or court for the settlement of mer-
chantile disputes. The arrondissement of Bois comprehends
718 square miles, or 459,520 acres, and had, in 1832, a popu-
lation of 114,307. It was subdivided into ten cantons and
40 communes.

Bois was made the seat of a bishopric in the year 1697,
and was, with the exception of the bishoprics of Dijon and
St. Claude, the latest of those established up to the Revo-

Under the reduced hierarchy of the present day it main-
tains its episcopal rank. The diocese comprehends the
department of Loir et Cher; the bishop is a suffragan of the
Archbishop of Paris. The celebrated M. Grégoire was
bishop of Bois, or rather of the department of Loir et Cher
under the constitution of Civil du Clergé, 1791; but as the
church has always protested against that act, he is not
considered in the commission of this work.

Among the more eminent natives of Bois may be men-
tioned the good king Louis XII, under whom, as already
noticed, the county of Bois was united to the crown; Father
Jean Morin (Morinus), a learned orientalist and bibil-
eal scholar; and the Marquis de Patras, who was executed
at Paris in the year 1790 upon a charge (whether true or
false) of having formed the project of a counter-revo-
lution.

The county of Bois (commonly called in maps Le Blaisois,
but written by some Le Bliès) is bounded on the north
by Le Dunois and L'Orléanais, properly so called, on the
east and south by Berry, from which it is separated in one
part by the Cher, and on the west by Tournaine and

Le Dois is divided into two parts by the Loire; the upper
part to the north part of the department of the district of
Sologne, one of the most barren tracts in France. The
Leoi is the only river of any importance which flows
through it; the Beuvron and the Cosson, which fall into
that river on the south side, are of minor importance, as
the course of the Beuvron falls into the Cher, and the
Sauldre, a tributary of the Cher, waters the southern part.
The chief towns in the Blaisois, beside Bois, already
described, were Romorantin, St. Dié, and Mer. Romorantin
had, in 1832, 6537 inhabitants, or 6985 for the whole com-

communication of which society

The School, a M.A., F.S.A., rector of
Fresefield in Norfolk, and author of a very excellent history
of that county, was born at Fresefield on July 23rd, 1705.
He was first educated at Diss, and then at Tetsford, from
whence he was sent to Gonville and Caius College, Cam-
bridge, in 1724. He took his degree of B.A. in 1727, and
in the same year was ordained deacon on the recommendation of St. Giles in the Fields, London; and in the following
year was made a licensed preacher by Dr. Tanner, then
chancellor of Norwich. In 1729 he was instituted rector of
Hargham in Norfolk, on the presentation of Thomas Hare,
and was also a member of the vestry. In 1734 he was
appointed to the rectorship of Fresefield, on the presentation of his own father, Henry Blomefield, Gent. He continued to hold both rec-
tories till 1750, when he relinquished Hargham. The
above particulars are derived from the genealogical table
in the "Historical and Genealogical Account of the
Hare Family," by John Hare, a descendant of the
family. The Hares have found it difficult to get any further information
concerning him, as the continue of his work and the editor of
the new edition do not furnish any additional facts. The
publishers of the last edition, in eleven vols. 8vo., commenced in 1805, exerted themselves to procure a likeness of Blomefield, and having ascertained that there was none in existence, undertook the matter of furnishing a portrait intended for another person, but which was considered a striking likeness of the historian of Norfolk.

Blomefield's death must have taken place in or subsequent to 1765. He was born in 1707, and his work, printed in his own life, was completed and the publication began in numbers in 1739. It was left unfinished at his death, when he had carried it to nearly the end of the third (folio) volume, and the completion was ultimately undertaken by the Rev. C. Parkin, rector of Orxburgh, who had rendered some assistance to Blomefield in the previous portion, and had himself formed considerable collections. This gentleman finished the third volume, and added two more, which are considered inferior to those by Blomefield. However, no part of Mr. Parkin's continuations is more highly valued than that by them in the last, which was issued by the bookseller who had purchased his library, which included that of Blomefield. The second volume was published in 1743, the third, completed by Parkin, not till 1769, and the fifth and final volume appeared in 1773. Blomefield was greatly assisted in his work by the collections which had been formed by Peter Le Neve, norroy king-at-arms, who spent about forty years in amassing at great expense and trouble the greatest collection of facts for the history of Norfolk that was ever formed for any county in England, and which, considering its kind, is one of the most important. By them, above all, was the late Mr. T. Tanner, who, having been chancellor of the diocese, was acquainted with a vast number of records relative to the county. Parkin also had the benefit of Le Neve's collections, as well as of those which had been formed by Blomefield himself. The modern work of Venables, Viti, and Viti de Peclet, Lecanaria Cantabrigenisa, a collection relating to Cambridge University, town, and county. Although printed so late, the materials seem to have been collected before he began the 'History of Norfolk,' that is, between the years 1724 and 1734, including the period of his residence at the university.

(History of Norfolk, folio and 8vo. editions; Gough's British Topography.)

BLONDEL, or BLONDIAUX, Fransois Jules de, the son of the poet and friend of Richard I. de Hœdic, lord of that castle, whom he accompanied to Palestine. He is also called Blondel de Neales, from his name of his native town; but Fauchet (Origine de la Langue et Posée Française, Paris, 1851), in his series of French poets anterior to 1300, exclusively mentions him as the poet of the Faustine, a tale critical with Richard's minstrel. Accordingly, he bestows a separate article on each, giving under the head of Blondel de Neales extracts from some of his songs, written in the Norman French, or 'Langue d'ou'; while under the head of Blonnel, Richard's favorite, he relates the story of his wandering through Germany in 1193 in search of his master, who, on his return from Palestine, had been made a prisoner by Leopold duke of Austria, and confined in some unknown fortress. On arriving under the walls of Lowenstein, Blonnel, who, having some intelligence of the place, conspired with some of the prisoners that he was Richard, the prisoner, began singing an air which they had composed together, when to his joy he heard Richard's voice responding and concluding the song. The discovery led to Richard's release. This tale, which Fauchet gives on the authority of a published until after his death, was subject of a well-known opera by Grevy. The truth of the story however is doubted. (See Berrington's History of Richard I., and the article Blonnel, in the Biographie Universelle.) This last style Richard's Blonnel 'Blondeau de Neales' considering them the same, and it states that there are twenty-nine of his songs in MS. in the National or Royal Library, and in the library of the Arsenal at Paris.

BLOOD, the animal fluid contained in the tubes called from their office blood-vessels. As long as it is retained in its proper vessel, and as long as the vessel remains alive, the blood is always found in a fluid state, but essentially it is a solid substance. It is the most complex substance of the animal body. It is composed of several distinct constituents, each of which is endowed with specific properties, and as the result, the body is as peculiar that there is nothing perfectly analogous to it.

On first flowing from its vessel the blood is a thick, viscid, and tenacious fluid. In all the more highly-organized animals it is of a red colour; but redness is not an essential property of it. Other animals which are not vertebrate possess true and proper blood, this fluid is tinted a red colour and there is no animal whose blood is red in all the parts of the body. In the transparent cornea of the human eye there is abundance of blood; but the blood contained in the minute vessels of this delicate membrane is not red. The blood of this insect is colourless and transparent; that of the reptile is of a yellowish colour; in the main part of the body of the fish, that is, in the whole of its musculature system, the blood is without colour; hence the whiteness of the general substance of the body of the fish: but in the more important organs, and especially in those which constitute the organs of nutrition, called the organic organs, the blood is of a red colour, as in the heart, the branchiae or gills, and so on. In the bird the blood is of a deep red; but it is the deepest of all in the quadruped. In some species of quadrupeds it is of a dark red or black; and in the hare, for example, it is dark brown, and is much deeper than in the rabbit. It is deeper in some varieties of the same species than in others, and more especially in different varieties of the human family. Nay, it is deeper in some individuals of the same race than in others, and even the same individual has different blood of different colours, according to age, to the states of health and of disease, and to different species of climate.

In man and all the higher animals the body contains two kinds of blood, each of which is distinguished by a striking difference in a kind of liquid in all the blood. Some of the blood contains red corpuscles to form a drop red and yellow corpuscles to form a drop blood. The red corpuscles are kinds, two kinds of red corpuscles are of two kinds. They are of two kinds, and have different properties, more especially in the organ essential properties less than in its colour: venous blood is incapable of nourishing the body and of stimulating the organs; arterial blood is the proper nutrient and stimulant of the system.

The specific gravity of human blood (water being 1000) may be stated to be about 1050, from which standard it is capable of increasing to 1120, and of sinking to 1026, this being the extreme range of variation hitherto observed. Venous blood is heavier than arterial blood, the former being 1032, and the latter 1030. The difference in weight depends, as will be seen immediately, on the excess in venous blood of carbonaceous matter. The higher the organization of the blood the greater is its specific gravity: hence the specific gravity of the blood of the higher animals is greater than that of the lower; and the lower animals have less carbonaceous matter, and the change produced in the human blood by disease is generally attended with a diminution of its weight. In one instance on record the specific gravity is stated to have been as low as 1022.

There is a remarkable difference in different classes of animals in the temperature of the blood. In some it is only a degree or two above that of the surrounding medium. Creatures with blood of this low temperature are called cold-blooded, in contradistinction to warm-blooded animals, whose temperature is maintained, under whatever variety of circumstances, at a temperature higher than that of the surrounding air. The temperature of the blood of the bird is higher than that of any other creature. In the duck it is as high as 107°. In many quadrupeds it is considerably higher than in man: as in the sheep, in which it ranges from 102° to 105°. In man it is 109°. Arterial blood is warmer by one degree than venous blood.

Disease is capable of effecting a considerable change in the temperature of the blood. In almost every case of fever the temperature of the blood differs from the natural standard of 100°. In certain fits of intermittent fever (ague) it sometimes sinks as low as 94°; in some types of continued fever it rises as high as 102°. In inflammation of moderate severity it exceeds the natural standard by 4°; in intense inflammation it is capable of rising above it as high as 7°.

The chemical properties of the blood are highly curious. When blood is taken from its blood-vessel, and allowed to remain at rest, it soon separates spontaneously into two dis-
distinct parts, into a solid mass and into a fluid matter, in which the solid mass swims. The solid portion of the blood is termed the clot, or the esrussament; the fluid portion is called the serum. As the process of such a separation takes place it is denominated coagulation.

The change in the constitution of the blood by which this separation into a solid and a fluid portion is effected, probably commences the very instant the blood leaves the blood-vessel. In the space of a second or two after the blood is sufficiently advanced to be manifest to the eye; in seven minutes the fluid is separated from the solid portion; while the change progressively advances until, in the space of from two to twenty minutes, the separation may be said to be complete.

The nature of this curious process is imperfectly understood. It is a process sui generis, there being no other with which we are acquainted perfectly analogous to it. It is really, as will be shown immediately, a process of death; it is the modern in which the blood dies.

A watery vapor, called the halitus, begins to arise from the blood the moment coagulation commences, and continues to issue from it until the termination of the process. The halitus consists of water containing some animal matter in solution. It possesses a very peculiar odor, and it is this which gives to the slaughter-house its characteristic taint.

The clot or esrussament, the solid part of the blood, further separates into two portions, a substance of a yellowish white colour forming the top of the clot, and a mass of blood matter the bottom of the clot. When the yellowish substance forming the top of the clot is completely separated from the red mass, it is found to be a solid of considerable consistency, soft, firm, elastic, and tenacious, or glisty. Its distinctive character is derived from the disposition manifested by its component particles to arrange themselves into minute threads or fibres; these threads or fibres are often so disposed as to form a complete net-work.

In its general aspect, as well as in its chemical relations, this substance bears a striking resemblance to pure musculo-collagen; it is also similar to that enveloing membrane and of its colouring matter.

Several names have been given to this substance, glutin, coagulable lymph, fibre of the blood, and fibrin; the latter is the name commonly appropriated to it. Of all the constituents of the blood fibrin is by far the most important. Whatever other constituent may be absent, this, in all animals which possess blood, is invariably present. The main part of all the solid structures of the body is composed of it; it forms the basis of muscle, and in the lower animals, in which blood vessels cannot be traced, it probably performs the function of muscle.

The second constituent of the clot, the red matter, being heavier than the fibrin, gradually subsides to the lower surface, where, as has just been stated, it is always found forming a distinct accumulation below the clot. The nature of this matter to the fibrin differs exceedingly in different classes of animals, and even in the same animal at different times, the difference depending on circumstances mainly connected with the general health and vigour of the system. The greater the energy and the animal, the larger is the proportion of this red matter, and it is also generally large in proportion to the elevation of the animal temperature.

Considerable diversity of opinion prevails respecting the intensity of this nature of this constituent of the blood. What is certain is, that it is composed of innumerable minute particles which vary in size in different animals. It is universally admitted that these particles, minute as they are, are highly organized; but physiologists are not agreed respecting their structure. By some observers they are supposed to be formed of solid colourless nuclei enclosed in an external envelope of a red colour, to which the colour of the blood is owing. By others they are described as consisting of circular, flattened, and transparent cakes, which when seen in cross-section near the edge of the clot, which assume a reddish tinge when aggregated in considerable masses. According to these physiologists, the edge of these cakes is rounded, and this being their thickest part, there is consequently a slight depression in the middle, on both surfaces, which is similar to the veiny appearance which these bodies are conceived most nearly to resemble a penny-piece, with its thickened margin and slightly concave surface. According to this account, the red particles are wholly des-

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It is established on indubitable evidence, that the blood which maintains the life of all the other parts of the body is itself alive. The phenomena which prove this are highly interesting.

1. It is one of the distinctive properties of living bodies that they are capable of resisting, within a certain range, the ordinary influence of physical agents on inanimate matter. Air, heat, moisture, and other physical agents have no power over the organized and living body as they have over inert matter. This is a principle in the living body which resists the ordinary physical and chemical changes produced by such agents. An egg, for example, as long as it is fresh is alive, and as long as it remains alive it is capable of self-preservation under circumstances which rapidly decompose it when its vitality is extinguished. During the period of incubation the egg is kept at the heat of 105° F. for the space of several weeks in succession, without undergoing the slightest degree of putrefaction; if its vitality is destroyed, which may be done instantaneously by passing the electric fluid through it, it becomes putrid at that temperature in a few hours. The egg has the like power of resisting cold, which was proved in a beautiful manner by some experiments of John Hunter, so managed as to show at the same time both the principle of the vitalist in resisting the physical agent, and the influence of the physical agent in diminishing the energy of the vital principle. He exposed a living egg to the temperature of 17° and 15° of Fahrenheit; it took half an hour to freeze it. When thawed and again exposed to a temperature of 15°, it was as high in vitality as before, reduced in a quarter of an hour. A living egg, together with one that had been already once frozen and again thawed, were put into a freezing mixture at 10°; the dead egg was frozen twenty-five minutes sooner than the fresh. In the one case the diminished vitality of the frozen egg enabled it to resist the low temperature for a long time; in the other case, in consequence of the diminished or destroyed vitality of the frozen egg, it yielded speedily to the influence of the physical agent. Now precisely analogous results were observed in some experiments made on the blood. On ascertaining the degree of cold and the length of time necessary to freeze blood immediately taken from the blood-vessel, it was found that, as in the egg, a much shorter time and a much less degree of cold were required to freeze blood that had previously been frozen and again thawed, than blood recently taken from a living vessel, and for precisely the same reason. In blood recently drawn from the blood-vessel, its vitality being comparatively undiminished, it is able to resist cold longer than the vital principle, which is already nearly exhausted by exposure to the influence of the physical agent.

This result is analogous to a phenomenon recently observed in the coagulation of the blood, dependent on the same principle, and placing in a striking light the influence of blood-letting in diminishing the vitality of the blood. It has been stated that coagulation is a process of death, the mode in which the blood dies. Accordingly it is found that coagulation is slow, that is, that the blood is longer in dying according to the vital energy of the system. When blood is taken from a blood-vessel in disease attended with great debility, as in the typhoid types of fever, it coagulates with extreme rapidity, or is even incapable of coagulating at all; whereas, on the contrary, it is taken in diseases attended with an exaltation of the vital energy, as in intense inflammation, it is not coagulated by Le or for a longer time. The reason is obvious. But it is remarkable that even during one and the same operation of blood-letting there is a manifest difference in the time in which the blood taken at the beginning in the middle, and at the end of the operation is coagulated. Blood power to rise from horse at four times, about one minute and a half intervening between the filling of each cup.

In cup No. 1 coagulation began in 11 M. Sec. 10 5
2 3 5
In like manner three cups were filled with the blood of a sheep at the interval of half a minute:

In cup No. 1 coagulation began in 3 10 5
2 3 5

The same result was obtained in blood taken from a human subject. A pound and a half of blood was removed from the jugular vein of a child of 12, and a fourth of which received into a teacup on the first effusion remained fluid for the space of seven minutes; a similar quantity taken immediately before tying up the arm was coagulated in three minutes, thirty seconds. These experiments prove that coagulation is from the vital energy of the blood is exhausted or unexhausted, or that in proportion to the degree of life possessed by the blood is the space of time it takes in dying.

In the second place the vitality of the blood is demonstrated by another class of phenomena. If a living egg be exposed to a degree of heat equal to the temperature at which the egg is maintained during incubation, certain motions or actions are observed spontaneously to arise in it which terminate in the development of the chick. An analogous process takes place in the blood of the embryo. This blood can be preserved from its vessels in the living body, either upon the surfaces of organs or into cavities, it solidifies without losing its vitality. This is not the same process as the coagulation of the blood out of the body; it is a vital process, indispensable to the action, and completely under the control of the vital principle. If blood thus solidified within the body be examined some time after it has changed from the fluid to the solid state, the solid is found to abound with blood-vessels. Some of these vessels can be distinctly traced past the surrounding tissue to the original of the solidified blood; with others of these vessels no communication whatever can be traced. Now these vessels, the origin of which cannot be traced external to the solid mass, were supposed by Mr. Hunter to be formed within it. Were this really the case, then the consequent action terminating its organization; an action perfectly analogous to that by which the incubated egg commences a series of movements which terminate in the development of the chick; an action never observed to take place in any other case followed without such an effect. This argument, however, is not really affected by the question as to the extrinsic or intrinsic origin of the blood-vessels. What is certain is, that a clot of blood surrounded by living parts becomes organized; what is certain is, that no dead substance thus surrounded by living parts does become organized, and itself alive. While flowing in its living vessel the blood is always maintained in a state of fluidity, in consequence of the state of repulsion both of its red and of its fibrous particles: and the maintenance of this fluidity is indispensable to life, for the blood could not circulate, or be returned to its source, which is in the capillary branches of the veins, if it approached the solid state.

Of the changes which the blood undergoes in health and disease (the changes of the blood in the latter case constituting its pathalogy) a brief view is exhibited in the following extract from the Philosophy of Health:—Health and life depend on the quantity, quality, and distribution of the blood. The chief source from which the blood itself is derived is the chyle; hence too much or too little food, or too great or too little activity of the organs that digest it, may render the quantity of blood preternaturally abundant or deficient; or, though there be neither excess nor deficiency in the quantity of nourishment formed, parts of the blood may not be united, or particles of the solid may not be retained to pass through the constantly diminishing tubes of the arteries and the capillary branches of the veins, if it approached the solid state.

The relative proportion of every constituent of the blood is capable of varying; and of course in the degree in which the healthy proportion is deranged, the quality of the mass must undergo a corresponding deterioration. The watery portion is sometimes so deficient, that the mass is obviously thickened; while at other times the fluid preponderates, so that the solid is reduced. But in either case the blood is thin and watery. The albumen, the quantity of which varies considerably even in health, in disease is sometimes twice as great, and at other times is less than half its natural proportion. In some cases the fibrin preponderates so much as to form a mass that is coagulated, coagulum is formed; in others it is so small, that the coagulation is imperfect, forming only a soft, loose, and tender coagulum, and in extreme cases the blood remains wholly fluid. When the vital energy of the system is great, the red particles abound; when it is depressed they are deficient. In the former state they are of a bright red colour; in the latter dusky purple or even black.

When the depression of the vital energy is extreme, the power of mutual repulsion exerted by the particles would seem to be so far destroyed, as to admit of their adhering to each other with an intensity that can only be conceived as a perfect disorganization, and as they seem to be actually disorganized, and to have their structures so broken up, that they escape from the current of the circulation as if dissolved in the serum, through the minute vessels intended only for the exhalation of the watery part of the blood. This change is conceived to have an intimate connexion with a diminution of the saline constituents. Out of the body, as has been shown, the red particles change their figure instantaneously, and are rapidly dissolved when in contact with pure water; while they undergo this change of form, if the water has saline matter in solution. It would seem that one use of the saline constituents of the blood is to preserve entire the figure and constitution of the red particles. It is certain that any change in the proportion of the saline constituents produces a most powerful effect on the condition of the red particles. It is no less certain that changes do take place in the proportion of the saline constituents. In the state of health the taste of the blood is distinctly salt, depending chiefly on the quantity of muriate of soda contained in it. In certain malignant diseases the taste of the blood is entirely different, and the blood is of a saline, bitter, and more especially that form of it termed pestilentia cholerica, this salt taste is scarcely, if at all, perceptible; and it is ascertained that, in such cases, the proportion of saline matter is sensibly diminished.

The blood in health and disease is much altered by the disturbance of the balance of certain organic functions—digestion, absorption, circulation, respiration, are indispensable to the formation of the blood, and to the nourishment of the tissues. Absorption, nutrition, secretion, circulation, and respiration are all impeded by the direct or indirect irritation of the parts, or by substances which are accumulated in the body, or by destroying the relative proportion of its constituents. Organs are specially provided for the main function of which is to separate and remove from the blood these injurious substances. Organs of this class are called depurating, and the reservoirs they are named are denominated that of depuration. The lungs, the liver, the kidneys, are depurating organs, and one result at least of the functions they perform is the purification or depuration of the blood. If the lung fail to eliminate carbon, the liver bile to eliminate bile, and the kidneys fail to eliminate the constituents of which these substances are composed, must accumulate in the blood, contaminate it, and render it incapable of duly nourishing and stimulating the organs.

But though the blood be good in quality and just in quantity, it may be injurious in its distribution. It may be sent out to the system too rapidly or too slowly. It may be distributed to different portions of the system unequally; too much may be sent to one organ, and too little to another; consequently, while the latter languishes, the former may be oppressed, overcharged, or stimulated to violent and destructive action. In either case health is disturbed and life endangered.

The Society of the Literary Fund are in possession of two daggers: the one used by Colonel Blood in his attack upon Edwards, the other by an accomplice. The inscriptions on the sheaths of each record the facts. They came to the society, with other residuary property, by the bequest of Sir Thomas More.

(See Remarks on Some Eminent Passages in the Life of the Fam'd Mr. Blood, fol. Lond. 1680; Sir Gilbert Talbot's Narrative of Blud's Attempt on the Crown in the Tower, M.S. Harl. No. 6859; Bogg. Britanni., Kippis's edit. vol. 2, p. 361; and Lord Chief Justice Coke Concerning the Design Reported to be laid Against the Life and Honour of George, Duke of Buckingham, folio, London, 1680.)

BLOOD-DOWN, the name of a land, celebrated for its exquisite scent and unweary perseverance, qualities which were taken advantage of, by training it not only to the pursuit of game, but to the chase of man. A true blood-hound (and the pure blood is rare) stands about eight and twenty inches in height, muscular, compact, and strong; the forehead is broad, and the face narrow towards the muzzle; the nostrils are wide and well developed; the ears are large, pendulous, and broad at the base; the aspect is serene and sagacious; the tail is long, with an upward curve when in pursuit, at which time the hound opens with its nose a wondrous, savage noise, that may be heard down the wind for a very long distance.

The colour of the true breed is stated to be almost invariably a reddish tan, darkening gradually towards the upper parts till it becomes mixed with black on the back; the muzzle is tawny. Pennant adds, 'a black spot over each eye,' but the blood-hounds in the possession of Thomas Astle, Esq. (and they were said to have been of the original breed) had not these marks. Some, but such instances are very rare, are little whiter on the head, with a star in the face, &c. The better opinion is, that the original stock was a mixture of the deep-mouthed southern hound, and the powerful old English stag-hound.

Gervase Markham, in his 'Maison Rustique,' speaking of blood-hounds, says, 'They are at their best when weathered for goodnesse, and are of great courage, venturing far, and of a quicke scent, finding out very well the turns and windings . . . . . . . they runne surely, and with great boldnesse, commonly loving the stagge more than any other beast, but they make no account of hounds. It is true that they be more head-strong and hard to reclaime than the white, and put men to more paine and travaile about the same. The best of the fallow sort of dogges, are those which are of a brighter haire, drawing more unto the colour of red, and running thereafter with white in the face, or in the necke, in like manner those which are all fawle: such as incline to a light yellow colour, being gracie or blake spotted, are nothing worth: such as are truss up and have dewclaws, are good to make bloodhounds.'

Our ancestors soon discovered the infallibility of the bloodhound in tracing any animal, living or dead, to its resting place. To train it, the young dog accompanied by a staunch old hound was led to the spot whence a deer or other animal had been taken on for a mile or two: the hounds were then laid on and encouraged, and after hunting this 'drag' successfully, were rewarded with a portion of the venison which composed it. The next step was to take the young dog with his seasoned tutor, to a spot whence a man whose shoes had been rubbed with the blood of a deer had started on a circuit of two or three miles: during his progress the dog insensibly followed the track, from time to time, to keep the scent well alive. His circuit was gradually enlarged at each succeeding lesson, and the young hound, thus entered and trained, became, at last, fully equal to hunt by itself, either for the purposes of woodcraft, or as a drover in the open fields. There is no doubt that a dog so trained would be useful in a border foray was termed. Indeed, the name of this variety of canis domesticus, to which Linnaeus applied the name of Sagax, cannot be mentioned without calling up visions of feudal castles with their train of knights and hounds, of the olden times when the best tenure was that of the strong hand.

Sir Walter Scott gives a striking reality to the scene, when he makes the stark moss-trooper, William of Deloraine, who had 'baffled Percy's best blood-hounds,' allude to the pleasure of the chase, though he himself was the object of pursuit, in pronouncing his eulogy over Richard Musgrave,
The Minstrel concludes his story with the following catastrophe. The lonely tower of Gask was Wallace's place of refuge. One evening, a horn roused him at midnight. He sent out his men by two and two, but none came back. At last he was alone — and the blast became louder. Down went the hero sword in hand, and, at the gate of the tower, came full upon the headless figure of Fawdon. He fled back, the door closed behind him, tore open the bolts of the window, leaped down a height of fifteen feet in his terror, and rushed up the river. At length, on looking back, he beheld the tower wrapped in flame, and the dilated form of Fawdon upon the turrent holding in its gigantic hand a blazing beam. But

— The knights are dust,
And their good swords are rust—

There are with the Sultane's trust —

— and it is necessary to bring down the history of the blood-bond to our own unromantic times.

Sir Walter Scott states that the breed was kept up by the Buccleuch family on their border estates till within the eighteenth century, and records the following narrative:—

'A person was alive in the memory of some who remembered a blood-bond being kept at Eldinhome, in Ettrick Forest, for whose maintenance the tenant had an allowance of meal. At that time the sheep were always watched at night. Upon one occasion, when the duty had fallen upon the narrator, he became familiar with fitchings, and fell asleep upon a bank, near sun-rising. Suddenly he was awakened by the tread of horses, and saw five men well mounted and armed ride briskly over the edge of the hill. They stopped and looked at the flock; but the day was too far broken to chance the prospect of their carrying them off. One of them, in spite, leaped from his horse, and, coming to the shepherd seized him by the belt he wore round his waist; and setting his foot upon his body pulled it till it broke, and carried it away with him. They rode off at the gallop, and the shepherd giving the alarm, the blood-bond was turned loose, and the people in the neighbourhood alarmed. The marauders, however, escaped, notwithstanding a sharp pursuit. This circumstance serves to show how very long the license of the Borderers continued in some degree manifested itself.

This, perhaps, is the last instance of an attempted Border foray on record. The times were changed. The nobles had ceased to pride themselves on their ignorance of all the arts save art of war, and to make it matter of thanksgiving that they knew not how to use the pen. Civilization advanced as learning was diffused, till the law of the strongest no longer prevailed against the law of the land. The blood-bond, from the noble pursuit of heroes and knights, 'minions of the moon,' who swept away the cattle of the good-natured people, has passed into the hands of the Borderers, a raid by all the Borderers on account of his head, sank to the tracker of the deer-stalker and petty felon. About a century and a quarter ago, when deer-stealing was a common crime, the park-keepers relied upon their blood-bonds principally for detecting the thief; and so adroit were these dogs, that when one of them was fairly laid on, the accused of the criminal was with good reason considered to be all but impossible. Even now the breed still lingers about some of the great deer-parks; and many of our readers will remember the noble specimen at Richmond Park, bearing the name of the deer-stalker, and the word engraved by T. Landseer from a painting by his brother Edwin, published in the Sporting Magazine. In the spring of this year (1835), there was a grand picture of one of these dogs in a sleeping attitude by Edwin Landseer, exhibited in the British Gallery, Pall Mall. It is said that the original unfortunately broke its neck in leaping out of a window in London, and application was immediately made to the painter to perpetuate the memory of so fine a hound.

This noble variety is now only kept as an object of curiosity; and for its service it has been superseded by the justice's warrant and the police-officer. We find it, indeed, recorded about thirty years ago, that the Thrapston association for the prevention of felonies in Northamptonshire have provided and trained a blood-bond

— See Sir Walter Scott's notes to his 'Lay of the Last Minstrel.'

— Thanks to Saint Botolph, son of mine,
Save Gawain, ne'er could pen a line,
So swear I, and I swear it still,
Let my boy-bishop first his list

exclaims the Douglas in Marmion.
for the detection of sheep-stealers. To demonstrate the unerring infallibility of this animal a day was appointed for public trial; the person he was intended to hunt started, in the presence of a great concourse of people, about ten o'clock in the forenoon, and at eleven the hound was laid on. After a chase of an hour and a half, notwithstanding a very indifferent scent, the hound ran up to the tree in which he was secreted, at the distance of fifteen miles from the place of starting, to the admiration and perfect satisfaction of the very great number assembled upon the occasion. But this may be considered more in the light of a proceeding in terror than anything else.

Strong and Hardy as the blood-hound seems to be, it is unable, apparently, to encounter a low temperature. Mr. Lloyd, in his 'Field Sports,' relates that one presented to him by Mr. Otway Cave was entirely paralyzed by the piercing cold of the northern regions which were the scene of his exploits.

(English blood-hound)

Cuban Blood-hound.—The reputation which this variety has obtained for sagacity and fierceness, and the share that the terror of its name had in extinguishing the last Maroon war in Jamaica, render it an object of some interest. In 1733 these Maroons had become very troublesome, and the Assembly, among other plans for suppressing them, appointed garrisons, from whose barracks excursions were from time to time made against the insurgents. 'Every barric,' says Bryan Edwards, 'was also furnished with a pack of dogs, provided by the churchwardens of the respective parishes, it being foreseen that these animals would prove extremely serviceable, not only in guarding against surprises in the night, but in tracking the enemy.' The tiresome war went on, however, till at last articles of pacification with the Maroons of Trelawney town were concluded on the 1st of March, 1738. This alliance continued, not without frequent complaints of the conduct of the Maroons, till July, 1755, when two of these people from Trelawney town, having been found guilty by a jury of stealing some pigs, were sentenced to receive thirty-nine lashes each, and the sentence was executed. On their return to Trelawney town their account drove the Maroons into open revolt, and a bloody and successful war was waged by these savages against the whole force that the government could direct against them.

At last, the Assembly, in the month of September, remembering the expedient of employing dogs previous to the treaty of 1728, resolved to send to the Island of Cuba, for one hundred blood-hounds, and to engage a sufficient number of Spanish huntsmen to direct their operations. The employment, according to Edwards, to which these dogs are generally put by the Spaniards, is the pursuit of wild bullocks, which they slay for the hides: and the great use of the dogs is to drive the cattle from such heights and recesses in the mountainous parts of the country as are least accessible to the hunters. This determination of the Assembly was not made without some opposition. It was urged that the horrible enormities of the Spaniards in the conquest of the new world would be brought again to remembrance. It is mournfully true, continues Bryan Edwards, 'that dogs were used by our ancestors against the peaceful and inoffensive Americans, and the just indignation of all mankind has ever since branded, and will continue to brand, the Spanish nation with infamy for such atrocities. It was foreseen and strongly urged as an argument against their appointment, a just protest in the present case, that the prejudices of party and the virulent zeal of faction and bigotry would place the proceedings of the Assembly on this occasion in a point of view equally odious with the conduct of Spain on the same blood-stained theatre in times past. Nevertheless, the act was made for the wide difference existing between the two cases. Some gentlemen even thought that the co-operation of dogs with British troops would give not only a cruel but also a very dasrtardly complexion to the proceedings of government.

However, it was said that the safety of the island and the lives of the inhabitants were not to be sacrificed to perseverance misconstruction or wilful misrepresentation of the mother country. The use of elephants, and even of cavalry, was brought forward in support of the determination, and the doctrine laid down by a dissenter, 277 p. 417, that if the cause and end of war be justifiable, all the means that appear necessary to that end are justifiable also, was quoted.

At length, after several delays, the commissioner, who had been despatched to the Havannah, arrived at Montego Bay on the 14th of December with forty chasseurs, or Spanish hunters, chiefly people of colour, and about 100 Spanish dogs.

When these new allies were landed, the wild and formidable appearance of the men and dogs spread terror through the place. The streets were cleared, the doors were shut, not a negro ventured to stir out, as the muzzled dogs, fiercely making at every object, and dragging forward the chasseurs, who with difficulty held them in with heavy rattling chains and onlookers.

Dallas, in his history of the Maroons, gives the following account of their first appearance before the commander-in-chief:—'Anxious to review the chasseurs, General Walpole set head-quarters the morning after they were landed, before day-break, and arrived in a small boat, accompanied by Colonel Skinner, whom he appointed to conduct the intended attack. Notice of his coming having preceded him, a parade of the chasseurs was ordered; and they were taken to a disbanding place, to be advanced when the general alighted. On his arrival, the commissioner having paid his respects, was desired to parade them. The Spaniards soon appeared at the end of a gentle ascent, drawn out in a line containing upwards of forty men, then in three or four columns, and then in a long file. On receiving the command 'fire' they discharged their fusils and advanced as upon a real attack. This was intended to ascertain what effect would be produced on the dogs if engaged under a fire of the Maroons. The volley was no sooner discharged than the doors of the houses opened, the greatest fury, amid the shouts of the Spaniards, who were dragged on by them with irresistible force. Some of the dogs maddened by the shout of attack, while held back by the ropes, seized on the stocks of the guns in the hands of their keepers, and tore pieces out of them. Their impetuosity was so great that they were with difficulty stopped before they reached the general, who found it necessary to get expeditiously into the chaise from which he had alighted; and if the most strenuous exertions had not been made to restrain them, they would most certainly have seized upon his horses.'

This scene was well got up, and it had its effect. General Walpole was ordered to advance on the 14th of January following, with his Spanish dogs in the rear. Their fame, however, had reached the Maroons, and the general had penetrated but a short way into the woods when a supplication for mercy was brought from the enemy, and 260 of them soon afterwards surrendered on no other condition than a promise of their lives. 'It is pleasing to observe,' says Bryan Edwards, 'that not a man was killed after the dogs arrived in the island.' The war, as is well known, terminated with the expatriation of the Maroons in June, 1756, to Halifax in North America.

It is stated that these dogs, when properly trained, will not kill or harm the pursued unless they are resisted. On reaching a fugitive they bark at him till he stops, and then

No. 273.  

[THE PENNY CYCLOPAEDIA.]  

Vol. V. — C
couch near him, terrifying him with a ferocious growling if he stirs. They then bark at intervals to give notice to the chasseurs, till they come up and secure their prisoner. Each chasseur is obliged to have three dogs, though he hunts with two only, and these he maintains at his own expense: he lives with his dogs, and is inseparable from them. At home they are kept chained, and when walking with their masters are never unmuzzled or slipped from their ropes, except for attack. One or two small dogs called finders, whose scent is very keen at hitting off a track, accompany them. Dogs and bitches hunt equally well, and the chasseurs rear no more than will supply the required number. Though the breed is said not to be so prolific as the commoner varieties of the dog, it is stated to be infinitely stronger and hardier. It is described as of the size of the largest hound, with erect ears, which are usually cropped at the points, with the nose rather pointed, but widening much towards the hinder part of the jaw. The skin and coat, it is added, are much harder than those of most dogs, and it is said that the severe correction which they undergo in training would almost kill any other description of dog; this, however, may be doubted. There are some whose nose is more obtuse, and whose frame in general is more square, and these it is thought have been crossed with the mastiff, but if the bulk of the animal has been a little increased by the cross, it is not considered that the mixture has added anything to the strength, height, beauty, or agility of the native breed. [See Mastiff.]

Bryan Edwards, in a note to his appendix, gives a very different account of these Cuban blood-hounds:—"Though these dogs," he observes, "are not in general larger than the shepherd's dogs in Great Britain (which in truth they much resemble), they were represented as equal to the mastiff in bulk, to the bulldog in courage, to the blood-hound in scent, and to the greyhound in agility. If entire credence had been given to the description that was transmitted through the country of this extraordinary animal, it might have been supposed that the Spaniards had obtained the antient and genuine breed of Cerberus himself, the many-headed monster that guarded the infernal regions." Dallas, who had his information from the commissioner himself, William Dawes Quarrell, to whom his work is dedicated, gives a description and representation of one of these.

Spanish chasseurs with his dogs; and he relates the following instances of the strength and determined ferocity of the latter.

'The party had scarcely erected their huts when the barking of a dog was heard near them. They got immediately under arms, and, proceeding in the direction of the sound, discovered a negro endeavouring to make his escape. One of the Spanish dogs was sent after him. On coming up, the negro cut him twice with his muschet,* on which the dog seized him by the nape of the neck and secured him. He proved to be a runaway, said that he and the other negroes had deserted the Maroons a few days before, and that the party was at a great distance from the town, but that he would conduct them to it by noon next day.

In the next anecdote recorded by Dallas, the attack was fatal both to the unhappy object of it and to the dog. One of the dogs that had been unmuzzled to drink when there was not the least apprehension of any mischief, went up to an old woman, who was sitting attending to a pot in which she was preparing a mess. The dog smelled at it and was troublesome; this provoked her; she took up a stick and began to beat him, on which he seized on her throat, which he would not let go till his head was severed from his body by his master. The windpipe of the woman being much too short, she could not be saved.

When there is such discrepancy it becomes interesting to ascertain what the Cuban blood-hound is really like. A dog and a bitch, said to be of the true breed, were lately brought to this country, where, soon after their arrival, the bitch littered ten pups, one of them deformed. Here, at least, the statement that the Cuban blood-hound is not so prolific as the common dog was not borne out. Some of these pups we have seen, and we are enabled to give a description and figure of the variety. They are shorter on their legs than the English variety; the muzzle is shorter, and the animal is altogether smaller, with less of the hound about it than the English blood-hound has; the height is about two feet; the colour generally tawny, with black about the muzzle, or brindled like some of the Bandogs. They show great attachment, and are very gentle till seriously provoked, and then their ferocity is alarming.

[Cuban blood-hound.]†

In Cuba, the common employment of these dogs was to traverse the country in pursuit of murderers and other felons, and an extraordinary proof of their activity is recorded by Dallas, who states that the event occurred about a month before the arrival of the commissioner at the Havanna. A fleet from Jamaica, under convoy to Great Britain, passing through the Gulf of Mexico, beat up on the north side of Cuba. One of the ships, manned with foreigners, chiefly renegado Spaniards, being a dull sailor, and consequently lagging astern, standing in with the land at night, was run on shore, the captain, officers, and the few British hands on board murdered, and the vessel plundered by the Spanish renegades. The part of the coast on which the ship was stranded being wild and unfrequented, the

* A long straight muschet, or couloir, longer than a dragoon's sword, and twice as thick; something like a flat iron bar sharpened at the lower end, of which about eighteen inches are as sharp as a razor. The point is not unlike the old Roman sword. Such is Dallas's description of the chasseur's muschet.

† Our drawing was taken from a dog which had not attained its full growth.
assassins retired with their booty to the mountains, intending to penetrate through the woods to some remote settlements on the south side, where they hoped to secure themselves and elude all pursuit. Early intelligence of the crime, however, had been conveyed to the Hayvanna, and the assassins were pursued by a detachment of twelve of the chasseurs del Roy with their dogs. In a few days the criminals were all brought in and executed, not one of them being in the least hurt by the dogs when captured.

**African Blood-hounds.**—On his return from Africa, the late Colonel Denham, then major, presented two dogs and a bitch of this variety to the royal menagerie in the Tower, which, under the care of the keeper, Mr. Cops, then contained a very choice collection of animals, recorded in that interesting publication, The Tower Menagerie, London, 8vo. 1829. The Major informed Mr. Cops that with them he hunted the gazelle, and that they displayed great cunning, frequently quitting the circuitous line of scent for the purpose of cutting off a double, and recovering the scent again with ease. They would hit off and follow a scent after a lapse of two hours from the time when the animal had been on the spot, and this delicacy of nose had not escaped observation, for they were applied to nearly the same purposes as the various varieties here mentioned, and were commonly employed in Africa to trace a flying enemy to his retreat. It is well remarked in the work just alluded to that for symmetry and action they were perfect models, and a regret is expressed that, in consequence of their not having shown any disposition to perpetuate their race, though they had, at the time of making the observation, been three years in England, there appeared to be no chance of crossing our pointers with this breed. We agree with the writer in thinking that this blood so introduced would be a very valuable acquisition. It was remarked that, of the three in the Tower, the males were very mild, but the female was of a very savage disposition.

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**BLOOMFIELD, ROBERT.**

BLOOMFIELD, ROBERT, an English pastoral poet, the youngest of six children of George Bloomfield, a tailor at Huntington, a village near Bury St. Edmonds in Suffolk, where Robert was born, December 3, 1766. Having in early infancy lost his father, his mother obtained a scanty subsistence for her family by keeping a little school, in which he himself was educated. He repaired with difficulty affording him even necessary clothing; at the age of eleven he was hired in the neighbourhood as a farmer's boy; but being found too feebile for agricultural labour, he was placed with a relative in London to become a shoemaker. With this object in view, he spent much time in reading newspapers, and a few borrowed books of poetry, of which his favourite was Thomson's *Seasons,* he composed his beautiful rural poem 'The Farmer's Boy' in a poor garret, No. 14, Bell Alley, Coleman Street, whilst at work with six or seven others, who paid each a shilling a week for their lodging. The MS., after being refused by several London publishers, was printed under the patronage of Capel Lofti, Esq., in 1800; and the advertisement it produced was so general that, within three years after its publication, more than 26,000 copies were sold. The appearance of such refinement of taste and sentiment in the person of an indigent artisan, elicited general praise; but the extravagant and indiscriminate applause of Mr. Lofti may well be considered as more injurious to Bloomfield's reputation even than such contemptuous derision as that of Byron in *English Bards and Scotch Reviewers,* an edition which published the following year at Leipzig. At Paris a translation, entitled *Valet du Fermier,* was made by Etienne Alliard; one was also made into Italian; and in London appeared, in 1805, Agricola Fuer, poema Roberti Bloomfield celeberrinum, in versus Latine, recensuit, vel reeditavit, Gulielmo Cluweb, LL.B., a very clever effort in imitation of the **German.**

The fame of Bloomfield was increased by the subsequent publication of a *Rural Tales, Ballads, and Songs,* Good Tidings, or News from the Farm,* 'Wild Flowers,* and 'Wild Hares, or Hints of the Wye.' He was kindly noticed by the Duke of Grafton, by whose influence he was appointed to the Seal Office; but suffering from constitutional ill-health, he returned to his trade of ladies' shoemaker, to which, being an amateur in music, he added the employment of making Ethiopian harps. A pension of a shilling a day was still allowed him by the Duke; yet having now, besides his wife and children, undertaken to support several other members of his family, he became involved in difficulties; and, being habitually in bad health, he retired to the Row, and in 1816, a subscription, headed by the Duke of Grafton, was opened in his behalf. He died at a private residence of Sir Egerton Brydges, for the relief of his embarrassments. Great anxiety of mind, occasioned by accumulated misfortunes and losses, with violent incessant headaches, a morbid nervous irritability, and loss of memory, reduced him to great poverty, and just before his death he removed to a modest cottage at the Green in Ealing. Charles, Sept. 19th, 1823, at the age of fifty-seven, leaving a widow and four children, and debts to the amount of 200l., which sum was raised by subscription among his benevolent friends and admirers. In the following year, at the sale of his MSS., that of 'The Farmer's Boy,' in his own hand-writing, was sold for 14l.

The works of Bloomfield have been published in 2 vols. 12mo. 'Hathwic Hall,' which appeared a short time before his death, has little merit in comparison with his earlier productions. In 'Remains of Suffolk,' Anecdotes, Remarks on *Ethiopian Harps, Tour on the Wye,* &c., were edited by J. Weston, Esq., 1824. The 'Farmer's Boy,' 'Wild Flowers,' with several of the 'Ballads and Tales,' are his best poems; and many critics, such as James Montgomery, Dr. Nathan Drake, and Sir Egerton Brydges, have expressed the highest admiration of their chaste and unaffected beauties. The author's amiable disposition and benevolence pervade the whole of his compositions. There is an artless simplicity, a virtuous rectitude of sentiment, an exquisite sensibility to the beautiful, which cannot fail to gratify every one who respects moral excellence and loves the delightful scenes of English country life. Those who are charmed only with lofty and obscure conceptions, or a pompous parade of words, will find nothing to their taste in the simple descriptive poetry of Robert Bloomfield.

BLOW-PIPE. The instrument to which his name has been applied, was originally employed by jewellers and others in the soldering of metals on the small scale, whence it derives its name in the German language 'Löthen,' from the two words 'löthen,' to solder, and 'rohr,' a tube or pipe. When used for such purposes it is constructed of a simple metallic tube seven or eight inches in length, the bore of which at the larger extremity is about one-fourth of an inch in diameter, and gradually contracts as it approaches the other, where it terminates in an almost capillary point; and it is fluted to facilitate the passage of this tube at a right angle at an inch or an inch and a half from its finer extremity. In this form it is used by the workman to direct the flame of a lamp on the portion of solder to be employed, by which he is enabled to bring it to a bright white heat, and melt the solder; the solder is placed on a fragment of charcoal, which he holds in his left hand, and upon which the flame is made to play by blowing a gentle current of air against it by means of the pipe.

The blow-pipe was its sole use until the year 1739, when, as we are informed by Bergman, Antony Swab, a Swedishbergman, or counsellor of mines, and a many of very considerable knowledge for his time, introduced it to the notice of the scientific world, by employing it in determining the nature of the metals in the various ores and minerals which came under his notice. Swab however wrote no works on the
subject, nor does it appear to have received any particular attention from any one until Cronstedt proposed his system of mineralogy, in which the arrangement is dependent on the chemical composition of the minerals. It thus became to him of vital importance for the general adoption of his system—we may almost say for its existence—for in order to determine the constituents of mineral bodies, as it was evident that those offered by the slow and laborious operations of chemical analysis could not be generally employed by mineralogists. This he found in the blow-pipe, and by the employment of fluxes in the experiments performed with this instrument, he may be considered as the founder of a new department of the chemical science. His results are to be found in his "System of Mineralogy," the first edition of which was published in 1758, and was translated into English by Von Engelcrumstrom and revised and corrected by Mendez de Costa, London, 1776. The employment of the blow-pipe in detecting the constituents of mineral bodies being thus brought into notice, excited the attention of the chemists and mineralogists to the cultivation of this branch of chemistry, and its application to chemical analysis and to the determination of the mineral species of Sweden. Such was its effect that still continue to have been studied with the greatest success; and it is to the chemists and mineralogists of Sweden that we are indebted for the greater portion of the information which has been received on this subject, and more particularly to Berzelius. But in further extending its limits by a series of original researches, in which he investigated the properties of most of the then known species of minerals, and by a more general application to chemical analysis, published the results of his observations in "Elements of Chemical Language," which appeared at Vienna in 1779 under the following title, "De Tubo Fertilizzatorio, ejusdemque usus in explorandis Corporibus, preserim Mineralibus." A translation of the above into English will be found in the second volume of Bergman's "Compendium of Mineralogy," London, 1828. Gahn, though indefatigable in his observations and experiments with the blow-pipe, and though far exceeding any of his predecessors both in the conception and execution of his experiments, has however left no work on the subject. As an instance of his power of detecting the presence of metallic bodies, we are told by Berzelius that he has often seen him extract from the ashes of a quarter of a sheet of paper distinct portions of copper, and that too before the knowledge of the occurrence of this metal in vegetables was generally known. After these things have been led from this circumstance to suspect its presence in paper. Although we cannot but feel regret at having received no work from a man so eminently qualified to instruct on this subject as Gahn, still we must consider ourselves most happy that under such circumstances the loss of the knowledge and experience of so long and laborious a life is not also to be lamented. Fortunately for science, accident, as it were, made Berzelius the medium through which this information was to be communicated to the world; and while he was in possession of the secret, he would at the same time have been happy to share another of the many benefits he has bestowed on mankind cannot but be envied, it must be universally felt and acknowledged that if he has been favoured by fortune he has proved himself one of the most worthy of her favour by the manner in which he has fulfilled the task assigned to him. The assiduity of Gahn in this study, together with the circumstances to which we are indebted for the preservation of his labours, cannot be better told than in the words of Berzelius himself. 'Gahn,' says he, 'was never without his blow-pipe, not even during his shortest journeys. Every new substance, or any thing with which he was not previously acquainted, was immediately submitted to an examination before the blow-pipe; and it was indeed an interesting sight to observe with what astonishing rapidity and certainty he was enabled to determine the nature of a body, from its appearance and exterior properties could not have been recognised. Through this constant habit of using the blow-pipe he was led to invent many improvements, and to make many conveniences, which he could have at hand whether at home or abroad: he examined the action of a number of re-agents, for the purpose of finding new methods of recognizing bodies, and this he did in such detail, and conducted his operations with such accuracy, that all his results may be relied upon with the greatest confidence. Nevertheless it never occurred to him to give a written description of his new or improved methods; he gave himself however all possible trouble to instruct all who were willing to learn, and many foreign men of science, who passed some time with him, have made known his great dexterity in this subject; but no one has communicated a perfect knowledge of his methods. I had the good fortune, during the last ten years of the life of this in many respects most remarkable man, to enjoy his most intimate acquaintance. He spared himself no trouble to communicate to me all the results of his experience, and I have consequently held it as a sacred duty to allow nothing of this experience and of his labours to be lostوء. Such then is the origin of Berzelius's treatise, a work which must be considered as the highest authority on this subject; and as there are translations in the English, French, and German languages, we cannot too highly recommend it to the study of those desirous of obtaining a more intimate acquaintance with the uses to which the blow-pipe may be applied. The English translation is however unfortunately taken from the first edition of the text; the title is 'The use of the Blowpipe in Chemical Analysis, and in the Examination of Minerals,' by J. J. Berzelius. Translated from the French of M. Fresnel, by J. G. Chilren, London, 1822. As our limits will not allow of our entering into the description of the phenomena presented by the different chemical elements and minerals, when experimented on by the blow-pipe, we must confine ourselves to a general description of the nature of the experiments performed by this instrument, and the conclusions to which it leads us in determining the chemical constitution of a mineral, and consequently in recognizing what species it belongs to. For this purpose it may be convenient to class the experiments under four heads:

1. The characteristic changes produced on bodies when exposed to a high temperature.
2. The oxidizing effect of the flame, and the reduction of metals from their ores.
3. The oxidizing effect, or the changes produced by the oxygen of the air on the body.
4. The action produced by the application of fluxes or re-agents.

The first three classes are dependent on the unsaid action of the blow-pipe flame, and as the total effect is produced by properties peculiar to particular parts of the flame even in the cases where fluxes are employed, it becomes a matter of less importance to possess a good knowledge of the flame itself, a description of which will therefore be first given. If a burning lamp or candle be carefully observed, it will be found that the flame may be divided into four parts, which may readily be distinguished from each other. Firstly, on the lower extremity of the flame, where it is in contact with the wick, will be seen a blue portion, which extends from the wick and terminates at the points of Fig. 1, where the boundaries of the flame assume a vertical direction. The second most striking part of the flame is the bright intensely luminous portion of Fig. 2, which rising as it were Fig. 1.

Fig. 2.

extends from the wick and terminates at the points.
From out of the cup produced by the blue, ascends in the
form of a cone. In close connexion with this cone will be
observed a smaller one a contained within it, of a dark
colour, and rising from the upper extremity of the wick; and
by a very careful examination it will be found that the outer
surface of the blue is surrounded by a thin coating of a
slightly luminous flame c, which may be the result of the
formation of the blue ring, and increases a little in thickness
as it approaches the upper extremity.

The three cones thus enveloping each other differ not
only in their appearance, but also in their temperature and
chemical properties; the outer cone, as was shown by Sir Hume-
phrey Davy in the course of his beautiful and philosophical
inquiries into its nature, which terminated with the disco-
very of his safety-lamp, is gaseous matter heated to white-
ness; its most striking properties are evidently its power of
comtan-
cing the air, and the length of time it remains in that state.
If therefore into a stream of
from the upper side of the flame, the air, by the heat
violently rendered more rapid, the temperature of the flame
will consequently rise, while its illuminating power dimin-
ishes, as will probably have been observed by many who
have seen the hydrocyanic gases, where the light is de-
creased in an instant, whatever the composition of the
air may be, and chalk, not from the
burning gases. On applying these to the common
flame, the existence of the three concentric cones will be
readily understood: in the interior cone, the inflammable
gases arising from the decomposition of the burning ma-
terials, supplied with oxygen, and therefore under a
more rapid combustion than the interior enclosed portions:
here therefore will be found the hottest points of the flame.
That such is really the fact may be proved experimentally,
by laying a piece of paper in contact with the edges of the
wire at different elevations in the flame, it will be found
that the portion of the outer cone immediately above e, the
upper edge of the blue cup, is the point of greatest heat.
In the most luminous cone the combustion is slower, and in
the interior darker portion, the gases have not yet come into
contact with the air, and are still unchanged.

If a fine current of air be now directed into the flame by
means of a jet of water, the same appearance seen
in fig. 2: in the centre of the flame, and immediately
proceeding from the orifice of the tube, a long and thin blue
portion in the position d e of the figure will be seen: this
must be with the blue cup of the natural flame. But it
was in the upper edge of this cup, in which were found the
points of greatest heat, and the same is true here also, with
this difference however, that while in the natural flame
these points were spread over a considerable circle, c c, in
the blow-pipe flame they are all collected into the one point
c which remains constant at the same temperature.
The reason therefore of the high temperature which may
be produced by the blow-pipe is the result of the concentra-
tion of the hottest points of the flame into a focus; and
other circumstances tends also to heighten this effect, that
while in the natural flame the highest points of the flame
are relatively near the outer boundaries, and are therefore rapidly robbed
of their temperature, they here occur encased by the luminous
flame which thus protects them against the loss of tem-
perature from this cause.

The gas thus produced by the workman in the soldering of
metals, and constructed as was first described, cannot be
employed in these operations, owing to the collection of the
water from the condensed moisture of the breath on con-
taining the blow any time. This inconvenience is avoided by
the slow rate of combustion, and this should not be a serious
inconvenience between these as a receptacle for retaining the water, which is
thus prevented from entering into the finer part of the pipe
where it would obstruct the current of air. In using the
blow-pipe the operator must not employ his lungs in pro-
ducing the current of air, as it would not only be destruc-
tive to his health, but he would be unable to sustain the
blow a sufficient length of time to ensure the necessary
effects: it is produced by inflating the mouth with air,
which is then forced through the tube by contracting the
muscles of the cheek, and by a little practice the blast
may be thus sustained for a considerable time, the pro-
cess of respiration being unaffected, the only inconvenience
being arising from the dislike of the operation of the cheek from
their unusual exercise. The power of being able to per-
form this depends on the individual being able to keep
his mouth inflamed while he respires. After this has been
learnt, some little experience will be required to enable the
operator or surgeon to judge the strength of the blast, so as to
produce the most powerful heat, as it must be neither too
strong nor too weak; in the first case the heat is diminished
in its action by an excess of air, and in the second too feeble
a flame is produced.

The experiments themselves to which the
pipe may be applied, and we commence with those
which fall under the first class. The changes produced
on a body when exposed to a high temperature. Of these,
four are particularly worthy of notice:

1. Its fissility.
2. The changes produced in its colour.
3. The volatilization of the substance under examination.
4. The volatilization of one or more of its component parts.

When the various elements or their compounds, which
occupy a place in the table of elements, are exposed to the
heat alone can here be considered, are exposed to heat, there is
always evidence of a force tending to overcome that cohesion
of their particles to which they owe their solid form, and it is
believed that by a sufficient degree of temperature any
matter may be decomposed, whether by means of the cold, of
either immediately or through the intermediate stage of
fluidity. However this may be, it is well known that the
temperature at which such changes are effected varies with
each element, and the point which the blow-pipe first
forms upon us is, what is intended by this blow-pipe to
be produced by means of the cold, or at least by the
least heat? Whether it be by the ordinary means of heat,
natural or artificial, or by the heat of the vessel in which
the vessel is heated, and the vessel is the one under consid-
eration will be found. Nor is this mere fact the sole guide
to our knowledge of the changes of which any body is capable
or difficulty with which the change is effected, the charac-
ters of the substance in its changed form, the appearance
it assumes on being again allowed to cool, open to us new
sources of information, and each must be carefully observed.

Thus in some minerals the fusion is produced with ease;
in others again it can only be effected slowly and by the
strongest heat we can produce; while in a third case our
efforts will only be sufficient to round off the sharp edge of
a fine fragment.

But these are by no means the most of the important changes,
the relations of the elements to oxygen gas being decidedly
more interesting and instructive. When any substance
combines with oxygen gas it is said to be oxidized, and
whenever a compound of oxygen with any base loses oxygen,
it is said to be deoxidized or reduced to a lower state of
oxidation, according as it has lost the whole or a part of its
oxygen. Most bodies, and particularly all the metals, are
liable to undergoing the one or the other of these changes;
and as by means of the blow-pipe we have it in our power to
produce the highest temperature of which the blow-pipe is
capable of being oxidized, as well as those which are favourable
to its reduction, should it be present in the form of an oxide;
and as these changes are usually accompanied with striking
characteristic phenomena, the blow-pipe is thus the
most valuable instrument in the hands of the chemist to
examine the presence of metals, which may in many cases be extracted in their perfect
metallic form from the smallest fragment of their ore.

The oxidation will be produced by holding the body
before the outer extremity of the flame, where the elements
are being heated but the air is well stirred, and in the
place in the most favourable circumstances for combining
with it. This takes place the more readily the further
the ass is held from the flame, provided a sufficient tem-
perature is at the same time obtained; nor is it necessary
that there should be a focus of heat, since the preliminary
advantage, particularly when the support is of charcoal.
This process will be best performed with a pipe of compara-
tively large orifice, and when the material is kept at a
low red heat.

The deoxidation or reduction requires a small orifice,
and the substance under examination should be as much as
possible surrounded by the luminous flame, by which means it is cut off from contact with the atmospheric oxygen, and is surrounded with a glowing combustible gas, by which it is deprived of its oxygen. In performing this operation, which is infinitely more difficult than that of oxidation, particular attention must be paid to keep the asay constantly in the state of the same, and in the presence of the charcoal on which the substance rests. Berzelius recommends the beginner to practice himself in the reduction of metals by fusing small grains of tin on charcoal, and to endeavour to keep it in that state without allowing its surface to lose metallic glint, which it does owing to the formation of the oxide; the instant it is removed from the deoxidizing flame. This operation should first be attempted on very small fragments, as the difficulty increases with the size of the tin grains.

One solution of the experiments in which fluxes are employed, the most important of which and their uses will be briefly described. They are, carbonate of soda, borate of soda, double phosphorus of soda and ammonium, saltpetre, boracic acid, bisulphate of potash, gyps, fluor-spar, nitrate of cobalt, tin, iron, lead. Of these the first three only are of general use, while the others are employed to test the presence of particular bodies: we shall confine our attention therefore to the former, as to touch upon the particular cases in which the others may be advantageous would not lead us too far. We shall confine ourselves to those pertaining to the chemical description of the properties of these bodies.

Care should be taken that the carbonate of soda employed for these experiments be free from any impurities, particularly from the sulphate. The purest which can be purchased is that of common use among chemists; if this cannot be obtained, a saturated solution of the ordinary carbonate should be taken, through which a current of carbonic acid must be transmitted, when the bicarbonate will be precipitated in the form of fine grains, which must be washed with cold water, and dried. It is purified for such use by means of the blow-pipe itself in the following manner. Let a glass be formed by fusing a portion of the carbonate of soda with a small quantity of pure silica, and let the resulting glass be well acted on by the deoxidizing flame. If on cooling it retains its colourless condition, the soda may be considered free from sulphuretted gases; but the presence of which would be indicated by the glass assuming a yellow passing into a hyacinth-red colour, owing to the presence of the liver of sulphur. The application of soda answers two purposes: to determine whether the body is fusible in it as a flux, and to secure that of the reduction of metals.

The soda is best applied by mixing it with powder with the substance to be examined, which should also be in powder; the mixture is formed into a paste by the addition of a little water, a small portion of which must then be placed on the charcol, and the mixture brought to a state of fusion. It is usual for the soda, as soon as it is fused, to be entirely absorbed by the charcoal, but it is not on that account less active: a continued effervescence is observed on the substance under examination, and its fusibility is indicated by the formation of a glass globule. But the greatest use of soda is decidedly in promoting the reduction of metals, which it does in a most unaccountable manner. If a small quantity of the oxide of tin be placed on the charcoal, a dextorous blower, at some expense of time, will be able to obtain a small bubble of metallic tin. If however a little carbonate of soda be added to the oxide of tin, the reduction is effected with case and rapidity.

The influence of the soda in this operation is not understood, but it is constant; and Gahn has given the following process, by which the metals platinum, gold, silver, molybdenum, tungsten, antimony, tellurium, bismuth, tin, lead, copper, nickel, cobalt, and iron may be obtained, and consequently their presence detected, whenever this is possible.

The assay is reduced to powder, and formed as before into a paste with the moistened soda: this must then be placed on the charcoal, and submitted to the action of a good deoxidizing flame. After some time an additional quantity of soda is added, and the blast renewed, and this process must be repeated until the whole of the assay is absorbed by the charcoal. When this is entirely effected, those portions of the charcoal which have thus become saturated with soda, must be moistened by a few drops of water, and they must then be carefully removed with a knife and reduced to powder in an agate mortar. This must then be washed, by which the fine and light particles of charcoal may be readily removed from the metallic particles, which, if any be present, will be found in a pure metallic form in the mortar. The form in which the metal will be found depends on its fusibility and malleability: should it remain fusible, it will be difficult to separate from the little remains of metallic glint, which it forms owing to the formation of the oxide; the instant it is removed from the deoxidizing flame. This operation should first be attempted on very small fragments, as the difficulty increases with the size of the tin grains.

One solution of the experiments in which fluxes are employed either in the form of small grains, or of powder, or it may be first fused to free it from its water of crystallization. The advantages of its use in the blow-pipe are dependent on its forming a most powerful flux, by which a number of otherwise refractory substances may readily be brought into a state of fusion. It is usual, in the first place, to endeavour to fuse a small fragment of the assay; as, if this process be successful, we are able to observe the phenomena taking place during the fusing better than when it is subjected to the action of the blow-pipe. It is considerably more important, we see whether the assay is partially or entirely fusible in this flux. The principal facts to be observed are, whether the fusion is accompanied with effervescence, or whether it takes place tranquilly; to examine the colour of the gas, and to observe how readily the glass is formed if the oxide of the metal is converted into silicic oxide; the colour of the resulting glass, and also to observe whether any changes take place either in the glass or transparency of the glass as it cools.

The phosphoric salt, to use the term by which it is usually designated in works on this subject, is a double salt of phosphoric acid and sodium, and appears, when best prepared, according to Berzelius, by adding to a solution of 16 parts of chlorate of ammonia in a small quantity of boiling water 100 parts of crystallized phosphate of soda: this latter must then be brought also to a state of solution over the fire, and the whole then filtered, and then be allowed to cool slowly, when the double salt will be deposited as crystals. It may be considered as pure if the crystals when fused give a glass, which does not become opaque on cooling. The object of this salt is to enable us to try the action of a free and strong acid on the assay, which is best obtained by this means, as on heating the ammonia is driven off, and the acid with which it was combined is then at liberty to exercise its influence on the body tested. It is therefore a powerful agent in proving the presence of the metallic acid, and is distinguished by a very particular colour of the coloured salts; and it is also a good test for determining the presence of silica in minerals, the phosphoric acid depriving it of the bases with which it was combined, and presenting it in the form of a glistening substance.

It now only remains once more to call the attention of all our readers, who may be in any way engaged in any manufacture dependent on the applications of chemistry, to the great advantages to be derived from the possession of some skill in the use of this little instrument. For instance, of all the advantages which a manufacturer is able to obtain, by him, at the cost of a few minutes, to prove the absence of impurities in the medicines he purchases—to the chemical manufacturer, to the dyer, the miner, the assayer. Nor are there any difficulties arising from the size or expense of the instrument, for it can be carried in the pocket, and might be conveniently carried in the pocket. Nor is the requisite knowledge difficult of acquirement; nor need the individual, in order to be able to employ this instrument in a manner practically useful to himself, be a scientific chemist; it is only necessary to be able to understand a particular part of a science, another to extend it by discovery.

BLUBBER. [See Whale-Fishery.]

BLÜCHER, LEBRECHT YON, prince of Wahlstatt, field-marshal of the king of Prussia, was born Dec. 16th, 1742, at Rostock, a town near the shore of the Baltic, in the duchy of Mecklenburg-Schwerin. His father was a captain of cavalry in the service of Hesse Cassel. At an early age he manifested a strong predilection for the military profession and, in opposition to the advice of his relatives, entered, in his fourteenth year, a regiment of Swedish
in a campaign against the Prussians, at the commencement of the Seven years' war, in which the Swedes were allied with Russia and Austria against France. With the exception of the capitulation of Halm, on the river Berin, by the same regiment of Prussian hussars in which he afterwards became so distinguished. The colonel of the regiment, Von Belling, being favourably impressed with his frank and gallant character, persuaded him to join the Prussians, which he did, and he was immediately afterwards commissioned captain of acompany of another Swedish officer. In the service of Frederic he rose from a lieutenant to senior-captain, when his pride being ruffled by the promotion of a person of higher birth than himself to the vacant post of major, and finding no use made of him, he caused himself to be left to resign, to be delivered to his royal master—that singular personage, to whom in stoical endurance of hardships and energy of character he was so remarkably similar. The reply of the king was—"Captain Blücher, his permission to quit my service, and may go to the devil if he thinks fit." Upon receiving this unexpected civility he retired to the duchy of Silesia, became a farmer, and by persevering assiduity acquired possession of a considerable estate. He remained thus employed for fifteen years, until the accession, in 1786, of Frederic William II., by whom he was courteously recalled, and again introduced in the rank of major to his old regiment of black hussars, which he commanded with honourable distinction in several campaigns against the French.

In 1789 he obtained the Order of Merit; and subsequently the hereditary order of the Medusa, with the title of Grand Cross of the Order of the Medusa, the bar of Oriches, Luxemburg, Frankenstein, Oppenheim, Kirchweiler, and Eidesheim in the palatinate, he acquired reputation as a soldier by his vigilance, promptitude, and astonishing energy. In the name of the king of Prussia he was put in command of the division of Eichstatt, the same year, after the victory gained by the French at Jena, having, with a remnant of 10,000 or 12,000 Prussians, become separated from the rear, he succeeded without disorder in forcing his retreat westward as far as Lubeck, and, though harassed by the pursuit of the marshals Soult, Murat, and Bonaparte, he adhered to the last, and finally captured a capital only on condition that the cause of surrender should in writing be stated to be want of ammunition and provisions. Whilst a prisoner of war he was treated by Napoleon with a courtesy and politeness for which the motive could not be misunderstood; but the name of Blücher never appeared among those Prussian officers who consented to serve the emperor in his projects against Russia. Having been exchanged for General Victor, he was sent in February to Austria to assist in the operations of the Austrian army, employed in the imperial department at Königsberg and Berlin; and when in 1813 his country rose in opposition to France, he was appointed to take the command of a numerous army of Prussians and Russians combined. The order of St. George was bestowed upon him by the emperor Alexander in acknowledgement of his victory at the battle of Lützen; at those of Bautzen and Haynau he was less conspicuous. In the battle fought August 26th, 1813, on the banks of a small river near Liegnitz in Silesia, called the Katzbach, Blücher first held undivided command; and with 50,000 men, the largest portion but raw militia, defeated the French marshals Macdonald, Ney, Lauriston, and Sebastiani. In consequence of a heavy rain during the four previous days, a great number of muskets were not useable; the infantry were therefore brought hand to hand with thebayonets, and the infantry of the French were completely taken by surprise. Blücher gained the first great victory of that eventful campaign by a furious attack that precipitated the French by thousands into the flooded river. The general's proclamation upon this occasion exhibits his characteristic fervour and laconic eloquence—"Silesia is delivered! audaciously the enemy came upon you—brave soldiers! swift as the lightning you rushed upon them—your bayonets have plunged them headlong into the Katzbach—you have 16,000 prisoners and all their baggage—offer thanks to the God of victors for the providence of his holy aid. The necessity for the extreme difficulty to the Elbe, passed over by means of pontoons, and pushed on to the important battle of Leipzig, to the victorious results of which his services greatly contributed. With his Russo-Prussian troops he now formed the left wing of the greater army of the allies, and was engaged in treating towards France. Having passed over the Rhine at Kau and Coblenz, he took possession of Nancy in January, 1814. At Brienne he received a fierce attack from Napoleon; but, though repulsed with great loss, returned to the combat, as usual, on the following day, and succeeded in getting some advantage. The rash and reckless charge of the French, with the usual voice, was obliged him to make a retreat, and exposed his army to attacks which prudence might have avoided, an alarm began to rise in England about the final result of the contest; when, after various battles lost and won on the way to Hanover, which he had been pleased from Prussia to adorn the Louvre. As field-marshall and prince of Waldburg, he accompanied the allied sovereigns to England, where his personal appearance excited intense curiosity. All the most illustrious military orders of Europe having already been conferred upon him, the king of Prussia created for him a new one, with the badge of a cross of iron, in compliment to his invincible courage. The Prince Regent of England gave him his portrait; and the university of Oxford, not to be deficient in proof of admiration, bestowed upon the veteran warrior the academical degree of LL.D. In possession of these honours he retired to his Silesian estate, residing there until the return of Napoleon from Elba in 1815, when again he returned to the great theatre of war, and assumed the command of the Prussian army in Belgium. His character of a frequent and incipient enemy occasioned his defeat at the battle of Ligny, June 16th. This was the close of this desperate engagement, in which the fighting continued until ten at night, that his horse was shot dead, and fell upon him, so that he lay in that position unable to move, several French cuirassiers passed over him in charging his troops of cavalry; his aide-de-camp was soon in circulation; and Napoleon, who commonly named him le vieux diable (the old devil), made the most of it in cheering the hopes of his soldiers in the struggle at Waterloo on the 18th. He wrote to Wellington that night in the evening of that memorable day, when victory seemed to be on their side: "Blücher, who on the night of his accident had, owing to the darkness, escaped unhurt, appeared suddenly emerging from the forest of Frichemont at the head of a great portion of his army; and it is said that Marshal Ney was so elated by this news that his troops had been marching all day, immediately gave orders to pursue the flying enemy; and the moon being bright, a fierce and hot pursuit by sixteen regiments of Prussians kept up all night, until the roads were choked with the dying and the dead. Blücher and his army at Paris, and assisted in the reinstatement of the Bourbon dynasty, he remained there several months, very frequently attending the tables for rouge et noir. When the Prussians returned to Germany, Blücher, on the anniversary of the battle of Katzbach, paid a visit to Rostock, his native place, where all the inhabitants united to raise a public monument to his fame: those of Berlin presented to him a medal with a representation of the angel Raphael carrying with him a dragon. His health now beginning to decline, he finally retired to his residence in Silesia, where the king of Prussia visited and took leave of him in his latest moments. 'I know I shall die,' said the old general; 'I am not sorry for it, because I can be no longer a burden to you.' Having requested that he might be buried without any parade, in a deep grave, by the roadside, under three linden trees, he died on the 12th of September, 1819, aged 77. The whole army went in mourning for eight days. He had been in the service of Prussia for forty years. The battle of Waterloo was at the age of 72. In the year 1826 his remains were removed to the Hohenzollern Road, 500 feet in height, modelled by the sculptor Rauch, was erected in Berlin. The merit of Blücher lay nearly altogether in his fearless courage and his personal advantages: as a prussian, scientific, general he has no claims at all to distinction. With a piercing eye he could perceive a difference of figure, accoutred and armed as a cossack, and a masterly style of manoeuvring his horse, his presence, as he rode in front of his men, never failed to inspire them with hope of
success in following a caption so daring and full of energy.

The astonishing celebrity of his movements got him the appointment of Marshal Forwards, by which he was generally known in Germany and Russia; but equally well known was the fact, that to the able plans of General Gneisenau, one of his officers, he owed almost all his success.

BLUE, as a pigment. The substances used for this purpose are of very different natures, and derived from various sources: they are all compound bodies, some are natural and others artificial. They are derived almost entirely from the vegetable and mineral kingdoms, though the first which we shall describe is partly prepared from animal matter, viz. —

**Prussian Blue.**—This beautiful pigment was discovered by accident in 1710 by Diesbach, a manufacturer of Berlin; but the method of preparing it was first described by Woodward in the Philosophical Transactions of 1744. The first step in the operation is to calculate a mixture of potash or its carbonate, with animal matter that contains azote, as blood, hoofs, or horns, in an iron vessel, till it ceases to burn with flame. The residual matter is then suffered to cool, the soluble portion of it dissolved in water, and the solution when sufficiently concentrated yields fine yellow crystals on cooling. This salt was formerly called phlogisticated alkali, and triple prussiate of potash: according to Berzelius it is a double cyanide of potassium and iron, consisting of:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Formula</th>
<th>Molecular Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyanide of potassium</td>
<td>. . .</td>
<td>62.</td>
</tr>
<tr>
<td>Iron</td>
<td>. . .</td>
<td>25.3</td>
</tr>
<tr>
<td>Water</td>
<td>. . .</td>
<td>12.7</td>
</tr>
</tbody>
</table>

When a solution of this salt is poured into one of proto- sulphate of iron a perfectly white precipitate is formed, provided no persulphate be present; but if there is, then the precipitate is of a bluish grey colour; in both cases it becomes water soluble on the air, of a fine blue, and is then washed and dried for use. In this precipitation and by a complicated play of affinities the potassium is replaced by iron, and the Prussian blue procured consists nearly of:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Formula</th>
<th>Molecular Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyanogen</td>
<td>. . .</td>
<td>59.3</td>
</tr>
<tr>
<td>Iron</td>
<td>. . .</td>
<td>40.7</td>
</tr>
</tbody>
</table>

Very commonly the solution of cyanide of potassium and iron, procured from the residue of the calculation, is not put to crystallize, but is added at once to the solution of sulphate of iron. In this case, on account of the excess of potash which it contains, a portion of iron in a state of oxide is precipitated uncombined with the colouring matter; in order to prevent this from injuring the colour of the pigment, either dilute sulphuric acid or a salt of nitric acid is added, which dissolves it without acting on the Prussian blue; or alum is mixed with the sulphate of iron, and the combined potash uniting with its sulphuric acid, alumina is precipitated instead of oxide of iron, which merely dilutes without otherwise injuring the colour of the product. When a solution of a persalt of iron, such as the nitrate, is used, the precipitate is immediately obtained of a fine blue; but this process does not answer in manufacturing.

Prussian blue is inodorous, tasteless, insoluble in water, and readily soluble in alcohol. It is hygroscopic, attracting water strongly from the air, which it retains until heated to nearly 280°. Diluted acids do not act upon this substance, but strong sulphuric acid dissolves it, forming a white compound similar to that of starch and water in appearance. On the addition of water the blue colour is restored. Nitric acid and muriatic acid, when concentrated, both decompose it, and the same effect is produced by the alkalis and alkaline earths, but with different results. It is also decomposed by a strong heat. Prussian blue is employed both as a water colour and in oil; in the latter case, on account of the deficiency of what is termed body, it is usually mixed with white lead, and it will bear admixture with a large portion of this on account of the intensity of its colour. Its stability is very considerable, and it is not only used as a pigment, but also as a dye. According to Klaproth, as it was used in Sweden instead of smalt, to give writing-paper a blue tint, but the paper was found to acquire a disagreeable greenish hue.

**Indigo.**—This fine blue is extracted from different species of **Indigofera** in the East Indies and Guustralian in South America, of which the latter is most esteemed. For the methods of procuring the colour from the plant and the various substances with which it is mixed, we refer to the article **Indigo**, here merely stating the properties of the blue pigment usually met with by that name in small cubic pieces. The colour is extremely deep, the fracture is earthy, but becomes brilliant and of a copper red when heated to a red heat. It dissolves easily in water to a very great degree to which this effect is produced, the better is the indigo reckoned. Even in this state however it is mixed with some foreign matters, which may generally be separated by water, alcohol, solution of potash and dilute acid, in all of which pure indigo is insoluble. It may also be purified by sublimation, but the process is difficult of management, for if the heat be rather greater than necessary the indigo is decomposed. Another method of procuring pure indigo is to take the solution of indigo prepared by dyers, and agitate it in concentrated sulphuric acid. This solution when mixed with blue indigo in powder with lime and a solution of protosulphate of iron; the lime decomposes the sulphate of iron, precipitating its protoxide; this acting upon the indigo takes oxygen from it, and then it is rendered colourless and also soluble in water by the action of the excess of lime; this solution when agitated with atmospheric air, the indigo regaining oxygen and colour, is precipitated, and when washed with a little dilute muriatic acid and dried, it is pure Indigo, except when used as a water-colour, requires white lead to give it body, it is a colour of considerable permanency. Strong nitric acid decomposes it, but it differs from most vegetable products, and especially vegetable colours, in being perfectly soluble and without decomposition in concentrated sulphuric acid. The colour is most intense, and this solution is employed in dyeing as Indigo Blue. Chemists are not agreed as to the exact nature of this solution. Chlorine immediately destroys the colour of indigo.

**Blue Verditer.**—This pigment is used as a water-colour, and also procured from the manufacture of the green earth. It is a greyish powdered of a very fine light blue. It is a carbonate of copper, composed of nearly:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Formula</th>
<th>Molecular Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peroxide of copper</td>
<td>. . .</td>
<td>70.</td>
</tr>
<tr>
<td>Carbonic acid</td>
<td>. . .</td>
<td>25.4</td>
</tr>
<tr>
<td>Water</td>
<td>. . .</td>
<td>4.6</td>
</tr>
</tbody>
</table>

It is prepared by precipitation from the solution of nitrate of copper which results from the refining of silver by precipitating the silver by copper sulphate. The operation is not generally known, and success probably depends upon some minute circumstance in the manipulation.

This colour is readily acted upon by the acids even in their dilute state; they evolve its carbonic acid, and dissolve the peroxide of copper, which decomposes the oxide of iron and lime water, combine with the carbonic acid, and separate peroxide of copper; it is blackened by sulphurated hydrogen, and it is decomposed at a high temperature. It is used exclusively, prepared from a mineral called Azure Stone, or Lapis Lazuli, the finest kinds of which are brought from China, Persia, and Great Bacteria. In the 8th vol. of the *Annales de Chimie*, M. Tassart has noticed the accidental discovery of ultra-marine in a furnace used for the manufacture of soda; and about the year 1826, M. Gmelin of Tiibingen, and M. Guimet of Lyons, both succeeded in forming this colour artificially, and it is now prepared in large quantity, of quality equal to the natural product. The former of these chemists has given the following directions for making this pigment, and he asserts that it will infallibly succeed:—Prepare hydrate of silica and alumina, the first by fusing powdered quartz with four times its weight of carbonate of potash, dissolving the fused mass in water and precipitating the silice by muriatic acid; the second by decomposing a solution of alum with ammonia. Wash these two earths carefully with boiling water; and by drying portions of the most precipitates, ascertain the quantity of dry earths which they contain. Then dissolve as much of the hydrate of silica as is necessary to prepare the above quantity of dry earths. Add the solution of indigo to the above quantities of hydrated silica and alumina, and evaporate constantly stirring till the residue is nearly dry: this is the basis of the colour. Put into a Hessian crucible, which has a cover that fits closely, a mixture of two parts of sulphar and one part of—
hydrous carbonate of soda; cover and heat the mixture moderately till it fuses; then gradually throw in small portions of the mixture above described, waiting till the effervescence is over before a fresh portion is added. Keep the mixture at a moderate red heat for an hour. If there be an excess of sulphur it is to be expelled by a moderate heat, and if all parts should not be equally coloured, the finer portions after powdering may be separated by washing with water. *Annales de Chimie et de Physique, 37. 409. According to the author of this process, sulphuret of sodium is the colouring principle of the lapis lazuli, and of course of the artificial as well as the natural ultramarine.

This pigment loses its colour totally by being put into an acid, and although there is no perceptible effervescence, a slight smell of sulphured hydrogen gas is recognised; the residue is of a dirty white colour; the alkalis do not act upon this colour, nor is it destroyed by exposure to a red heat.

It hath hitherto, on account of its high price, been used almost exclusively by artists, both as a water-colour and in oil; but on account of the reduced charge at which it will probably be hereafter obtained, it will doubtless be rendered much more extensively useful.

**Cobalt Blue.**—This was proposed as a substitute for ultramarine before the invention above described had rendered this latter colour easily obtainable at a moderate price. According to Thenard (Treaté de Chémie, tome I.) this pigment, the base of which is either a phosphate or arseniate of cobalt, is prepared by adding a solution of phosphate of soda to one of nitrate of cobalt; the precipitated phosphate of cobalt, after due washing, is to be mixed with most hydrate of alumina, the proportions being one of the phosphate to eight parts of the hydrate; or half the quantity of arseniate of cobalt may be substituted for the phosphate.

These substances are to be thoroughly mixed and then dried in a stove, and when the mass has become brittle it is to be calcined in a covered crucible at a cherry-red heat for half an hour.

This colour is one of great permanence, but is not so fine as the ultramarine, and will hereafter be probably little employed.

**Smalt** is a blue colour also prepared from cobalt, but is generally used rather to diminish the yellow tint of writing paper and of linen, and to give a bluish colour to starch, than strictly speaking as a pigment; it is merely glass rendered blue by oxide of cobalt, and this when reduced to a very fine powder is commonly called powdered blue. [See Coal.]

**BLUE-BIRD** (zoology). the American name for the Motacilla alba of Linneus, Sylvia alba of Wilson, Saxicola alba of Bonaparte, Ampelis alba of Nuttall, and Erythaca (alba) Wilsoni of Swainson.

Wilson, *as much confidence in man by associating with him in summer, as the other by his familiarity in winter.*

'So early as the middle of February, if the weather be open, he usually makes his appearance about his old haunts, the barn, orchard, and fence-posts. Storms and deep snows sometimes succeeding, he disappears for a time; but about the middle of March is again seen accompanied by his mate, visiting the box in the garden, or the hole in the old apple-tree, the cradle of some generations of his ancestors.'

* * * * * * * 'When he first begins his amours, says a curious and correct observer, *it is pleasing to behold his courtship, his sollicitude to please and to secure the favour of his beloved female. He uses the tenderest expressions, sits close by her, caresses and sings to her his most endearing warblings. When seated together, if he espy an insect delicious to her taste, he takes it up, flies with it to her, spreads his wings over her, and puts it in her mouth.*

The food of the blue-bird consists principally of insects, particularly large beetles and other coleoptera, frequently of spiders, and sometimes of fruits and seeds.

The nest is built in holes in trees and similar situations. The bird is very prolific, for though the eggs, which are of a pale-blue colour, seldom exceed six, and are more frequently five in number, two and sometimes three broods are produced in a season.

Its song is cheerful, continuing with little interruption from March to October, but is most frequently heard in the serene days of the spring.

With regard to its geographical distribution, Catesby says, *These birds are common in most parts of North America; for I have seen them in Carolina, Virginia, Maryland, and the Bermuda Islands.* Wilson gives the United States, the Bahamas, Mexico, Brazil, and Guiana, as its localities.

About November it takes its departure from the United States. The whole upper part of the bird, which is about seven inches and a half long, is of a rich sky-blue shot with purple. The bill and legs are black. Shafts of the wing and tail, feathers black. Throat, neck, breast, and sides, partially under the wings, reddish chestnut. Wings dusky black at the tips. Belly and vent white. The female is duller in its colours.

It is said to be much infested with tape-worms.

This bird must not be confounded with the Arctic Blue-bird (Erythaca Arctica, Swainson, Stalia Arctica, Nuttall), another species of Swainson's subgenus Stalia. The latter has no red or chestnut about it, the colours being ultramarine-blue above, greenish-blue beneath, and whitish on the posterior part of the belly and under tail-coverts. The specimen figured in the Fauna Boreal-Americana was shot at Fort Franklin in July, 1825.

Swainson mentions another species, his Stalia Mexicana, from the Table-land of Mexico.

**BLUE-BOTTLE,** a pretty wild flower, commonly found in corn-fields. It is the Centaurea cyanus of botanists.

**BLUE-BREAST** (zoology), the English name for the pretty bird, which, as Bechstein observes, may be considered

No. 274. [THE PENNY CYCLOPAEDIA.]
as the link between the red commond and great watagai, having strong points of resemblance to both. It is the Go10
as the Blue Mountains, the Blue Mountains, river, between 32°
beech to the north, and then it suddenly runs to the north, encloses Lake George, and continues north of it in the same direction under the name of Cullarin Range. At nearly an equal distance from 33°5 and 34° the chain again turns to the east and approaches the sea within forty or fifty miles. Running at this distance parallel to the shore (that is N.E.) it extends as far as 33° and perhaps a little to the north of it, where it again turns northward, and continues in that direction till it has passed the 32nd parallel and attained a distance of about 140 miles from the sea. Here it meets with another extension of the Liverpool Range, which runs east and west and seems to be the southern part of a mountain system which extends over a greater space than the Blue Mountains, in the direction from west to east, and whose continuation northward is not farther known. It is possible that it continues up to Cape York, the northeastern cape of Australia on Torres Strait.

The highest part of this mountain-range is the Warrego
the Blue Mountains, does not attain a very great elevation. Its average height may be 3000 feet, and though doubtless it contains many more eminences of very considerable height that any of them exceed that height. These mountains are difficult to be crossed on account of the steep rocks which crown the upper part of the chain, and which are only broken by narrow and deep ravines. Twenty-five years elapsed after the colony of Port Jackson before our countrymen succeeded in passing over these mountains.

The Liverpool Range attains a much greater height, its summits rising to 6500 feet above the sea; but the passes can be traversed with greater ease.

The country between the Blue Mountains and the sea is partly filled with its lower branches, and partly with sandy plains between them and the sea. In some places the hills come down to the very shores, as at Illawarra and Newcastle; at other places they terminate at a distance of thirty miles from the sea. On the western side the mountains are less steep, and descend towards the coasts of considerable extent till they terminate in the low plains which occupy the interior of Australia.

In order to go from the coast to these plains, the mountains of course must be ascended. Up to the present time this has been effected at two places only. One of these passes lies a little to the north of the parallel of Sydney, and a carriage-road has been made through it. It begins on the banks of the Nepean River, the principal branch of Hawkesbury River, at Emu Ford, and ascending the steep Lapstone Hill continues rising to Springwood, twelve and a half miles distant from Emu Ford. Farther on to Weather-Board Hut, sixteen miles from Springwood, the ascent is not considerable. Weather-Board Hut is on Kingsland Road, 22 miles from the sea. Hence the road passes through the vale of Cowd, or the valley on the south side of Mount York, which vale is 2496 feet above the sea; Mount York rises to 3229 feet. From this vale the road skirts the southern declivity of Mount York and leads to Cox's Pass, on the banks of Cox's River. From this pass is twenty-one miles distant from Weather-Board Hut, and has been developed as the western extremity of the mountain passes: the remainder of the road to Bathurst leads over an undulating plain. Bathurst is 1970 feet above the sea, according to Oxley. This portion of the mountain is formed of sandstone, which extends to Mount York and even to Cox's River, where it is succeeded by granite, which afterwards at Molong, to the N.W. of Bathurst, gives way to a limestone formation with numerous caves, and at the junction of the Bell River and the Macquarie, it is succeeded by freestone. But as the country falls rapidly from this point, every extension soon disappears and is succeeded by the flat country.

The second mountain pass lies farther to the south, near the 35th parallel, beginning at the point where the Wolon-dilly River turns to the north. It ascends along the course
of this river to Goulburn Plains, then passes through a narrow ridge to Bredale Plains, and again through another smaller ridge to Martins Plains, where the shrine of the range between Yass River and Murrumbidgee River.

This range is not rich in metals. Copper has been found near Bathurst, and tin and lead in some other places; but coal seems to be abundant, especially at Newcastle, towards the Hume River. Boulders of granite and whinstone, pipe and potter's clay, limestone, gypsum or plaster of Paris, and alum. (Oxley; Sturt; P. Cunningham; Society's Map.)

BLUE RIDGE. [See Appalachian Mountains.]

BLIND REL MUSUM. An assemblage of choice specimens of sculpture, consisting of statuary busts, bas-reliefs, sarcophagi, cinerary urns, and other antient marbles, collected by the late Henry Blundell, Esq., and preserved at his seat at Ince-Blundell in the parish of Sefton in Lancashire, about nine miles north of Liverpool. A large portion are placed in a building attached to the mansion called the Pantheon, exactly resembling the edifice of that name in Rome, though one-third less in lineal dimensions, erected for the purpose of containing them; a few modern sculptures are also in this collection, among which a Psyche by Canova is the most valuable.

Two folio volumes of Engravings and Etchings, from the principal of these marbles, were prepared by Mr. Blundell for distribution among his friends in 1809: some of these had been made at Rome, before the marbles left that city, since broken up 200 years ago. Long before that time, in Italy at the same time with his friend Mr. Charles Townley, and not only collected with a kindred taste, but was frequently guided in his choice of purchases by Mr. Townley's advice.

Among the statues of highest character in the Blundell Museum are—1. A Minerva found at Ostia, for many years in the Lanti palace, and afterwards the property of Mr. Jenkins, from whom it was bought; larger than life. 2. Diana, found in the ruins of the Emperor Gordian's villa; the full size of life; bought of the sculptor Alabaci. 3. Theseus, seven feet two inches high; found in Hadrian's villa: purchased from the Duke of Modena, in the centre of the saloon at whose villa at Tivoli it stood. 4. Mars, found at the Villa Matelli, nearly seven feet high. 5. A colossal statue of the Emperor Vespasian, called Cicero in the Arundel Collection at Oxford; this also was bought from the Prince Matelli. 6. Another Minerva, seven feet high, which formerly belonged to Pope Sixtus V.; bought out of the Negroni collection. 7. A statue of Octavia near the province Buthrotum; bought out of the Villa D'Este from the Duke of Modena. 8. Faustina, the wife of Marcus Aurelius; the head, feet, and hands of Parian marble; the drapery in Lepadian marble, a kind of opaque basalt. 9. A group of two statues, an old father and young man, comprehended in the same niche, with the name upon the plinth; it was found by Niccolà la Piccola in an excavation on the Prænesto road, 1776; small life, about three feet high. Among the busts are those of Septimius Severus and Otho, both bought out of the Matelli Villa; Augustus and Marciana, found at Ostia; and Julius Caesar, the adopted heir of Hadrian, which was also purchased from the Prince Matelli. Among the miscellaneous marbles of this collection are three tragic masks of rare and unusual size; two from the Villa Negroni, three feet each in height; two from other sources, one foot in height; both may be formed of the extinction of this collection from the fact that it consists of near 100 statues, 150 busts, above 100 bas-reliefs, 90 sarcophagi and cinerary urns, besides stelae, and other miscellaneous antiquities.

(See the Beauties of England and Wales, vol. ix. Lancashire, pp. 308, 309; the Engravings and Etchings already quoted; and Dallaway's Antiquities of the Arts, 8vo. 1800.)

BLUNDERBUSS. [See Arms.]

BLY, or SOUTH BLYTH, or BLYTH NOOK, a small seaport town in the county of Northumberland, partly in the parish of Horton, but chiefly in that of Earsdon, and in the east division of Castle ward, distant from London 257 miles, N. by W., and from Newcastle 12 miles N. by B. It descents on the west side of the river Blyth, at its confluence with the German Ocean. The town owes its origin and prosperity to its commodious and safe haven for small vessels. The navigable river and port of Blyth are mentioned as of con-

sequence to the bishops of Durham in former times, and are named in their records with the Tyne, Wear, and Tees, being subject to their jurisdiction. The prelates of that diocese held the jurisdiction over the fishery and the wastes between high and low water marks. The river Blyth rises about twenty-five miles inland, and its general course is east by north, from which it makes one great bend to the north before it has passed Stamfordham. On continually its course towards the sea, it enters Blythswood from the north-west, after which it goes on nearly in the same direction for about nine miles, when it receives another stream from the north-west, after which it inclines to the south-east, and enters the ocean, after a total course of about 110 miles. The whole of its course is near its mouth; and those fresh-water fish that frequent the higher parts of the stream are of very fine quality. The shore near its estuary abounds abundance of muscles, which are used for bait by the fishermen of the neighbouring places.

Blyth harbour is so safe that an instance rarely occurs of a vessel sustaining damage in entering it in the most tempestuous weather. In full tides there are ten feet of water on the bar; when there are only eight feet, stationary lights are exhibited in the harbour. The tide flows up to the dam at the Bedlington iron-works, four miles and a half from the mouth of the river. The place was of very trifling consequence previously to the Restoration, when it appears to have contained scarcely any houses. It must after that have rapidly increased, as we find that in 1728 not fewer than 200 vessels were in the port. In 1740, Lord Townley having sailed from this port. Its trade would seem to have declined after this: towards the latter part of the last century there were only a few small sloops belonging to the port; but the opening of the Cowpen colliery, near the end of the century, materially increased the traffic at Blyth, which consists chiefly in the export of coal and iron from Bedlington, and sometimes corn. Thirty or forty sail of laden vessels sometimes sail in one tide. They usually return in ballast; few articles are imported, except such timber and stores as are required for the shipping. About 100 vessels now belong to the port, which is regarded as a sort of creek to that of Newcastle.

Blyth is a pleasant and well built little place. It has a custom-house, subject to that of Newcastle; two ship insurance companies, and several clock-yards, in which vessels of 430 tons have been built. There is a neat chapel of ease, which was erected in 1751 by Sir M. W. Ridley, the proprietor of the estate; and to which a Sunday-school has since been annexed. Different denominations of dissenters have chapels and meeting-houses.

The township of South Blyth and Newham contained 248 houses in 1831, when the population was 1769, of whom 977 were females. This however does not convey a true idea of the extent and population of the town, as it only includes those parts of it which are included within the parish of Blyth, but, adding to the account that part in the township of Cowpen, parish of Horton, the actual population must exceed 3000.

(Hutchinson's View of Northumberland; Historical and Descriptive View of Northumberland, &c.)

BOA (zoology), the name of a family of serpents which are without venom, the absence of which is amply compensated by immense muscular power, enabling some of the species to kill large animals by constriction, preparatory to swallowing them. The boa is the best known of the family.

There are few fables which have not some truth for their origin. The voyages of Sinbad have become proverbial; but the stories of the monstrous serpents in the valley of diamonds, and of the 'serpent of surprising length and thickness,' whose scales made a rustling as he moved along, 'that swallowed up two of his companions, probably had their foundation in traditions of the size and strength of a family of serpents belonging to the old world, but nearly allied in their organization and habits to those which we are acquainted with in the present day. Indeed of the fate of the first of the two victims brings to our memory a terrible anecdote of the murderous power and voracity of the Indian boa or pythons related in modern times, and recorded on canvas by Daudet. [See Pythons.]"

Aristotle (book viii. c. 28) writes of Libyan serpents of enormous size, and relates, that certain voyagers to that coast were pursued by some of them so large that they overtook one of the triremes. The two monstrous snakes (said to be) sent by Jupiter to strangle the infant Hercules in his cradle, described by Theocritus in his 24th Idyll, exhibit some of the peculiarities of these reptiles. The way in which Theocritus represents them to have rolled their coils around the boy, and relaxed them when he drew near, is obviously intended to describe the snake after it has escaped the serpent. Virgil’s Lacoosin, and the univallled marble group, which the poet’s description most probably called into existence, owe their origin undoubtedly to the stories current of constriciting serpents. Varro Maximus (book i. v. 1) also speaks of a very large, if not the largest serpent into which the Romans under Regulus were thrown by an enormous snake, which had its lair on the banks of the Bagradas, or Magradas (Mejerida), near Utica. It is said to have swallowed many of the soldiers, to have killed others in the same manner, and in fact, till at length, being invulnerable by ordinary weapons, it was destroyed by heavy stones slung from the military engines used in sieges. But, according to the historian, its persecution of the army did not cease with its death; for the writers were polluted with its gore, and the air with the steams from its corruptured carcass, to such a degree, that the Romans were obliged to move their camp, taking with them however the skin, one hundred and twenty feet in length, which belonged to it, sent to Rome by Oescenius, Proconsul of Silius Italicus, and Zonarae, make mention of the same serpent nearly to the same effect. Pliny’s (vi. 14), De Serpentibus Maximis et Bois says, that Megasthenes writes that serpents grow to such a size in India, that they swallowed entire stags and bulls. (See also Nicarchus, quoted by Arrian. Indic. 15.) He speaks too of the Bagradian serpent above-mentioned as matter of notoriety, observing that it was one hundred and twenty feet long, and that its skin and jaws were preserved in a temple at Rome till the time of the Numantine war; and he adds, that the serpents called Boa in Italy confirm this, for that they grow to such a size, that in the belly of one killed on the Vatican hill in the reign of Claudius an entire infant was found 2. Suetonius (in Octav. 43) mentions the exhibition of a serpent of extraordinary size in the temple of Juno at Rome, but without specifying instances from Aelian and others, we will now come to more modern accounts. Bonitus (v. 23) says, ‘The Indian serpents are so multitudinous, that my paper would fail me before I enumerated them all; nevertheless I may say that of the most monstrous ones, sometimes exceed thirty-six feet in length, and are of such capacity of throat and stomach that they swallow entire boars.’ He then speaks of the great power of distention in the jaws, adding, ‘To confirm this, there are those alive which are preserved by the Emperor Peter of Russia. They buried hogs, cut out of the belly of a serpent of this kind. They are not venomous, but they struggle by powerfully applying their folds around the body of a man or other animal. Mr. M’Leod, in his interesting Voyage of the Hebrides, p. 313, gives the following account:

‘It may here be mentioned, that during a captivity of some months at Whidah, in the kingdom of Dahomey, on the coast of Africa, the author of this narrative had opportunities of observing snakes more than double the size of the boa constrictor; but he adds, whether or not they were of the same species, though he has no doubt of their being the genuine Boa. They killed their prey, however, precisely in a similar manner; and, from their superior bulk, were capable of swallowing animals much larger than goats or sheep. Governor Abson, who had for thirty-seven years resided at Port William (one of the African Company’s settlements there), described some desperate struggles which he had either seen, or had come to his knowledge, between the snakes and wild beasts, and other game. The ablest and most fatal rattlesnakes of which he had any knowledge, were fixed in a field near the town and within the dioceseler, by a shepherd, and that the mandibles, two pairs in length, were the ones to be seen in the church of the Virgin. (See Pott, p. 85.)

* The exquisite beauty of the Idyll can only be equalled by the grandeur of design and execution displayed by Reynolds in his picture.

† The passage cited by Valerius Flaccus Livy must have been in the lost deca (306 B.C.). The reader will find however the story recorded in the supplement to Livy (xvii. 15).

‡ De Serpentibus Maximis et Bois, (pp. 306, 307, 315.)

§ Petius, p. 85.
the best fitted for this kind of progressive motion.' (Lectures on Comparative Anatomy, vol. 1.)

Sir Everard, in the same lecture, speaking of the ribs as organs of locomotion, says:—'An observation of Sir Joseph Banks during the exhibition of a coluber of unusual size first led to this discovery. While it was moving briskly along the carpet, he said he thought he saw the ribs come forward in succession, like the feet of a caterpillar. This remark led me to examine the animal's motion with more accuracy, and on putting the hand upon its belly, while the snake was in the act of passing over the palm, the ends of the ribs were distinctly felt pressing upon the surface in regular succession, so as to leave no doubt of the ribs forming so many pairs of levers, by which the animal moves its body from place to place.'

It is not intended to detract in the least from the masterly descriptions given in the lecture here quoted; but it is due to the sharp-sighted Tyson to observe, that the locomotive power of the ribs was detected and published by him in his excellent observations on the anatomy of the rattle-snake. (See Phil. Trans.)

Sir Everard Home informs us by what additional mechanism this faculty is effected. The ribs, he observes, are not articulated in snakes between the vertebrae, but each vertebra has a rib attached to it by two slightly concave surfaces, that move upon a convex protuberance on the side of the vertebra, by which means the extent of motion is unusually great, and the lower end of each vertebra having a globular form fitted to a concavity in the upper end of the vertebra below it, they move readily on one another in all directions. The muscles which bring the ribs forward, according to Sir Everard, consist of five sets, one from the transverse process of each vertebra to the rib immediately behind it, which rib is attached to the next vertebra. The next set goes from the rib a little way from the spine, just beyond where the former terminates, it passes over two ribs, sending a slip to each, and is inserted into the third; there is a slip also connecting it with the next muscle in succession. Under this is the third set, which arises from the posterior side of each rib, passes over two ribs, sending a lateral slip to the next muscle, and is inserted into the third rib behind it. The fourth set passes from one rib over the next, and is inserted into the second rib. The fifth set goes from rib to rib. On the inside of the chest there is a strong set of muscles attached to the anterior surface of each vertebra, and passing obliquely forwards over four ribs to be inserted into the fifth, nearly at the middle part between the two extremities. From this part of each rib a strong flat muscle comes forward on each side before the viscera, forming the abdominal muscles, and uniting in a beautiful middle tendon, so that the lower half of each rib, which is beyond the origin of this muscle, and which is only laterally connected to it by loose cellular membrane, is external to the belly of the animal, and is used for the purpose of progressive motion; while that half of each rib next the spine, as far as the lungs extend, is employed in respiration. At the termination of each rib is a small cartilage, in shape corresponding to the rib, only tapering to the point. Those of the opposite ribs have no connexion, and when the ribs are drawn outwards by the muscles, they are separated to some distance, and rest through their whole length on the inner surface of the abdominal scutum, to which they are connected by a set of short muscles; they have also a connexion with the cartilages of the neighbouring ribs by a set of short straight muscles. These observations apply to snakes in general; but the muscles have been examined in a boa constrictor, three feet nine inches long, preserved in the Hunterian Museum. In all snakes, adds the author, the ribs are continued to the anus, but the lungs seldom occupy more than one half of the extent of the cavity covered by the ribs. Consequently these lower ribs can only be employed for the purpose of progressive motion, and therefore correspond in that respect with the ribs in the Draco volans superadded to form the wings. (See DUGL.)

The subjoined cut, copied from that given as an illustration by Sir Everard Home, will explain the articulating surfaces of the vertebrae and ribs; and on the under surface of the former will be seen the protuberance for the attachment of the muscles which are employed in crushing the animals round which the snake entwines itself.
The cut exhibits two vertebrae, and portions of two ribs of a so-called boa constrictor, drawn with his usual accurate fidelity and skill by W. Clift, Esq., from a skeleton sent from the East Indies by the late Sir William Jones, and deposited in the Hunterian Museum. The letters a, a point to the protuberance on the under surface for the attachment of the constricting muscles, according to Sir Everard Home.

Though the term boa constrictor is used throughout by Sir Everard Home in his lecture, there can be little doubt that the serpent sent from India by Sir William Jones was a python. The small specimen from which the description of the organs employed in progressive motion was taken may have been a boa. But whether boa or python, it would have had the hooks or spurs near the vent, and the bones and muscles belonging to these spurs, which are of no small consequence in the organization of a boa or a python, rudiments of limbs though they be; these appear to have escaped Sir Everard Home's observation, occupied as he was in following out the mechanism of progressive motion.

No one can read of the habits of these reptiles in a state of nature without perceiving the advantage which they gain when, holding on by their tails on a tree, their head and bodies in ambush, and half floating on some sedgy river, they surprise the thristy animal that seeks the stream. These hooks help the serpent to maintain a fixed point; they become a fulcrum which gives a double power to his energies. Dr. Mayer detected these rudiments of limbs, and has well explained their anatomy*. He makes boa the first genus of his family of Phaenopoda (Ophidians having the rudiments of a foot visible externally), adding the genera Python, Erux, Tectrix. After advancing to what Merrem, Schneider, Rusell, Lacépède, Daudin, Oppel, Cuvier, Oken, and Blainville have said or figured relative to these hooks or spurs, he proceeds to his own observations made on Boa Constrictor, Scytale, and Cenchritis. He says, that the spur or nail on each side of the vent in the boa constrictor and other species of the genus is a true nail, in the cavity of which is a little demi-cartilaginous bone, or ungual phalanx, articulated with another bone much stronger which is concealed under the skin. This second bone of the rudiment of a foot in the Boa has an external thick condyle, with which the ungual phalanx is articulated, as above stated: it presents, besides, a smaller internal apophysis, which places it in connexion with the other bones of the skeleton. These bones are the appendages of a tibia or leg bone, the form and relative position of which will be understood by a reference to the subjacent cuts, copied from Dr. Mayer's 'Memoir.'

The figure above given represents the tail of a boa constrictor: a, the vent; b, the hook or spur of the left side; c, the subcutaneous muscle; d, ribs and intercostal muscles; e, transverse muscle of the abdomen; f, bone of the leg enveloped in its muscles; g, adductor muscle of the foot; h, adductor muscle of the foot. The arrangement of the scuta, or shields, of one entire piece under the tail, characteristic of the true boa, will be here observed. In the pythons the shields beneath the tail are ranged in pairs.

We here have a representation of the osteology of this rudimentary limb, taken from the same author. Figure 2. represents the left posterior limb of the Boa Scytale, seen anteriorly: a, tibia or leg-bone; b, external bone of the tarsus; c, internal bone of the tarsus; d, bone of the metatarsus with its apophyses; e, nail or hook.

Figure 3. represents the same limb, seen posteriorly.

Doctors Hopkinsin and Panceast have given in the 'Transactions of the American Philosophical Society,' held at Philadelphia, for promoting useful knowledge (vol. v. new series, part i.), an interesting account of the visceral anatomy of the Python (Cuvier), described by Daudin as the Boa reticulata. And here it may be as well to remark that the differences between the Boa and the Pythons are so small, that the accounts given of the constricting powers and even of the principal anatomical details of the one, may be taken as illustrative of the same points in the history of the other. We select from the paper above mentioned an account of the respiratory and urinary organs, because their structure appears to be peculiarly adapted to the habits of the animal.

The larynx consists of a single cartilage, having a narrow oblique slit in it, about six lines in length, for the transmission of air; the trachea is one foot eight inches in length, and three-eighths of an inch in diameter, and passes down attached to the ventral face of the esophagus. It consists of a large number of imperfect cartilaginous rings, interrupted posteriorly, but joined by an elastic substance which keeps their extremities in contact. Each ring is connected to the adjoining one by a membrane also elastic, so that when the trachea is stretched lengthwise, it will easily regain its former condition. It passes behind the heart, and while there concealed, divides into two bronchi, appropriated to the two lungs. The lungs, in a collapsed state, lie much concealed, being covered in part by the liver; but when inflated, are brought into view, and cause the liver to be raised up. These organs consist in two distinct vessels or bags, united above along their middle, but terminating below, each in a separate cul de sac.

They differ materially in size, but vary less in this respect than those of snakes in general. The right lung is two feet ten inches long, and about four inches broad, and extends down as far as the gall bladder; opposite the spleen,
which are on its left, it has a considerable contracture of its diameter. The smaller vessels lie on the left side, and is loose at its lower end; it is only one foot nine inches long, and three inches broad; it terminates near the lower extremity of the liver. The lower four-fifths of each lung are thin, semi-transparent, and covered with a more opaque structure; the parietes are marked by circular lines or strins, along which are strung small white bodies, apparently vesicular, from half an inch to two lines distant from each other; they are more numerous above, and smaller near the lower end of the inner cavity. The upper portion of each lung is composed of a more opaque structure; the parietes are much thicker, and present on their inner surface a loose reticulated texture, somewhat resembling a section of the corpora cavernosa penis, the mucous membrane being much larger. A free passage is left through the lungs, and from the side of the heart to the lungs, which is necessary to pass through the cells, which seem to present a merely a more extensive surface for the purposes of respiration. Both lungs contained many worms, found most abundant above among the cells, and even in the trachea; they were of various dimensions, being from one to three inches in length, whitish, cylindrical, tapering, and surrounded in their whole length by elevated rings or cords.

The authors of the foregoing description do not seem to have observed a part of the mechanism of the organs of respiration, and very likely also the nourishment of the serpents. Fust, &c. That gentleman, in his lectures at the Royal College of Surgeons, after alluding to Mr. Broderip's paper on the mode in which the boa constrictor takes its prey, and of the adaptation of its organization to its habits, hereinafter given, and of the manner in which it swallows its prey, states that in the larynx, is, during the operation of swallowing, protruded beyond the edge of the dilated lower jaw, exhibited a drawing of two muscles which he had detected in the lower jaw for the purpose of bringing the larynx forward, in consequence of which its position was drawn to the point by the statement made in the paper.

Without going into a detail of the anatomy of the other organs given by Drs. Hopkinson and Pacoast, it will be sufficient to remark that they detected a peculiarity of structure in the respiratory organs which must produce the injurious effects of an impeded circulation when the stomach is distended with food; a distention, from the habits of the animal, likely to be great and of long duration. Under such circumstances they remark that the peculiarly constructed vessels may, by a circulatory route, carry a large proportion of blood to the heart, which the vena cava alone would be unable to accomplish in a state of partial compression.

Having endeavored to give the reader some insight into the organization of these serpents, we now proceed to describe, in greater detail, the manner in which one of the observers, by eye-witnesses of the manner in which that organization is brought into action for the purpose of killing and swallowing their prey.

Mr. M'Cleod, in his 'Voyage of H.M.S. Alceste,' gives the following painfully vivid account of a serpent, a native of Borneo, sixteen feet long, and of about eighteen inches in circumference, which was on board. There were originally two; but one, to use Mr. M'Cleod's expression, 'sweaped overboard and was drowned.'

Mr. M'Cleod, speaking of the survivor, he is said have been usually entertained with a goat for dinner, once in every three or four weeks, with occasionally a duck or a fowl by way of a dessert. The live-stock for his use during the passage, consisting of six goats and two fowls, was eaten by the serpent, one of the five being considered as a fair allowance for as many months.

At an early period of the voyage we had an exhibition of his talent in the way of eating, which was publicly performed on the quarter-deck, upon which his crib stood. The snake was taken to the persons of the ship, and the door of the cage was shut. The poor goat, as instantly aware of all the horrors of its perilous situation, immediately began to utter the most piercing and distressing cries, butting instinctively, at the same time, with its head into the body of the serpent. The snake, which at first appeared scarcely to notice the poor animal, soon began to stir a little, and, turning its head in the direction of the goat, its length a fixed a deadly and malignant eye on the trembling victim, whose agony and terror seemed to increase; for, previous to the snake seizing its prey, it shok in every limb, but still continuing its unsavory show of attack, by butting at the serpent, which now became sufficiently animated to prepare for the banquet. The first operation was that of darting out his forked tongue, and at the same time rearing a little his head; then suddenly seizing the goat by the fore-leg with his fangs, and throwing it down, it was enclosed in an instant in his horrid folds. So quick indeed and so instantaneously was the act, that it was impossible for the eye to follow the rapid convolution of his elongated body. It was not a regular screw-like turn that was formed, but resembling a long, thick, and strong rope, the body overlaying the other, as if, to add weight to the movements, which were more effectively to crush the object. During this time he continued to grasp with his fangs, though it appeared an unnecessary precaution, that part of the animal which he had first seized. The poor animal, and cautiously unfolded himself, till the goat fell dead from the convulsion of the stomach caused by the serpent to prepare himself for swallowing it. Placing his mouth in front of the dead animal, he commenced by lubricating with its saliva that part of the goat, and then taking its muzzle into his mouth, which had, and indeed always has, the appearance of a raw lacerated wound, he sucked it in, as far as the horns would allow. These protuberances opposed some little difficulty, not so much from their extent as from their points; however, they also in a very short time disappeared, that is to say, externally; but their progress was still to be observed, and the whole animal at last made out a passage through the skin. The victim had now descended as far as the shoulders; and it was an astonishing sight to observe the extraordinary action of the snake's muscles when stretched to such an unnatural extent—an action which was still more manifest when the artist would have power in any animal that was not, like himself, endowed with very peculiar faculties of expansion and action at the same time. When his head and neck had no other appearance than that of a serpent's skin stuffed almost to bursting, the working of his muscles could be perceived by no power of sight, as it is erroneously called, unabated; it was, in fact, the effect of a contractile muscular power, assisted by two rows of strong hooked teeth. With all this he must be so formed as to be able to suspend for a time the weight of his gigantic prey, an operation which he accomplishes by the arrangement of the muscles of his neck and the crushing effect of his jaws. The animal was afterwards, after a short period, made use of as the regular food of the ship, and we were assured that almost all he swallows is converted into nutrition, for a small quantity of calcareous matter and that perhaps not a tenth part of the bones of the animal, with occasionally some of the hairs, seemed to compose his general food."

It was remarked, especially by the officers of the watch, who had better opportunities of noticing this circumstance, that the goat always had a great horror of the serpent, and evidently avoided that side of the deck on which his cage stood.

* P. 90.

Mr. Broderip, in the second volume of the ' Zoological Journal,' after referring to Mr. M'Cleod's interesting narrative, of the correctness of which, as far as it goes, he says he has not a single doubt, and observing that two points in that description struck him forcibly, the one as being contrary to the peculiar character of the serpent, and the other as being contrary to Mr. Broderip's observations, proceeds to give the following account of the manner in which the serpent takes its prey in this country.

* This was most probably the virtue of the animal, which he often voided in frequented dumps, like moist places. In appearance, and has been frequently taken for an Indian or boys, a small snake. Transmissions of a butyricaceous constitution, becoming hard like chalk by pressure, or by water, or powdery, or powdery.
Mr. Cops of the Lion Office in the Tower,' writes Broderip, 'sent to inform me that one of these reptiles had just cast its skin, at which period they, in common with other serpents, are most active and eager for prey. Accordingly I repaired with some friends to the Tower, where we found the reptile, the floor of which consisted of a tin case covered with red baize and filled with warm water, so as to produce a proper temperature. There was the snake, "possum novus exuvis," gracefully examining the height and extent of his prison as he raised, without any apparent thought of escaping from the confines of his place.

A large buck rabbit was introduced into the cage. The snake was down and motionless in a moment. There he lay like a log without one symptom of life, save that which gleamed in his eyes. Presently he made object within the range of his eye. At length the rabbit, totally unconscious of his situation, approached the ambushed head. The snake dashed at him like lightning. There was a blow—a scream—and instantly the victim was locked in the coils of the serpent. This was done almost too rapidly for me to note; instant the snake was motionless; in the next he was one congeries of coils round his prey. He had seized the rabbit by the neck just under the ear, and was evidently exerting the strongest pressure round the thorax of the quadruped; thereby preventing the entrance of air and at the same time depriving the anterior extremities of motion. The rabbit never cried after the first seizure;—he lay with his hind legs stretched out, still breathing with difficulty, as could be seen by the motion of his flanks. Presumably the snake seizing these strong hind legs; but the snake cautiously applied another coil with such dexterity as completely to manacle the lower extremities, and, in about eight minutes, the rabbit was quite dead. The snake then gradually and carefully uncoiled himself, and finally removing his victim from the place where it lay, he placed his foot against the side of the tub, and began to treat it so roughly, that the rabbit was withdrawn for fear of his injuring the snake. This treatment of the snake by the rabbit did not appear to be the effect of anger or hatred, but to be adopted merely as a mode of removing something which he did not like in his way. I have seen many rabbits and owls presented to different specimens of boa for prey, and I never saw the least symptom of uneasiness either in the birds or quadrupeds. They appear at first to take no notice of the serpent, later manifesting some fear and do not start, but seem to treat it with the greatest indifference. I remember one evening going up into the room where one of these snakes was kept at Exeter 'Change, and seeing the hen which was destined for the prey of the boa, very comfortably at rest upon the floor. The keeper took the hen in his hands and held it opposite to the head of the snake, without succeeding in inducing him to take the bird, which, when let out of the keeper's hands again, settled half upon the serpent for the night.

The only reason given me by which the difference between Mr. McLeod's description and my experience, is one which I do not propose as absolutely satisfactory, but which may nevertheless be found to approach the truth. The goats put to death at Batavia for the serpent, which it appears was brought from Borneo, were all in probability natives of Java, and if so, they would, according to the wonderful instinct which nature has implanted in animals for their preservation, be likely to have a violent antipathy to the larger serpents, such as those which t heir for their prey. The canines of Python cornigera and goats were wild, or originally from the wild stock of the island, their instinctive horror at the sight of the destroyer may be thus accounted for. But our domestic fowls and rabbits (the last of the latter most probably indigenous, and that of the former of such remote importation, and so much changed by descent, as to be almost on the same
Boa (flying), having no such natural enemy as a large serpent, against which it is necessary for them to be on their guard, are entirely without this instinct, although it is strong enough in the case of their ordinary enemies, such as hawks, dogs, and cats; and they consequently view the boa which is about to dash at them with the same indifference as if be were a log of wood.

The author of the foregoing paper, in conclusion, gives to persons who have the care of these reptiles a hint not to expose their hands too much in holding fowls, &c., to the head of a boa when near shedding its skin, and consequently nearly blind (for the skin of the eye is changed with the rest), in order to induce it to take its prey. Mr. Cops, the keeper of the lion-office, was holding a fowl to the head of the largest of the five snakes which were there kept, when the serpent was in this condition. The snake darted at the bird, missed it, but seized the keeper by the left thumb, and coiled round his arm and neck in a moment. Mr. Cops, who was alone, did not lose his presence of mind, and immediately attempted to relieve himself from the powerful constriction by getting at the snake’s head. But the serpent had so knotted himself upon his own head that Mr. Cops could not reach it, and had thrown himself on the floor, in order to grasp with a better chance of success, when two other keepers coming in, broke the teeth of the serpent, and with some difficulty relieved Mr. Cops from his perilous situation. Two broken teeth were extracted from the thumb, which soon healed; and no inconvenience of any consequence was the result of this frightful adventure.

In this instance, the snake fixed itself by its tail to one of the posts of its cage, thus bringing the spurs into action and giving itself greater power.

We now proceed to a consideration of the subdivisions of the genus Boa, properly so called, founded on the integuments of their head and jaws, adopted by Cuvier.

Head covered to the end of the muzzle with small scales like those of the body. The plates with which the jaws are provided not dimplsed (creusées de fossettes).

Example. Boa Constrictor of Linneus; Devlin, or Emperor Boa, of Daudoin.

This powerful species is distinguished by a large chain extending the whole length of the back, composed alternately of great blackish shins or spots irregularly hexagonal, and of pale red ones, or spots notched or jagged at either end, the whole forming a very elegant pattern. In his lectures, mentions a skin of this species, measuring thirty-five feet, preserved in the British Museum, and adds, that it is probable that many ages ago much larger specimens might have occurred; than at present to be found, the increased population and cultivation of most countries having tended more and more to lessen the number of such animals. The locality of this species, according to the best authorities, is confined to the New World. Daudain, indeed, believed that it was found in the ancient continent, but without sufficient grounds for his opinion. Le Vaillant and Humboldt brought it from Guiana, and the Prince de Wied found it in Brazil. Cuvier gives it as his opinion that there are no true boas of large size in the old world.

Linnaeus, quoting Dalberg, says that the Boa Constrictor was worshipped by the American Indians. "Our men were conducted to a broade crosse-way, standing on the side of the town. Here they show them a square stage or pulpit fourte steps high, partly of clammy bitumen, and partly of small stones, into which an image of a man cut in marble was joyned, two fourte-footed beasts, and some crosed waters upon him, which, like madde dogges, seemed they would tear the marble man’s guts out of his belly. And by the image stood a serpent, besmeared all with goare blood, showing a marble lion, which seems suspended in the air, and small stones entwined together, was seven upon seven feet in length, and as thick as a great ox. Next unto it were three raffers or stakes fastened to the ground, which three others crossed under-propped with stones; in each they publish malleriles confirmed, for proof whereby they saw numerable broken arrows, all bloody scattered on the ground, and the bones of the dead cast into an inclosed courte neere unto it."

Pietro Martire.

Bulkoh, in his "Six Months in Mexico," speaks of a noble specimen of the great serpent-idol, almost perfect and of fine workmanship, in the cloisters behind the Do minican convent. This monstrous divinity is represented, according to him, in the act of swallowing a human victim, which is seen crushed and struggling in its horrid jaws. That these Mexican serpent-idols were fashioned from boas, there can, we think, be little doubt. Such were most probably the Tlilcoátli, Temacuelahuillan, and the Bits of Hernandez, who describes the latter as of the thickness of a man, and says that it ascends trees, whence it vibrates, being fixed by its tail, and snatches men and beasts and other animals of that kind, sometimes devouring them whole. This serpent he mentions indeed as a production of the island "Cubu," and as seen in the island Iñatah by the Spaniards when they were anxious to disbar their ships. The Tlilcoátli and Temacuelahuillan appear to have been continental; and of the serpent last named he gives so formidable an account that there appears every reason for supposing it to have been the prototype of the snake-god of the Mexicans. "It derives its name," says Hernandez, "from its strength, for Temacuelahuillan is, fighting with five men; it attacks those it meets, and overpowers them with such force that if it once coils itself round their necks it strangles and kills them, unless it bursts itself by the violence of its own efforts; and he goes on to state how its attack is avoided by the man opposing a tree or other object to its constriction, so that while the serpent fancies that it is compressing the man it may be torn asunder by its own act, and so die. The same author states that he had seen serpents as thick as a man’s thigh, which had been taken when young by the Indians and then, and how they were provided with a cask strown with litter, in the place of a cavern, where they lived and were for the most part quiescent except at meal times, when they came forth and amicably climbed about the couch or shoulders of their master, who placidly bore the serpent-embrace.

* Bernard or Berna, or Bernardo) Diaz del Castillo.

* Besides the Constrictor of Linneus, representative of its beauty, Laurenti, according to Cuvier, gives the following appellations to the Boa constrictor. — Constrictor rex serpentum, Constrictor cimpanus, Constrictor diphilanthus. The two latter plainly indicate the supernatural feeling with which it was regarded by the natives.

2 See post. p. 27.
The flesh of this serpent is white, and abundant in fat. The people of the plains never eat it, but make use of the fat as a remedy for rheumatic pains, ruptures, strains, &c. When these creatures are young the colours on the skin are very bright, and gradually lose their brilliancy with age.

There is generally in these descriptions an account of the fleshy tongue of the reptile, and of its application to the dead animal for the purpose of covering it with saliva, previous to the operation of swallowing it. A glance at the tongue of a Boa or a Python will convince the observer that few worse instruments for such a purpose could have been contrived. The delusion is kept up by the mode in which these serpents are sometimes preserved in museums, where they may be occasionally seen with fine artificial, thick, fleshy, vermilion tongues in the place of the small dark-coloured extensile organs with which nature has furnished them. We have frequently watched constrictrng serpents while taking their prey, and it is almost superfluous to add that they never covered the victim with saliva from the tongue before deglutition. When the prey is dead and the serpent is about to swallow it, the tongue of the destroyer is frequently thrust forth and vibrated, as if indiatory of the desire for food; but the mucus is not poured out till it is required to lubricate the dilated jaws and throat for the disproportioned feast.

The Rev. Landsdown Guiding thus records the capability of the Boa to cross the seas:—A noble specimen of the Boa Constrictor, says that lamented zoologist, was lately conveyed to us by the currents twisted round the trunk of a large sound cedar-tree, which had probably been washed out of the bank by the floods of some great South American river, while its huge folds hung on the branches as it waited for its prey. The monster was fortunately destroyed after killing a few sheep, and his skeleton now hangs before me in my study, putting me in mind how much reason I might have had to fear in my future rambles through St. Vincent had this formidable reptile been a pregnant female, and escaped to a safe retreat.

**Scaly plates from the eyes to the end of the muzzle. No dimples on the jaws.**

**Example.** Boa Scytale and Boa murina of Linnaeus, *Boa aquatics of Prince Maximilian.* This species referred to

*(Boa Scytale)*
by Linneus under two specific names, according to Cuvier, is the *Boa\textit{ aquavtica} of Prince Maximilian and the Anaconda according to the same authority. Mr. Bennett observes in The Tower Menagerie that the name of Anaconda, like that of Boa Constrictor, has been popularly applied to all the larger and more powerful snakes. He adds that the word appears to be of Ceylonese origin, and applies it to the Python Tigris.

Brownish, with a double series of roundish black blotches all down the back. The lateral spots annular and oblongated, the disks being white, surrounded by black rings. Inhabits South America. The trivial name *Murina* was given to it from its being said to lie in wait for mice, and Seba has given a representation of its about to dart upon an American mouse, which says it is its usual food. Such a "small deer" may be the prey of this species when very young, but it grows to a size equaling that of Boa constrictor and Boa constrictrix. We think it very probable that this is the "Culebra de Agua" of the Venezuelans mentioned above.† The other provincial name, "El Traga Venado," or "Deer Swallow," indicates the prey of the serpent when of mature age. Linnaeus says of his Boa Scytale, "Constrictit et deglutit capras, oves," &c. "It constricts and swallows goats, sheep," &c. The *Boa marina*, then, was probably only a young *Boa Scytale*.

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*Scaly plates on the muzzle; and dimples upon the plates at the sides of the jaws.*


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Yellowish, with a row of large brown rings running the whole length of the back, and variable spots on the sides. These are generally dark, often containing a whitish semilunar mark. This species, according to Seba, who describes it as Mexican, is the *Tomacuileahuilula* (or *Tumacuila Huilul*, as Seba writes the word) described by Hernandez, and hereinbefore mentioned.‡ The three species here described, according to Cuvier, grow nearly to the same size, and haunt the marshy places of the warm parts of South America. There, adhering by the tail to some aquatic tree, they suffer the anterior part of the body to float upon the

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Greenish, with white irregular longish spots somewhat annularly disposed. This is the *Boa viridis* of Boddaert, the *Boa thalassina* of Laurenti, the *Bojobi* of the Brazilians, the *Tetracrinus Ticca* (a Mexican name) according to Seba, and the *Cobra verde* of the Portuguese, who relate that these serpents sometimes remain in the houses, doing no harm till irritated, when they at last bite and inflict a wound full of danger, not from injected poison, for the serpent has none, but on account of the injury sustained by the nerves from the very sharp, slender, and long teeth. Great inflammation follows, and the symptoms are aggravated by terror, so that a gangrene is the consequence unless the proper remedies are applied. In the absence of these certain death is said to be the consequence of a severe bite from this serpent. The immediate cause of death is not stated by Seba, but from the long and penetrating teeth of the *Boa canina* it may be presumed to be often tetanus or locked jaw. Seba says that this species varies in size, adding that the specimen from which his figure was taken was more than two cubits in length. Cuvier is of opinion that the *Boa hirpmale* is only a young *Bojobi* or *Boa canina*.

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[A portion of the under part of the tail of *Boa canina*, showing the hooks near the vent, and the arrangement of the scutes.]

**See Cenchritis, Ergeton, Eryx, Pseudo-Boa, Scytale, Xiphosoma.**
BOA.

[From Life-Boat.]

BOAT-BILL (zoology), the English name for the genus Cochlearius of Brisson, Canceroma of Linnaeus, Le Sauvage of the French.

This genus of the family Ardeidae (heron-like birds) would approach quite closely, as Cuvier observes, to the herons (genus Ardea, Cuv.), in regard to their bill and the kind of food which it indicated, were it not for the extraordinary form of that organ, which is nevertheless, when closely observed, the bill of a heron and the bittern much flattened out. This bill is of an oval form, longer than the head, very much depressed, and not unlike the bows of two spoons placed one upon another, with the rims in contact. The mandibles are strong, with sharp edges, and dilated towards the middle. The upper mandible is carinated, and hooked at its point, which has a small tooth or notch on each side of it. The lower mandible is flatter than the upper, straight, membranous in the centre, and terminated by a sharp point. The nostrils are oblique, longitudinal, and closed.

The first quill is short; the five next are the longest. The feet are furnished with four toes, all long, and almost without membranes.

Though zoologists have described more than one species, it appears that they may be referred to the only species yet known, Cochlearius fuscus of Brisson, Canceroma cochlearia of Linnaeus, Le Sauvage of Buffon, the differences on which Canceroma cancrorhaga (Lin., &c.) is founded are not being allowed to be specific. Leach, in his Zoological Miscellany, figures and describes 'the common boat-bill' under the title of Canceroma vulgaris, but assigns no reason for altering the specific name given by Linnaeus.

The common boat-bill is about the size of a domestic hen. In the male, the forehead, and upper parts of the neck and breast, are dirty white; the back and lower part of the belly rusty-reddish; the bill is black, and the legs and feet brown. From the head depends a long crest of black feathers, falling backwards. The female has the top of the head black, without the elongated crest; the back and the belly rusty-reddish; the wings grey; the forehead and rest of the plumage white; and the bill, legs, and feet brown.

'This species,' says Latham in his Synopsis, 'for I refer all that has been treated of above to one only, inhabits Cayenne, Guiana, and Brazil, and chiefly frequents such parts

BOAR. [See Hog.]

BOARD, a word used to denote, in their collective capacity, certain persons to whom is intrusted the management of some office or department, usually of a public or corporate character. Thus, the lords of the treasury and admiralty, the commissioners of customs, the lords of the committee of the privy council for the affairs of trade, &c., are, when met together for the transaction of the business of their respective offices, styled the Board of Treasury, the Board of Admiralty, the Board of Customs, the Board of Trade, &c. The same word is used to designate the persons chosen from among the proprietors to manage the operations of any joint-stock association, who are styled the Board of Directors.

In parochial government the guardians of the poor, &c., are called the Board of Guardians, &c. The word bureau in France is an equivalent expression.

BOAR'ARIA (Stephens, in entomology), a genus of moths of the family Geometridae. All the species of this genus are of a grey color, some minutely dotted with brown, and adorned with several fasciae of a deeper colour; the antennae of the males instead of being pectinated, a character common in the Geometridae, are pilose; palpi short, clothed with short scales, three-jointed, the two basals of usual length, the terminal joint concealed; antennae simple in the females; thorax small, velvety; wings, when at rest, placed horizontally; body slender in the males, in the females shorter and more robust.

Mr. Stephens, in his Illustrations of British Entomology, enumerates seven species of this genus, most of which are found in woods in the neighbourhood of London. For descriptions of these species we refer our readers to the work above-mentioned.
BOB

as are near the water. In such places it perches on the trees which hang over the streams, and, like the kingfisher, drops down on the fish which swim beneath it. It has been thought to live on crabs likewise, whence the Linnean name; but this is not clear, though it cannot be denied; yet we are certain that fish is the most common, if not the only food.

Leach, in his Zoological Miscellany (1815), says that it inhabits the west and most parts of South America, and perches on trees by the side of rivers, where it lives on fish, and not on crabs, as its name indicates; and speaks of it as inhabiting the inundated savannahs of South America, and as being especially common in Guiana.

Cuvier, in his Reign Animal (1829), says that it inhabits the coast and many parts of South America, and perches on trees by the side of rivers, whence it precipitates itself on the fish which afford its ordinary nourishment.

We saw this bird alive in Exeter Change some years ago. In captivity it had the melancholy air and gait of the herons and bitterns, which it has also, according to authors, in a state of nature. The food of this captive bird was principally fish.

BOATSWAIN, a warrant officer in a ship of war who has the care of the rigging, cables, cordage, anchors, sails, boats, files, colours, and other stores, which are committed to his charge by indenture from the surveyor of the navy. He has particular charge of the long boat and its furniture, and it is his duty to steer it, either himself or by his mate. One of the chief duties which devolve upon this officer is to attend to the rigging of the vessel, which he is charged to inspect every morning; not only to observe that everything is properly fitted and arranged in its place, but to see that all things are in good condition, to remove whatever may be judged unfit for service, and to supply whatever may be deficient. He cannot however cut up or otherwise appropriate any cordage or canvas for the public uses of the ship without a written order from the captain, and under the inspection of the master. His instructions inculcate the utmost strictness in the use of the stores entrusted to him; and at the end of a voyage he must present to the surveyor of the navy minute accounts, previously audited and vouched by the captain and master, of the purposes to which all the stores in his department have been applied, or of the circumstances under which they may have been lost, stolen, misapplied, or returned to the dock-yard. He cannot receive his pay till his accounts have been approved.

In this department the boatswain is much under the control of the master; his more exclusive function is that of superintending and control which he exercises over the men and their duty, and over the work of the mates in the necessary business of the ship, and relieves the watch when its time expires. His calls on the crew are made by a silver whistle of a peculiar construction, well-known as the 'boatswain's whistle.' He must observe certain rules; and, when called upon by his name, he must not only appear to have properly performed his duties; and be enjoined to observe, 'that the working of the ship be performed with as little noise and confusion as possible.' The boatswain is a sort of provost-marshal in the ship, taking upon himself to inflict small punishment for the smallest breach of discipline, which may be awarded by the captain or by a court-martial. These latter functions he performs through his mates, whose office is perhaps the most unpopular in the navy. A boatswain is entitled to superannuation after fourteen years' service. His pay is a little more than that of an able-bodied seaman, and is 2s. 4d. per month, for 4½ to 22½, and he is allowed two servants in all ships the crew of which exceeds 100 men. The number of his mates varies from four to one, according to the size of the vessel, and their pay similarly varies from 3l. 10s. to 2l. 10s. per month. (Regulations and Instructions relating to his Majesty's Sea Service; Harris's Lexicon Technicum; Table of Naval Allowances, &c.)

BOBER, THE, a large river in Prussian Silesia, has its source near Oppau, to the north-west of Schataltar, on the northern slope of the district of Oppau, and runs close upon the borders of Bohemia. It traverses the plateau of Hirschberg, and during this course, as well as until it reaches Braunau, a village in the Silesian circle of Liegnitz, flows through a narrow and, in general, rocky valley. From Hirschberg its general course is north past Bunzlau to the junction of the Sprotte, where it takes a general N. W.
tain a sufficiency of food throughout the summer without molesting the harvest of the farmer; until the ripening of the latest crops of oats and barley, when, in their autumnal and changed dress, hardly known now as the same species, they sometimes show their taste for plunder, and flock together to consume before the reaper the crops left behind in the account of the snow-bunting. This appears also to be the case with the woodcock, having observed that the first flight of these birds (which seldom remains longer than for a few days to recruit, and then passes southward) consists of the males. The subsequent and latest flights (which continue with us) are principally composed of males.

Dr. Richardson says that the 54th parallel, which it reaches in June, appears to be the most northern limit of the bob-o-link, and gives a description of a male in its mup-

and we know that there is a temporary separation of the sexes among other birds besides the chickadee. 'This separation of the sexes,' says Selby, speaking of the last-men-
tioned bird, 'I am induced to believe, takes place in many other species, with very few exceptions.' The hen has been observed in the account of the snow-bunting. This appears also to be the case with the woodcock, having observed that the first flight of these birds (which seldom remains longer than for a few days to recruit, and then passes southward) consists of the males. The subsequent and latest flights (which continue with us) are principally composed of males.

and the female, whose plumage the adult male assumes after the breeding season, has the back streaked with brownish-black, not unlike that of a lark, according to Catesby, and the whole under parts of a dirty yellow. The young males resemble the adult females; while, of

BOBROV, SEMEN SERGEEVITCH, a Russian poet of some distinction, who commenced his literary career about 1784. His most important, if not most extensive work is the 'Kherosomida,' a poem descriptive of the wild scenery, natural history, and antiquities of the Tartar. In this production, which first appeared in 1803, and was afterwards corrected and enlarged, there is much originality both of subject and manner, and it is further remarkable for being written in blank verse, a form before unknown to Rus-

The male in his nuptial dress has the head, forepart of the back, shoulders, wings, tail, and the whole of the under plumage black, going off in the middle of the back to a rich chestnut-brown, and finally to ash-gray on the rump. Behind the eye there is a large patch of ochreous yellow on the nape and back of the neck; bill bluish-black, which in the female, young male, and adult male in his autumnal dress, is pale flesh-colour; the feathers of the tail are sharp at the end, like a woodpecker's, and of very unequal length; whilst,

The female, under the name of Carolina ortolan, gives the following interesting account of the rice-bird, from which it appears that the damage done to the farmer by this compa-

'About the middle of August, in congregating numbers, devoured already of all selective attachment; vast foraging parties in a state of wildness, and Perdix and Perdix' are of the south. Here, along the shores of the large rivers, lined with floating fields of the wild rice (Zizania), they find an abundant means of subsistence during their short stay; and as their flesh, now fat, is little inferior to that of the Eu-

It is evident that Catesby was not aware of the change of the bob-o-link in the autumnal and generation of the males at the termination of the breeding season, but it is singular that he should never have met with a cock among the scores which he opened in the autumn. Is it not possible that some temporary separation of the sexes may take place in Carolina at that time, as it does in Virginia? With us two different hatchings with us, it appears, from Bartram's account quoted by Nuttall, that the males frequently arrive in the spring before the females,
complexion and the liveliness of their look, by their attachment
to their native soil, and their willingness to labour.
The women are more bold in their bodily frame, and fruitful
in bearing children. Civilisation makes little progress among
them, and we often find the distinction of sexes has undergone little change for ages past. The ani-
mals, like the men, are distinguished by their small size;
not merely the domestic animals, cows, horses, and sheep,
but even the wild animals, hares, rabbits, and partridges.
The large fowls of the Neapolitan district of the Valle
d'Agerede degenerate if transferred to La Bocage. The dis-
trict yields little grain except oats, rye, and buckwheat, but
there is some good pasture land. It contains wood;
and somewhat, as I was told here. (Malo-Brun, Expilly.)

BOCCA, the name given by the Neapolitans for a
French woman whom his father had made acquainted
with during a visit to Paris; but whether he was born at
Paris or Florence is not ascertained. He studied at Flo-
rence under the grammarians Giovanni da Strada until
he was 13, and then went to the university of Paris, and
when he was 16 he went to Venice. (See Petrarca.)
The object of Boccaccio's admiration proved to be Mary,
the daughter of Aquino, and a presumed
daughter of King Robert of Naples. Boccaccio's attach-
ment was returned; and to please his mistress he wrote "Il
Filopeo," a romance in prose, which was begun in 1292,
and published in 1294. (See Crescimbeni, Commentarii, lib. iii.)
Chaucer borrowed from the "Teseide" his "Knights' Tale," after-
wards remodelled by Dryden under the name of "Palamon
and Arcite." Boccaccio dedicated the "Teseide" to his Fiam-
matta, the name which he gave to his mistress Mary.

In 1292 Boccaccio was recalled home by his father, but he
returned to Naples, where he remained for several years.
He there wrote the "Amorosa Fiammetta," in
which he describes the range of absence from a beloved
object, with uncontrolled passion. In "Il Filopeo,"
"Teseide," and "Amorosa Fiammetta," the name which he gave to his mistress,
and his real name "Miria." At this time he frequented the court of
Queen Joanna, who had succeeded her father Robert. He
read his works to the queen, and at her request, as it appears,
he wrote "His Decamerone," a hundred tales, ten of which are
supposed to be told every afternoon of ten successive days
by a society of seven young women and three young men,
who, having fled from the plague which afflicted Florence
in 1345, had withdrawn to the country house of the
Bocage. One of the stories turn upon love-intrigues;
they are full of humour and admirably told, but the details
are often very licentious. Several of the tales however are
unexceptionable, and are even moral. Some of the subjects
of the tales are taken from older works, but most of them are
original. (See Manni, Storia del Decamerone.)

While at Naples Boccaccio amused himself with writing in
the Neapolitan dialect, in which there is extant a hu-
merous letter addressed by him to Francesco de' Bardi,
a young Florentine merchant, who came to Naples. He
Boccaccio went from Naples to Calabria, and some say also
to Sicily, either for the purpose of studying Greek, or in
order to collect MSS. for his library. He seems also to
have been acquainted with the Monk Barlaam, who was
well versed in Greek. During his researches he visited
Monte Casino, where he found the library in a sad state of
dilapidation, through the neglect of the monks. (See Bene-
nuto da Imola's Commentary on Dante, Paradiso, c. xxii.)

About the year 1356 Boccaccio returned to Florence, where
he spent the greater part of the year 1357 writing his
"Iliad," a poem in octave rimes, which he spent in travelling and in pur-
chasing MSS. Chiefly of the Greek and Latin classics. What
MSS. he could not purchase he contrived to copy.

His merits being now known and appreciated by his con-
temporaries, he was sent to the court of the Pope,
who in the latter part of his reign (1364) conferred upon him a
number of offices and missions. He was sent several times to Ro-
ma, to the lords of Ravenna and Forlì, and afterwards on
a mission to Louis of Bavaria, Marquis of Brandenburg
in Germany, and again to Pope Innocent VI. In
1351 he was sent to the court of the Emperor,
who, on his return from his campaigns, had
vince to him the revocation of the sentence of exile passed
against his father during the faction of 1302, as well as the
restoration of his paternal property, which had been
confiscated. Petrarch was at the same time invited to come
to Italy, which was at that time in better condition for
wéll in his paternal country, but he declined the
invitation.

In 1355 Boccaccio wrote "Il Corbaccio, ossia il Labirinto
di Amore," a kind of satire against women, full of indecent
passages. It is said that he wrote it to revenge himself on
a certain widow who had slighted him. His Fiammatta appears to have died at Naples some time before.

In 1356, having induced the Florentines to found a
chair of Greek literature in their university, he repaired to
Venice for a professor, and brought home with him Leonzio
Torcello, a young scholar who was to be his assistant in this
mission. He returned to Venice, and afterwards to Constantinople. On his return to
Italy he was killed by lightning on board ship.
Boccaccio learned Greek from Pilatus, who made for his pupil's
use a Latin translation of Homer: a copy of this transla-
tion, made by Nicolas Ninio, is still in existence in the Benedictine
Library at Florence. (Tiraboschi, Storia, vol. v. lib. iii.
cap. i.) This translation by Pilatus has been ignorantly
attributed to Petrarch. Petrarch only bespoke a copy of it,
which Boccaccio sent him. (See Hosty, de Graecis Illust.
triter. London, 1807, p. 41.)

Pilatus was a learned but uncooth man. Boccaccio
lodged him in his own house, and treated him with great
kindness notwithstanding his repulsive manners and bad
cleanliness. Three years after this he applied to
Pilatus for a gift which he was given, and from
Venice, and afterwards to Constantinople. On his return to
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In 1361 a great change took place in Boccaccio's moral
conduct. His life had till then been regular, and most of
his writings licentious, but in that year Father Ciani, a Cia-
thusian monk, came to him and stated that Father Petroni
of Siena of the same order, who had died shortly before in
odour of sanctity, had commissioned him to exhort Boc-
caccio to forego his profane studies, reform his loose life,
and become a monk. To prove that Petroni was in gen-
eral true, Ciani told Boccaccio several circumstances, known
only to Boccaccio and Petrarch. Boccaccio wrote imme-
diately in great agitation to his friend Petrarch, expressing
his resolution to quit the world and shut himself up in a
Carthusian convent. Petrarch's answer, which is among
his Latin epistles, is remarkable for its sound and clear
sense. Without ascribing much weight to the mysti-
rious circumstances of the monk's communication, he ex-
icted his friend to listen to the warning, so far as to
adopt a new and regular course of life, which he might do
without shutting himself up in a convent, and without
giving up his studies and his books. This letter calmed
the eager expectations of Boccaccio, who had written to the
friend of Petrarca, and he became an altered man. His studies took a more seri-
ous turn, and he devoted part of his time to the perusal of
the Scriptures. It was soon after this that he wrote to Ma-
nario de' Cavalcanti, marshal of Sicily, imploring him not to
allow his Decameron to be published by the females of his
family, 'who, though they might by education and honour-
able principles be above temptation, yet could not but have
their minds tainted by such obscene stories.' And as an
apology for himself, he stated that it was a work of his youth,
and that he had left it in a state of incomplete maturity. He,
therefore, sent, with the will of the powerful, majori coacta imperio, allud-
ing probably to Queen Joanna's request. It is remarkable
that he did not forward his Decameron to Petrarch, as he
used to do his other works, and it was only by accident that
Petrarch saw a copy of it several years after it had been in
circulation. Petrarch mentioned this to him in one of his
letters, saying that he supposed it was 'one of his juvenile
productions.' He however praised the description of the
plague and the story of Griselda.

In 1365 Boccaccio arrived at Naples at the request of Ac-
jaiolo, the seneschal of the kingdom, a proud pompous
man, with whose behaviour and mode of living he soon be-
came disgusted, as he afterwards stated in his letter to the
prior of Santi Apostoli. He left Naples (1365) for Venice, where he lived with Petrarca, and on his return to Florence, he was sent by the republic to Pope
Urban V., then at Avignon, and again to the same pope at
Rome in 1367. At this period of his life he appears to
have been distressed in his circumstances, and to have re-
ceived a large income from one of his friends, a lady who
also, on his death-bed, left him with fifty golden florins
'to buy him a winter pelisse to protect him from cold
while in his study at night,' adding, that if he did no more
for Boccaccio, it was only through want of means. The
latter event of this interesting incident was the marriage of
his daughter; Voltaire placed a crown of laurel on her
head, saying it was the only thing wanting to her dress;
and the words forma Venus arte Minervae were assigned
her as a motto. But although so highly extolled, her productions
seemed to have been generally neglected, and the, only
verse, P. 23, of the Ode to Cressen, among her six, was
admired of posterity. Their chief merit seems toт be easy
and correct versification. Her poetical works consist of
an imitation of 'Paradise Lost,' another of Genser's
'Death of Abel.' Les Amazones, a tragedy (which was
acted eleven times), 'La Colombe,' and several small pieces.
The 'Colombe,' as her most am-
bitious attempt, was that upon which her fame chiefly
rested, though now it is probably never read. Her
works ran through four editions between the years 1749 and
1756, and have been translated into French, English, and
Italian. Her prose letters, written during her travels
through England, Holland, and Italy, which were little
read, and her production of 1682 and translated into English by
her daughter, Madame du Boccaccio, seems to have met with no
notice, After a short period of practice at the law, she
was admitted to the bar at Rome in 1362. (Allgemeine Deutsche Real Encyclopädie; Biographie Universelle; Chalmers's Biographical Dictionary; Boutricke, Geschichter Neuerer Poemen und Bardenkunst.)

BOCCALINI. TRAJAN/NO. Eborne at Arezzo in 1556, studied at Rome, and afterwards applied himself to the profession of the law. He was employed by the Court of Rome in several administrative offices, and Gregory XIII.

Boccaccio died in 1375, at the age of sixty-two, sixteen months after the
death of his friend Petrarch. He was buried in the church
of St. James and St. Michael at Certaldo, and a modest epitaph was engraved on his tombstone. In 1863, a cenotaph with a bust in marble was raised to his
memory by the side wall of the church. This cenotaph still exists, but its grave was opened in 1873, and his skull taken out, not through fanaticism as Byron has
assumed, but for the purpose of preserving, as a memento, a repro-
cutiation of the ordinance of Leopold against burials within
the churches. (See Esame storico del Sepolcro di Messer Giovanni Boccaccio, Colle, 1827.) Boccaccio's house at Cer-
taldo has been repaired by the present owner.

He was considered the master of Italian prose. The merits of his Decameron with regard to lan-
guage have been perhaps exaggerated, but still it has the
merit of being the earliest prose work written in pure
Italian. (See Foscolo, Discorso Storico sul Testo del De-
cameron, and also Journal of Education, No. X.) On the
Study of the Italian Language.) Boccaccio and Petrarch
were the revivers of classical literature in Italy. They spared
neither labour nor money in recovering the Greek and Latin
classics, and in giving an impulse to the study of them. Boccaccio wrote several works in Latin: De Genealogia
Deorum; De Montium, Sylvorum, Lacuum, Fluviorum,
Stagnorum et Marium Nominius, Liber; De Casibus Virtu-
orum et Fenninarium illustrium; De Claris Mulieribus, and 16
other philosophical works. He died at Florence, aged 64, on the 23rd of May, 1375. His most famous work is the Decamer-
on, with the eight stories or novels of that period. His
evangelical spirit was seen in an address, in which he
spoke of the events of his time. He gave the key to the real names of the
topics and places to his confessor, Frà Martino da Siena,
and Manni gives an abstract of this key in his Storia del
Decamerone. Boccaccio's Italian works have been published
carefully corrected from the best existing MSS., in 17 vols.
Florence, 1827-34. With regard to the Deca-
merone, the MS. of it by Mannelli, Boccaccio's godson,
who wrote it about 1384, and which is preserved in the
Laurentian library at Florence, has served as a text to most
existing editions. The story of Griselda is the best known.
Boccaccio, Firenze, 1806; and Mazzucelli, Scrittori d'Italia.
BOCCAGE, MARIE ANNE LEPAGE, married to
Fritquel du Boccage, was a French poetess of the last century,
so highly esteemed by her contemporaries, that she was re-
ceived as a member of the academies of Rome, Bologna,
Padua, Lyons, and Rouen. She was born in Rouen in 1710,
and educated in a convent at Paris, where, at this early age,
she was distinguished for talent and a poetic turn. Her
literary taste she however sedulously concealed during the
years of her youth and early maturity, her universal admiration, influenced probably by the habits of
French women of rank and fashion of that epoch, who de-
voiced their youth to coquetry, the period of middle life to
cleverness or its reputation, and their old age to devotion.
In her early life she was the care and delight of her
father; she was an author, and her poem, entitled 'Prix alternatif entre les
Belles Lettres et les Sciences,' gained the first prize given by the then recently founded Rouen Academy. She was from this time surrounded, courted, and eulogized by all the distinguished men of her time. She
sent Petrarch a sonnet, which he presented to his daughter;
Voltaire placed a crown of laurel on her head, saying it was the only thing wanting to her dress;
and the words forma Venus arte Minervae were assigned her
as a motto. But although so highly extolled, her productions
did not reach the same level as those of her contemporaries, and the admiration of posterity. Their chief merit seems to be easy
and correct versification. Her poetical works consist of
an imitation of 'Paradise Lost,' another of Genser's
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cameron, and also Journal of Education, No. X.) On the
Study of the Italian Language.) Boccaccio and Petrarch
were the revivers of classical literature in Italy. They spared
neither labour nor money in recovering the Greek and Latin

family, although he did not enjoy such splendid titles as many of his relations. He was the son of a Protestant minister, and himself minister of a persecuted religious body. Etienne Seigneur de Menillet, son of Jean Bochart II, married Marie Blos, and had among other children Marie, Présidente en l'Évêché de Paris, who died childless; and René, minister of the reformed religion at Rouen, who married Esther du Moulin, sister of the famous Petrus Molines, or Pierre du Moulin, by whom he had Samuel, the subject of this notice, who was born in the year 1599.

One of Samuel Bochart's earliest works was the composition of the forty-four Greek verses, which Thomas Dempster, or Demusterus, under whom he studied the classics at Paris, prefixed to his ' Corpus Antiquitatum Romanarum,' in 1612. At that time Samuel Bochart probably lived with his uncle, Pierre du Moulin, at Paris. It is supposed he was brought up early to be a scholar, not merely the Hebrew and Greek, but also the Latin language, which was a necessity in his profession.

Some time afterwards, he proceeded to Oxford, where he obtained the degree of B. A. in 1616, and B. A. in 1617. He then proceeded to Paris, where he obtained the degree of M. A. in 1618. He then proceeded to the study of divinity, which he pursued with great industry, and obtained the degree of Ph. D. in 1620. He then proceeded to the study of law, which he pursued with great industry, and obtained the degree of M. D. in 1622. He then proceeded to the study of medicine, which he pursued with great industry, and obtained the degree of Ph. D. in 1624.

He then proceeded to the study of physics, which he pursued with great industry, and obtained the degree of M. D. in 1626. He then proceeded to the study of chemistry, which he pursued with great industry, and obtained the degree of Ph. D. in 1628. He then proceeded to the study of botany, which he pursued with great industry, and obtained the degree of M. D. in 1630. He then proceeded to the study of zoology, which he pursued with great industry, and obtained the degree of Ph. D. in 1632. He then proceeded to the study of geology, which he pursued with great industry, and obtained the degree of M. D. in 1634. He then proceeded to the study of physics, which he pursued with great industry, and obtained the degree of Ph. D. in 1636. He then proceeded to the study of chemistry, which he pursued with great industry, and obtained the degree of M. D. in 1638. He then proceeded to the study of botany, which he pursued with great industry, and obtained the degree of Ph. D. in 1640.

He then proceeded to the study of zoology, which he pursued with great industry, and obtained the degree of M. D. in 1642. He then proceeded to the study of geology, which he pursued with great industry, and obtained the degree of Ph. D. in 1644. He then proceeded to the study of physics, which he pursued with great industry, and obtained the degree of M. D. in 1646. He then proceeded to the study of chemistry, which he pursued with great industry, and obtained the degree of Ph. D. in 1648. He then proceeded to the study of botany, which he pursued with great industry, and obtained the degree of M. D. in 1650. He then proceeded to the study of zoology, which he pursued with great industry, and obtained the degree of Ph. D. in 1652.

He then proceeded to the study of geology, which he pursued with great industry, and obtained the degree of M. D. in 1654. He then proceeded to the study of physics, which he pursued with great industry, and obtained the degree of Ph. D. in 1656. He then proceeded to the study of chemistry, which he pursued with great industry, and obtained the degree of M. D. in 1658. He then proceeded to the study of botany, which he pursued with great industry, and obtained the degree of Ph. D. in 1660. He then proceeded to the study of zoology, which he pursued with great industry, and obtained the degree of M. D. in 1662. He then proceeded to the study of geology, which he pursued with great industry, and obtained the degree of Ph. D. in 1664. He then proceeded to the study of physics, which he pursued with great industry, and obtained the degree of M. D. in 1666. He then proceeded to the study of chemistry, which he pursued with great industry, and obtained the degree of Ph. D. in 1668. He then proceeded to the study of botany, which he pursued with great industry, and obtained the degree of M. D. in 1670. He then proceeded to the study of zoology, which he pursued with great industry, and obtained the degree of Ph. D. in 1672. He then proceeded to the study of geology, which he pursued with great industry, and obtained the degree of M. D. in 1674. He then proceeded to the study of physics, which he pursued with great industry, and obtained the degree of Ph. D. in 1676.
Popish controversialists went about in order to dispute with Protestant ministers, and to entrap them by unguarded expressions. Veron, who had been trained by the Jesuits, was now travelling through France with the title of Doctor in academia ardentium, with a diploma from the king, and with a New Testament in Latin of his own fabrication, in which he had expressed Aristotle & the Latin atomists cantium, i.e., whilst they were making masses. By this text Veron supported the apostolic origin of the mass. On the fourth day of September, 1629, he urged Bochart to a public disputation, which took place in the castle in the presence of a large assembly of nobility and gentry, and lasted from the 22nd of September to the 3rd of October. Sometimes the Duke of Longueville, viceroy of Normandy, himself attended. In nine sessions Bochart and Veron debated on the accuracy of the French version, the faults of the Vulgate, the misinterpretations, the ignorance of the mass, the good works, mass, prelates, forbidden food, celibacy, certainty of salvation, authority of the Bible, the church, supremacy of St. Peter, power of the pope, the virgin, saints, relics, free will, merits, vows, abstinences, justification, purgatory, the shadow of the dead, number of sacraments, eucharist, equivoque, &c. It was agreed that the minutes of this disputation should be written down by a Popish as well as by a Protestant reporter, who were to read their notes at the conclusion of every session in the presence of the whole assembly, which they were signed by the president and by the two disputants, and then printed. Veron, observing that Bochart had gained more general approbation than himself, left without having terminated the disputation. Bochart enriched his *Actes de la conference touchant la connaissance des sacrements.* He also published *De Paradiso terrrestri,* *Geographia Sacra,* seu Phaleg, et Canaan; *Hierozoicon, on the animals mentioned in the Bible.* He wrote also some dissertations on the plants and gems mentioned in the Bible, parts of these merely fragments remain. The *Phaleg* and the *Canaan* were published A.D. 1640. The famous printer, Johannes Jannounius, of Sedan, was invited to Caen to superintend the printing; nevertheless many errors were committed. The approbation with which Bochart was received was diminished Bochart to bestow all his energy upon the *Hierozoicon,* but two circumstances occasioned delay. Dr. Morley, then chaplain to King Charles II. of England, prevailed on Bochart to write a letter on Episcopacy and Presbyterianism, in order to prove the defects of the one and the advantages of the other. The congregation of Breda. This *Lettre de Morley,* dated March, 1650, is reprinted in Bochart's work under the title *Epistola qua respondentur ad tres questions:* I. De Presbyteratu et Episcopatu; II. De provocazione a judicis ecclesiasticis; III. De jure et posteste Regum. *Scellet hic morum et data sacra suprascripta, talis Us sit mores qua vinca petcreta fuit; Museorum in gremio tenera quae vixit ab aedibus in gremio detraeantur.*

His mind was cheerful, and his body well proportioned, though somewhat under the middle stature. On account of the suavity of his manners he was less exposed to the persecutions of those days than many other distinguished Protestants, but he did not escape entirely. He left a large number of unpublished works; but the *Hierozoicon* has been published by F. C. Rosenmüller, Lips. 1793-96, in three volumes quarto, with additions from modern travellers. Such is the esteem in which the works of Bochart are still held, nearly 200 years since their publication, that Geensius induced the students to peruse diligently Bochart's volumes, which are full of learning. (See the *Dictionaries of Moreri and Bayle*; also the *Via* by Morinus; *Pet. Dan. Huetti Episcopi Abridic значительных Commentarios de rebus, &c.*

In 1560 Matthieu Bochart, Protestant minister at Alençon in the seventeenth century, published a *Traité contre les Réitques,* and a *Traité contre le sacrifice de la Messe.* Judicial proceedings were commenced against him for having given in this treatise the forbidden title of pastors to the ministers. He published also, *Dialogue sur les difficultés que les Missionnaires,* and *De l'examen de France.* This dialogue on the toleration of Lutheran errors induced the Elector Palatine to try if he could unite the two reformed churches in Germany, viz., the Lutherans and the Calvinists, and accordingly he advocated their union in the assembly of Protestant ministers at Augsburg. Upon hearing this, Matthieu Bochart published his *Dialaixon* i.e. *a conciliatory treatise,* 1662, which he dedicated to the Elector Palatine. It contains the plans of this union. Matthieu has been sometimes confounded with his more learned cousin Samuel, of whom we have just spoken.

Bochnta, a province or circle in the north-western part of the Austrian kingdom of Galicia; bounded on the north by Poland, on the north-west by the territory of the republic of Cracow; containing a mountain, an area of about 1004 square miles, which will make it nearly equal to that of Cheshire. It lies between 49°46' and 50°14' N. lat., and 19°50' and 20°59' E. long.

The greater part of Bohemia has an undulating surface; but in the southern districts, the chain of the Bohemian mountains gives the country a mountainous character. In this direction are those extensive forests and rich mineral resources which make the regions about the towns of Bohemia and Wieliszka so valuable to the Austrian crown. This province has the advantage of being skirted on the north by the
Vistula, and on the east by the Dunajec, which separates it from the province of Tarnow: it is also traversed by the Raab or Raba. The soil is inferior in fertility to that of most other parts of the kingdom. It is less adapted for the plough than for rearing cattle, to which great attention is paid. The industry of almsmen is observed. The forests of Bochnia are of no little importance to its prosperity, but the principal source of its wealth is the salt-mines about the capital and in the vicinity of Wieliczka, whose total produce is between 37,000 and 40,000 tons per annum. Some iron is also raised among the Carpathians, and manufactured in the country; and a few linens are made. Bochnia also enjoys the benefits of some transit trade. It contains five towns, nine market-towns, and nearly 400 villages. In 1817 its population was 178,760 souls: it is 15 miles west of Krakow. The capital, which bears the same name as the province, lies about a mile from the Raba, among a low range of hills which run as far as Wieliczka. It is moderately well built, has several churches, a gymnasium, a board of mining, an office for the direction of the saltworks, a head district-school and other seminaries, and is the seat of government for the circle. The salt raised in the vicinity is the produce of a bed which spreads for 1000 fachter (about 1 1-7th miles), from east to west: its depth has not been ascertained beyond 720 feet. This great bed is intermixed with clay and gypsum. The salt-mines here afford employment to 300 labourers, and yield about 12,500 tons annually. Bochnia contains 660 houses, and about 5600 inhabitants, according to a recent census. It is on the 49° 57' N. lat., 20° 25' E. long. To the west of it lies Wieliczka, the next town of importance in the province, with a population of 3500 souls, and extensive mines in its neighbourhood. The remaining three towns are, Wiencek, with a suburb set apart for salt, and a small district called a Monastery, and Podgorze, or Podhorze. A collegiate church, on the ruins of the ancient church, was erected in the 15th century. The town itself is on an elevated position, near an old work, a manufacture of arms, chalk-pits, and flint-stones for arms in the neighbourhood. BOCHOLT-AHAUS, a principality in the circle of Münster, in the Prussian province of Westphalia, which, together with the sovereignty of Anhalt, a domain in the same quarter, belongs to the prince of Salma-Salm, and contains an area of about 620 square miles, and about 57,000 inhabitants. [See Salma-Salm.] Bocholt, on the As, in the above-mentioned circle, is the residence of the principality of Bocholt. It is a market-town, and as such, so far as the poor, a silk manufactury employing 420 looms, a brandy distillery, cotton and saw manufacturies, &c. Much grain is cultivated round it, and there is an iron-factory in its neighbourhood. The town contains two Roman Catholic churches, a school, and an almshouse for the poor. It is situated in 51° 50' N. lat., 6° 32' E. long. BOCLAND, land held by book or charter. The two great distinctions of lands in the Anglo-Saxon times were those of bo-clane and fol-clane. The former means land which had been severed from the land, and converted into an estate of perpetual inheritance. Fol-clane, on the other hand, was the property of the community. Sir Henry Spelman describes fol-clane as ' terrae popularis, quae jure communitati possidentur atque usu sunt.' (Glos., ' Follande.') In another passage, 'Boclane,' he says, 'Prævia Saxones duplèi titulo possidentiæ—vel scripti authoritate, quod Folland vocabant—vel populi testimonio, quod Folland dixere.' The author of a Dissertation on the Follances and Boclandes, in the Quarterly Review, 4th. S. v. 1777, p. 12, says, 'the Boclandes and Follandes are first mentioned in an ordinance of Athelbert, which informs us that the country was divided into two portions, one of them more immediately appertaining to the King and his Thains, the other under the juris- diction of the people. These were divided among the men of every shire, and was denominated Eorl, Kaldorman, or Gerefa, and in latter times Greve, or Reve; he it was that convened the Folenote, which was composed of the possessors of Follandeland, and together with the bishop ad- ministered justice. The Follandeland, over which they had power when they sat in their judicial capacity, and whose decrees was his duty to enforce.' Mr. Allen, in his Inquiry into the Rise and Growth of the Royal Prerogative in England, 8vo, Lond. 1830, goes more at length into this subject: he says that Bocland might belong to the church, to the king, or to a subject. It might be alienable and devisable at the will of the proprietor. It might be limited in its descent, without any transfer of the possession. It was often granted for a single life or for more lives to the king, or to other persons in perpetuity to the church. It was forfeited for various delinquencies to the state. Bocland, moreover, was released from all services to the public, except those which were compulsory in the phrase 'trinca necessitates,' which were said to be incumbent on all persons: these were: the service to military expeditions, and to the repairation of castles and bridges. Bocland also might be held by freemen of all ranks and degrees. A cease might possess bocland and hold it in fee-simple for life. [Febr. 1847.] He had five hides of bocland with other the requisites demised by law, he was entitled to the privileges of a Thiegn. (See Wilkins's Leg. Anglo-Sax. pp. 70, 71.) Gesiths (companions or partners) might receive grants of bocland. (Hickes, Gramm. Anglo-Sax. p. 139. Bede, Hist. Eccles. Patriarch Smith, p. 786.) Thegns might also possess bocland. But estate of a thegn in bocland must not be confounded with the thegn-lands which he held, by a beneficiary tenure from the king or from a private lord, for military service. Thegn- lands held of the king or state are repeatedly mentioned in Domesday; and the Saxons laws carefully distinguish the bocland possessed by a thegn, from the land given him by his hiflord (or order). (See Leg. Con. p. 73.) It is probable that thegn-lands were originally granted for life, as beneficentary lands which were to be retained in the possession of the family as long as the family existed. But after the Saxon period, the possessions given to a man by his hiflord descended in certain cases to his children. (Ibid.) The estates of the higher nobility consisted chiefly of bocland. Bishops and abbots might have bocland of their own, and hold it in fee. The Anglo-Saxon kings had private estates of bocland; and these estates did not merge in the crown, but were devisable by will, alienable by gift, or sale, and transmissible by inheritance in the same manner as bocland held by a subject. Offa, king of the Mercians, had a hundred and ten cases of land in Kent converted into bocland for himself and his heirs, with remainder to the church. These lands did not descend, after the death of his son Ecfrith, to Cyn- wulf, his successor in the Mercian throne, but to Cyn- dritha, abbess of Cotham. Other lands, of which he had possessed himself without a legal title, went also to Cyn- dritha and not to his successors in Mercia. (Wilkins, Con- cis. vol. i. p. 163.) When bocland was created, the proprietor, unless fettered by the original grant, or by a subsequent settlement of the estate, appears to have had an unlimited power to dispose of it as he chose. (Somner's Glovellyn, pp. 88, 89.) In the exercise of that power he might transfer it by grant or charter, and it passed by him. The Boclandes continued, on such conditions as he was pleased to appoint. If conveyed by a written instrument, whatever might be the stipulations annexed to the grant, the land was still denominated bocland. (See Heming's Chartul. pp. 129, 140, 141. 180. 182. 206. 209. Smith's Dedications, pp. 769, 771.) When once severed from the folcland, or property of the community, an estate retained the name of bocland, whatever were the burthen and services imposed on it, provided it was alienated by deed. When transferred in a different manner, though, whether by will or otherwise, it have been called iæland. This appears from a transaction recorded in the Chartulary of Worcester. (Heming, p. 159, see also ibid., pp. 204, 205.) We are there told that arch- bishop Oswald granted to the monastery of Worcester, with the croft attached to it, for the sum of 90 marks, as amply in the form of bocland as it had been held before in the form of lœanland. Lœland might be an estate for life, or it might be held at will; and if the possessor was convicted of felony, he might be deprived of it. (Compare Hicks, Dis- cuss. Epist. pp. 58, 59: Textus Rotfleur. pp. 116, 116; Heming, p. 94; MS. Ch. Ch. Cant.) Bocland, says Mr. Allen, when alienated by grant or will, might be free, or in the seigniory of some church, major, or minor, or in the duchy or barony. (Ibid. pp. 163, 164.) Somner, in his Gloss. Anglo-Sax. p. 96, 384; Somner, Glovellyn, pp. 203, 206; Smith's Dedications, p. 782.) It might be subjected to payments in kind or in money. (Hickes, ut sup. pp. 10, 55. Gramm. Anglo-Sax. p. 149, F 2
Ity might be liable to services, free, servile, or mixed. (Hemming, pp. 134, 184, 189, 293. Domest. tom. i. fol. 269 b.) It might be granted on the condition that the possessor discharged the military or other services due by the proprietor to the state. (Hemming, pp. 81, 96, 233, 265; Smith's Bede, pp. 773, 778, 779, 780.) It might be let for annual rent or for the performance of menial services. (Hemming, pp. 264, 267, 270.) It might be held for lives of men or of women. (Hemming, pp. 81, 96, 233, 265; Smith's Bede, p. 779.) Apes for services certain or indefinite, or with no reservation of services whatever. (Madox, For- mulare, cxxv; Hickey's Gramm. p. 141; Smith's Bede, p. 779.) Tenants of folcald might be persons of the same descent, or strangers, but they held their land under the possessions of the people. Tenants of later times and the copyholder of the present day are not derived from the one more than from the other. Bocland might be forfeited for various offenses, and when forfeited, it escheated to the king as the representative of the state. (Leges Athelredi Regis, 2 Leg. Cnut, 12, 72; Text. Roff. pp. 44, 136; Hickey, Dict. Ep. p. 114; Gale, tom. i. pp. 484, 488.) Land held of a subject, when forfeited for the same delinquency, escheated to the lord. (Leg. Cnut, 75; Judic. Civ. Lond. Wilk. p. 63.) When boc- land was held of a prince, it was, in the view of the law, a present and a private estate. The title of the crown became vested in the heir, declaring that whatever offense the tenant might commit, his land should revert without forfeiture to the grantor. (Hemming, pp. 96, 126, 129, 131, 146, 161, 184, &c.; Monasticum Angl. new edit. vol. iii. p. 37.) Bocland was not held in common. There had been a distinction between bocland and folcald, that is, it followed that the folcald or land of the community, like the fisc of the continental nations, was the fund out of which the bocclands, alienations of the land were carved. At what time, or by whom, or on what occasion the bocland was converted into folcald we are not informed. It was probably soon after the establishment of the Saxons in England; for though a more rude and uncultivated people than the nations which had enjoyed greater opportunities of intercourse with the Romans, they must have found private property in land among the Britons whom they expelled or subdued, and could not long remain insensible to the ad- vantages arising from it. Certain it is, that in one of the earliest charters giving land to the Church, in England, it is stated that the land contained in the donation had been previously the private property of the donor. (Between A.D. 665 and 694, see Smith's Bede, p. 748.) But though condemned at an early period, this private property of the community could not have been slowly and gradually effected. Every charter creating bocland is a proof that the land had formerly been folcald. A charter of Archbishop Wilfrid, who died about 636, asserts in direct terms, that the land which he gives away is "bocland," and the title is made to descend from his, and appeals to general practice, whether a proprietor of bocland might not sell it or dispose of it as he pleased. (Sommer's Gavelkind, p. 88.) In a charter of Burhred, king of the Mercians, the land he grants to an individual is said to have been the property of the kingdom before the donation was made. (Sommer's Gavelkind, p. 80.) Burhred was king of the Mercians from 662 to 674. No charters of any other land than the crown could not be converted into folcald except by an act of government. In early times this was probably done in the gomot or public assembly of the tribe, as temporary allotments to indi- viduals were made in the gomot or assembly of the district. Burhred, king of the Mercians, grants land to an individual as the representative of the state, all charters of bocland ran in his name, and appeared to emanate from his bounty. The power of creating alienal property, by which was meant an estate of inheritance, is enumerated in the Textus Roffensis among the prerogatives of the crown. (Text. Roff. cap. xxvii. p. 44.) But though bocland could not be created without the authority of the king, it was not in his power to convert folcald into bocland without the consent of his witan, princes, seniors, optimates, magnates, or other persons, by whatever name they were called, who assisted him in the administration of his kingdom. There is hardly a Saxon charter creating bocland which is not said to have been granted by the king with consent and leave of his witan, princes and great men, and for the grant was made. (In the proceedings of a council held at Kingston-upon-Thames by Egbert, we are told that his predecessor, Baldred, king of the Kentish men, had given to Christ Church, Canterbury, the manor of Malling in the city of Rochester; p. 772.) Hickey's Gramm. p. 141; Smith's Bede, p. 779.) Apes for services certain or indefinite, with no reservation of services whatever. (Madox, For- mulare, cxxv; Hickey's Gramm. p. 141; Smith's Bede, p. 779.) Tenants of folcald might be persons of the same descent, or strangers, but they held their land under the possessions of the people. Tenants of later times and the copyholder of the present day are not derived from the one more than from the other. 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read natural philosophy in the public schools. In 1569 he was elected one of the proctors of the university, and after that, for a considerable time, supplied the place of university orator. Hitherto Mr. Bodley had applied himself to the study of the sciences, and with any inclination to teach any one more than the rest. In 1576, being desirous to improve himself in the modern languages, and to qualify himself for public business, he began his travels, and passed nearly four years in visiting France, Germany, and Italy. After a return to England, he collected himself for the study of history and politics. In 1583 he was made gentleman usher to Queen Elizabeth, and in 1585 married Anne, daughter of Mr. Carew of Bristol, and widow of Mr. Ball, a lady, as Wood informs us, of considerable fortune. So it happened that he was in the year 1587 a member of the embassy to Frederic King of Denmark, Julius Duke of Brunswick, William Landgrave of Hesse, and other German princes, to engage them to join their forces with those of the English for the assistance of the King of Navarre, who, of various factions, had no inclination to engage in that commission, he was sent to King Henry III., at the time when that prince was forced by the Duke of Guise to quit Paris. This commission, he himself tells us, he performed with extraordinary secrecy, not being accompanied by any one else. He discovered it by his letters to the Duke of Norfolk, any other letters than such as were written with the queen's own hand to the king, and some select persons about him. 'The effect,' he continues, 'of that message is it fit I should conceal; but it tended greatly to the advantage of all the Protestant party in the East...' throw, which followed soon upon it.' In 1588 Mr. Bodley was sent to the Hague to manage the queen's affairs in the United Provinces, where, according to an agreement between the Duke of Norfolk and the Council of State, and took his place next to Count Maurice, giving his vote in every proposition made to that assembly. In this station he behaved greatly to the satisfaction of his royal master and the advancement of the same interests. A more particular account of his negociations with the States may be seen in Camden's 'Annals of Queen Elizabeth,' under the year 1595, and in a short piece written by Mr. Bodley himself, and published by Hearne in his notes upon that passage of Camden entitled 'An Account of the King's Great Trouble a Hundred Years After.'

Bodleyan, or Bodleian Library, the Public Library of the University of Oxford, founded in 1597 by Sir Thomas Bodley, in the very year in which he retired from public employment.

The first public library in England was established in what was then called Durham (since Trinity College), by Richard de Bury, or Angerville, bishop of Durham and lord treasurer of England, in the time of Edward III. He died in 1345, and left his books to the students of Durham College, but the members of the university had no right or power to use them, or to borrow or to require them for the use of the monks of Durham College only.

The next we read of was called Cobham's Library, which would have been the first, if Thomas Cobham, bishop of Worcester, had lived to have executed his own purpose. About the year 1552, he had been sent by John de Hulst and other scholars to the university of Paris to set up a library over the old Congregation-House, in the North Church-yard of St. Mary's; but, dying soon after, little progress was made in the work till 1587, when his books were deposited in it, and the scholars permitted to consult them. Cobham was the first public library, and continued in use until 1689, when the books were added to Duke Humphry's collection, for the reception of which the library-room had been completed.

Humphry, surnamed the Good Duke of Gloucester, as much as is possible, was the real founder of the library which was afterwards restored and re-founded by Sir Thomas Bodley. The number of books given by Duke Humphry is variously represented. Wood (Hist. and Antiq. of the Univ. of Oxon.) vol. ii. pt. ii. 4to. 1766, p. 715 adds the different books to the same amount, 6000 volumes, one hundred: one only specimen at present remains, a manuscript in folio of Valerius Maximus, enriched with the most elegant decorations, and written in Duke Humphry's age, evidently with the design of being placed in his sumptuous collection. The rest of the books, which, like his, being highly ornamented, and looking like missals, were supposed to convey ideas of Popish superstition, were destroyed or removed by the visitors of the university in the time of Edward VI., whose zeal was equalled only by their ignorance. A manuscript, containing the life and death of Sir John Capgrave, belonging to Duke Humphry's library, is still preserved in that of Oriel College, Oxford; and one, if not more manuscripts, formerly belonging to the collection, are in the British Museum; most of them, at the end, had usually this inscription, written in the same hand as before, 'C'est livre est un moy Humphry Duc de Gloucestere.' Before the year 1555 the Duke of Gloucester's Library was totally despoiled of its contents, and the desks and benches ordered to be sold; the room continued empty until restored by Sir Thomas Bodley in 1597.

It was in 1597 that, as Camden justly observes, Sir Thomas Bodley set himself a task which would have suited the character of a crowned head—the restoration of the Public Library. With this end in view he sent a letter from London to the vice-chancellor Dr. Ravis, dean of Christ Church, offering to restore the building, and settle a fund for the purchase of books, as well as the maintenance of proper officers. This offer being gladly accepted, he commenced his undertakings by presenting a large collection of books purchased on the remittance of a money written on the title-page, 1574, and the signatures and contributions were sent in, by his example and persuasions, from various noblemen, clergy, and others, to such an amount, that the old building was no longer sufficient to contain them. He then proposed to enlarge the building; and the first stone of the new foundation was laid with great solemnity, July 17, 1610, and so amply promoted by his liberality, as well as by the benefactions of many eminent persons, that the University was enabled to add three other sides, forming the quadrangle and rooms for the
schools, &c. He did not however live to see the whole completed, as the time of his death, already recorded, will explain.

When Sir Thomas Bodley had succeeded in enriching his collection, probably from beyond his expectation, he drew up a body of statutes which have been incorporated into those of the university. According to them, the librarian is to be a graduate, unmarried, and without cure of souls; and to be allowed deputies or assistants. One or two points in these regulations have since been modified; but they contain the principle that no one is allowed to marry, and he can hold personal preferment with his librarianship. The revenues for the maintenance of the library are intrusted to the vice-chancellor and proctors for the time being; and the vice-chancellor and proctors, the three professors of divinity, law, and physic, and the two regius professors of Greek and Hebrew are appointed visitors.

The first catalogue of the printed books of the Bodleian was published in 1660, by Dr. James Thomas Bodley's first librarian. It was dedicated to Henry Prince of Wales, and the books were classed in four faculties, divinity, medicine, jurisprudence, and arts, compiled by an index of authors' names. A more extensive catalogue, in an alphabetical form, was published by Dr. James in 1625, and another catalogue, which had been compiled by him, of works in the Bodleian, printed and manuscript, in interpretation of the Scriptures, was printed in a thin 4to, at Oxford in 1625. * A Nomenclator of such Tracts and Sermons as have been printed or translated into the English tongue in any place, both within and without the Holy Land: now to be had in the most famous Library of Sir Thomas Bodley in Oxford,* was also printed in 1630, in 1642, by John Veneuil.

In 1674 a new catalogue of the printed books of the Bodleian was made, and published in 1677, under the care of Dr. Thomas Hyde; and another of the manuscripts, distinguishing the different collections, was inserted in the general Catalogue of the Manuscripts of England, folio, 1697. A still more extensive Catalogue of the Printed Books was published in two volumes, in 1719, by Dr. James Granger, which was thought so sufficiently perfect in its day, that almost every college library in the university had a copy interleaved, to mark off the books in the catalogue which they themselves possessed, and to insert additions. This is the last general catalogue which has been published of the books in the Bodleian Library; but from the immense increase of the collection it has become but of little use. Another was undertaken a few years ago, and had proceeded, under the direction of the present librarian, Dr. Bandinel, to some extent in the printing; but we are informed that the publication has been since abandoned.

A few catalogues of particular portions of the Bodleian collections have been published at different times. Dr. Uri printed the first part of a catalogue of the oriental manuscripts, and Dr. Bandinel published a catalogue of the Arabic manuscripts, prepared by Mr. afterwards Dr. Alexander Nicol. After the acquisitions made at the Pinelli and some other sales, a small octavo volume, entitled *Notitia Editionum quoad libros Hebr. Gr. et Lat. quam vel primaria, vel sec. xx. impressae, vel Aldianae, in Bibliotheca Bodleiana adseruantur,* was published in 1795; another catalogue, entitled *Codices Manuscripti et Impressi, cum Nois Manuscriptis, olim D'Orvilliani, qui in Bibliotheca Bodleiana adseruantur,* was printed in 1807, by Dr. Gaisford, son of the dean of Christ Church, in 1806; and the first part of another catalogue, of the manuscripts of the collections in the East by Dr. E. D. Clarke, and purchased from him for the Bodleian, was published also by Mr. Gaisford in 1810, followed by into Egyptian upon an inca, or books of Horus, and the *Catalogus Manuscriptorum Antiquorum in Scripitis Bodleianis reconditum,* editted by Mr. Nicol. In 1814, a catalogue of the books relating to British (including Welsh, Scottish, and Irish) topography, and Saxon and northern literature, bequeathed by Richard Gough, Esq., was published at the Clarendon press by Dr. Baring-Gould, in a folio volume, 1826, and a second volume of the catalogue was published in 1835.

An annual speech in praise of Sir Thomas Bodley was founded in 1681, by Dr. John Morris, canon of Christ Church; the speaker to be nominated by the dean of Christ Church, and confirmed by the vice-chancellor. These speeches were delivered at the visitation-day of the library, November the 8th.

It would require a volume to enumerate the many important additions, in books and manuscripts, made to this library by its numerous benefactors, or to give even a superficial sketch of the gradual increase and learning. Among the earliest benefactors were Robert Devereux Earl of Essex, Thomas Sackville Lord Buckhurst and Earl of Dorset, Robert Sidney Lord Sidney of Penshurst, Viscount Lisle and Earl of Leicester, George Carey Lord Hunsdon, William Gage, Anthony Browne Viscount Montacute, John Lord Lumley, Philip Stedman, and Lawrence Bodley, younger brother to the founder. The contributions of all these persons were made before the year 1600.

In 1691 collection of books and manuscripts were presented by Thomas Allen, some time fellow of Trinity College, Thomas James, the first librarian, Herbert Westphaline bishop of Hereford, Sir John Fortescue, knight, Alexander Nowell dean of St. Paul's, John Coke recorder of London and chief-justice of the Common Pleas, and Nicholas Bond, D.D. president of Magdalene College.

The most extensive and important collections however are those of the Earl of Pembroke, the celebrated Mr. John Selden, Archbishop Laud, Sir Thomas Roe, Sir Kenelm Digby, and Mr. Evelyn, Mr. William of Lincoln, Dr. Richard Rawlinson, Mr. St. Amand, Bishop Tanner, Browne Willis, Thomas Hearne, Mr. Nathaniel Cnyres, and Mr. Godwin. The library bequeathed by Richard Gough, Esq., which came to the Bodleian in 1812 (the catalogue of which has been already noticed), is probably the most perfect series of English topographical works ever formed, and is particularly rich in topographical manuscripts, prints, drawings, and books illustrated by the manuscript notes of eminent antiquaries. The last collections of great importance were those of Dr. John Hudson, of Queen's, afterwards principal of St. Mary Hall, 1701; 7. Joseph Bowles, fellow of Oriel, 1719; 8. Robert Frysher, fellow of Oriel, 1729; 9. Humphrey Owen, fellow and afterwards principal of Jesus College, D.C.L. 10. John Pennington, of Merton College, afterwards of Trinity, 1768; 11. Bulkeley Barclay, D.D. late fellow of New College, 1813, the present principal.

All members of the university who have taken a degree are admitted to study in the library; no books have ever been borrowed. Literary persons, either native or foreign, are also allowed, on application, recommended, to read and take extracts from the books in this collection. By the provisions of a statute promulgated and confirmed in full convocation, Dec. 2, 1813, the officers of the library were increased to two cur-der-librarians, with the degrees of M.A. or B.C.L. at least, and two assistants, either B.A. or Under-graduates. The library is open between Lady-day and Michaelmas from nine in the morning till four in the afternoon; and during
the other half-year from ten till three. It is closed on Sundays and state holidays; from Christmas-eve to the 1st of January inclusively; on the feast of the Epiphany; from Good Friday to Easter Tuesday inclusively; on the days of Encarnación and commemoration of saints; and on days immediately following the 1st of September, and eight days preceding the visitation of the library. On all other holidays it is opened immediately after the university-sermon. (See the Roads and Railways, Etc., Oxford, 1763.) Wood's Account of Bodley's Library, Hist. Oxford, 4to, 1760, vol. ii. P. 920-923; Chalmers's History of the Colleges, Halls, and Public Buildings attached to the University of Oxford, vol. ii. p. 438-448; Oxford University Library and City Guide, 8to, and the Oxford University Calendar, 8vo.

BODMER, JOHANN JACOB, the son of a clergyman, was born at Zürich in July, 1698. He applied himself particularly to the study of history and to poetry. Bodmer was still in his youth the object of national reverence in Germany by his letters of honor in the German language and character, his German language letters, and his German language letters of honor with great superciliousness. This controversy, which was carried on for years, and filled up a number of pamphlets and journals, ultimately effected a complete revolution in Germany. Bodmer's work has been translated into several languages, some of which have brought Bodmer's views, and a new and true German school was formed, which produced Klostermann, Lessing, Schiller, Goethe, and a host of others.

Bodmer was deeply read in the Greek and Latin, as well as in the German and French, and he translated Homer and Milton into German. He published in 1758 a collection of the Minnesinger, or old German romantic poets, from a MS. in the Royal Library at Paris. Benecke has since published an improved edition of this collection under the title of Minneleit und Minnelehn der Sammlung von Minnesingen, Göttlingen, 1810. Bodmer published the 'Helvetische Bibliothek,' Zürich, 1732-41, which is a collection of acts relative to the history of Switzerland. He also wrote a poem in twelve cantos on the Deluge, which was translated into French by his friend Spence and Collyer, London, 1767. Bodmer filled for fifty years the chair of literature in the Academy of his native town, Zürich.

He died at a very advanced age in January, 1783. In the course of his life he was considered as the patriarch of German literature, and he took a direct interest in encouraging young men in their studies. His books and MSS. bequeathed to the National Library of Zürich. His correspondence was published, together with that of his contemporaries, by the benevolent Society of Zürich, 1805.

Bodmin, a borough and market-town in the hundred of Trigg and county of Cornwall, 204 miles S.W. by W. from Launceston, and 2344 W.S.W. from London. The parish, which includes the borough, contains 6310 English statute acres, and the borough of 2800 acres. The bounds are surveyed once a year, and a record of the perambulations is preserved.

Bodmin or Bodman, in Cornish Bosvenna or Boswenna, 'the Houses on the Hill,' and in some of the ancient charters Boshamian, the two Swiss cities of Minnesingen, 'the Minnesingers,' owes its origin to the circumstance of St. Petroe's having taken up his abode in the valley now occupied by the present town, about the year 520. That saint, to whom St. Oron (a solitary recluse) had resigned his hermitage, greatly enlarged it for the residence of himself and three other devout men, who accompanied him with the intention of leading a monastic life according to the rules of St. Benedict. St. Petroe, who died about the middle of the sixth century, was buried here, and according to William of Malmesbury, he was buried in a small chapel to the east of Bodmin church. Landal in speaking of it says, 'The shrine and tomb of St. Petrock yet stand in that part of the chancel.' The hermitage was inhabited by Benedictine monks till 936, when King Athelstan founded a priory of the order of St. Benedict. This monastery soon fell into disuse, and its large possessions were seized by Robert, earl of Moreton and Cornwall, and after the death of his son William they became the property of the crown. After having passed through various hands, and been alternately inhabited by Benedictine and St. Augustine monks, nuns, and secular priests, it was granted to one Algar,* who with the licence of William Wearlesew, bishop of Exeter, refounded the monastery in 1125, and installed it with Austin canons, who continued in it till the dissolution of monasteries in the reign of Henry VIII. when its revenue amounted, according to Dugdale, to 2704. 6s. 11d., and according to Speed to 2892. 11s. 11d. The last prior was Thomas Vivian, alias Wannyworth: an Englishman, born in his castle of Wannyworth, a considerable benefice from the tin works in the neighbourhood. Among other privileges the prior held a market and a fair, and possessed a pillory, gallows, &c., from the latter of which we may fairly presume that he had the power of inflicting capital punishment. An imperfect impression of its large demesnes and dependencies, was granted to Thomas Stornell, one of the first translators of the Psalms of David into English metre, and was subsequently purchased by some of the Rashleigh family. Dr. Borlase, gives the name of Stornell, and not without some foundation, supposed that Bodmin was the primary seat of the bishops of Cornwall, and that this honour was conferred on it in 965, when the bishops made it their residence till the end of the year 981, at which date the town and church being burnt by the Danes, and as they removed the town, they were removed to St. German's. But the fallacy of this supposition has been satisfactorily proved by Mr. Whitaker in his Ancient Cathedral of Cornwall historically surveyed, in which he says, 'The town of Bodmin, 614, and that St. German's was made the original seat of it, though he asserts, on the authority of a grant from King Ethelred, that the monastery of Bodmin was annexed to St. German's, and that both these places continued to give a title to future prelates until the annexation of the bishopric of Cornwall to that of Crediton in Devon in 1031, about twenty years after which time Exeter was made the head of the diocese. The same writer also states that it was another religious house dedicated to St. Petroc at Padstow that was burnt by the Danes. An imperfect impression of the abbey seal is attached to the surrender preserved in the augmentation office. In its area the Virgin and infant Jesus and St. Petroc are represented under canopies of Gothic tracery, with the words 'S. Maria et Petroc,' and in the centre of the legend which went round. (Dugdale's Monasticon.)

Bodmin is said to be one of the towns which had the power of stamping tin; but it seems that the privilege was lost before 1347, for in that year the burghers petitioned parliament that they might be allowed to stamp tin to deal in all kinds of merchandise, yet they were hindered by the prince from buying or coming tin. They were unsuccessful in their application, and their petition was dismissed. Some centuries ago Bodmin must have been a wealthy town, for it is stated that less than 1500 persons died of the pestilence. William of Worcester, who visited Cornwall in the reign of Edward IV, speaks of this as recorded in the registry of the friars, and at the same time he adds that, during that same year, there died in various parts of the town 3000 persons. Bodmin is one of those decayed towns, to repair which an act was passed in the 32d of Henry the Eighth.

In 1496, Perkin Warbeck, the pretended Duke of York, landed in Cornwall, and assembled here a force of 3000 men, with which he attacked the city of Exeter. A serious insurrection of the Cornishmen took place in 1498, when Thomas Flanmoc, a lawyer, and Michael Joseph, a farmer, of this town, were chosen leaders, and they joined men to those of Lord Audley at Wells in Somersetshire, and marched with this nobleman as far as Elyham in Kent, where there was then a royal palace; but the insurgents were defeated by the king's troops at the battle of Blackheath, and their leaders, Lord Audley, Flanmoc, and Joseph, were afterwards beheaded.

In 1550, in the reign of Edward VI, the Cornish rebels superstitionously attributing the depression of trade and agriculture to the Reformation, assembled to the number of 16,000 men and placing themselves under the command of Humphrey Arundel, governor of St. Michael's Mount, encamped at Castle Kynock near this town. After a se-
were contest they were defeated by Lord Russell, who was sent to oppose them.

Bodmin having no fortifications, it was successively occupied by both parties during the civil war in the reign of Charles I, and was finally taken by General Fairfax in 1646.

The corporation of Bodmin consists of a mayor, a town or common clerk, capital burgesses, councillors, &c., but is to be re-modelled in conformity with the Municipal Corporation Act, 5 and 6 Will. IV, cap. 76.

The present mayor was conferred on this borough in the twenty-third year of the reign of King Edward I, and it has ever since returned two members to parliament. Prior to the Reform Act, the right of voting was only enjoyed by the 36 capital burgesses, but under that Act, in 1832, 252 of voters registered, 30 were capital burgesses, and 222 occupants. The first charter seems to have been that of Edward III, granted in 1362. Subsequent charters were granted by Richard II, in the reign of Henry VI, in 1539, again in 1554, and by George III, in 1798, in the thirty-eighth year of his reign. This last is the present governing charter, and by it a civil court is directed to be held every Monday before the mayor and town-clerk, or his deputy. It has jurisdiction over all civil actions under 60s., and all pleas of law within the borough. There is also a court of pie-powder; but both these courts have fallen into disuse. By the charter of George III., law-days and views of frankpledge were also given to the corporation, to be held within one month of the feast of St. Michael, and one month next after the feast of St. Michael, before the mayor.

Courts of session of the peace are held here twice a year, which have jurisdiction over all offences except treason, felonies, and other matters touching loss of life. The assizes are held here once, and the county sessions three times in the year.

The town of Bodmin is situated on a gentle slope, in the middle of a vale between two hills, nearly in the centre of the county, and consists of one long street, nearly a mile in length, and a number of houses, which has been redeveloped at the expense of the corporation. The town is not lighted, nor is it watched by night; but seems in a prosperous state, and contains some good houses. The late patron, Lord de Dunstanville, usually expended about 500l. annually in improvements.

It has been the fashion to call Bodmin unhealthy, but that seems without foundation, and so thought Bricke, who published his Geographical Dictionary in 1759, for he mentions it as celebrated for the longevity of its inhabitants. Comments on this are found in all compilations. It is said that he, appealing to Bodmin, 'it ought to be called Badham, for all of towns in Cornwall I hold none more healthily situated than Saltash, and none more contagiously than this.'

The living is a discharged vicarage of the prebendary of St. Enodoc, of the clear yearly value of 263l., and in the gift of Lord de Dunstanville.

The church, which is a handsome structure, was rebuilt about the year 1470. William of Worcester speaks of the old church as considerably older than 1553, and another church, being ninety paces in length by forty in width. It has a handsome tower, on which originally stood a lofty spire, but the spire was destroyed by lightning in 1699. The tomb of Thomas Vivian, the last prior of Bodmin, a variation of white marble, remains at the end of the north aisle of the church, with his effigy in his pontificals placed upon it; and angels supporting shields, both at the head and the feet. Round the tomb are the symbols of the four Evangelists, and two shields of arms carved in alto-relievo. The monument next after the feast of Easter, and one month after the feast of St. Michael, before the mayor, is also very beautiful. The town-hall consists of part of the ancient refectory of the convent of Grey Friars. The corn-market is held in the area; and above is an assembly-room. The county-gaal and Bridewell, a spacious building, stands about half a mile north-west of the town, on the side of an old Roman road which has lately been made into a turnpike.

Bodmin was never of much importance as a commercial town. Bone-lace was formerly manufactured to some extent, but now shoes and boots are the principal commodity, of which a great quantity are exposed for sale in open bazaars. The market is well supplied with corn, fish, and all sorts of provision. Leland, in speaking of the market in his day, says that it was 'lyke a fair for the confluence of people.' And it seems that in the reign of William I., when 'Domesday Book' was taken, the annual profits of it to the priory amounted to 352. There is a woollen-cloth manufacture; and some yarn is spun here.

The population of Bodmin in 1831 was 3470, including about 174 males and 45 females confined in the lunatic asylum and gaol, and a few labourers engaged in the neighbouring mines. One hundred and forty-three families are employed in agriculture, and 295 in trade, manufactures, &c.

There are places of worship for Bryenites and Wesleyan Methodists, and a chapel belonging to the trustees of the late Colonel Trefusis, Esq. There is also a chapel called Berry Chapel, built by the parishioners in the reign of Henry VII. the site of this chapel, with the yard adjoining, is the glebe of the vicar. The ruins of the tower of this church are still remaining, and the great iron gates of the churchyard were formed by Queen Elizabeth, who resided with 5l. 6s. 8d. a year, payable out of the exchequer, to which the corporation have added 90l. per annum out of the market tolls; in addition to which the master is allowed 2l. for each scholar. There is also a National school for girls. And St. mile east of the town is the ancient hospital of St. Lawrence, incorporated by Queen Elizabeth in 1589, under the name of the master or governor and brethren and sisters (thirty-nine in number) of the hospital of St. Lawrence Pountney, the poor men and women to be leprous people, and to elect one another.' King James granted them a market and a fair; the market has long been discontinued, but a fair, which is very well supplied with horses and cattle, is still held on the 21st of August: they hold a fair also for cattle and horses in the market-place, and one in the abbey-church of this hospital amounted to about 140l. per annum; but in consequence of abuse the corporation was dissolved, and the revenue was transferred to the infirmary at Bodmin, by a decree of the Court of Chancery. There appear to have once been two hospitals in this town, one of St. Michael and one of St. Thomas the Apostle, and the latter is represented by the church of St. George, both mentioned in the will of Thomas Killegrew, preserved in the Prerogative Office, and bearing date 1500.

The jurisdiction of the borough extends about a mile round the town, but the parish, which is very extensive, includes the two towns of Callington and Liskeard, and parts of three others, including Cattewater, St. Blazey, and Lelant, and Castle Kynock.

In the vicinity of Bodmin is Halagaver Moor, where a low kind of festival, called 'Bodmin Riding,' was formerly held in the month of July. Carew thus describes it. A mock mayor was elected, before whom was brought some person 'charged with wearing one spurre, or going untrussed, or wanting a girdle, or some such like felony, and after he had been arrayned and tried with all requisite circumstances, judgment is given in formal terms, and executed in this manner, one being thrown into the ditch, and not hurt than hunt of the party condemned. Hence is sprung the proverb, when we see a man slovenly dressed, 'He shall be presented in Halagaver Court.' It is said that Charles II. once 'rode to Halagaver Court.' A large body of the populaion of the town, on some public occasion, make a march to Halagaver, some on horseback and some on foot, carrying garlands of flowers. The evening is spent in wrestling, drinking, &c. About a mile and a half from the town is the race-course, where races are occasionally held. Near Bodmin there is the celebrated Searlet's well, which was supposed to have the miraculous power of curing all diseases. 'Its fame,' says the author of the Survey of Cornwall, 'grew so farre and so fast, that folk rame the king thither in huge numbers from all quarters; but the king comes finding the abuse, and looking into the consequences, forbade the resort, sequestered the spring, and suppressed the miracle.' It is certain that the water of this well is uncommonly pure, and its specific gravity is between the highest and the lowest water. 'It will continue the best part of a year without alteration, and, only then you see it represent many colours like the rainbow, which (in my conceit), saith Carew, 'argueth a running thow some mineral vein, and therewith a possessing the people of a certain health.' Britannia; Carew's Survey of Cornwall, edited by Lord de Dunstanville, and correspondence from Cornwall; Borlase's Antiquities of Cornwall; Corporation Reports; Ecclesiastical Revenues Report, &c.
taste for design, and at hours of leisure engraved vignettes on wood, which have been since sought for by the amateurs. At eighteen years of age a desire to improve his condition induced him to undertake a journey to Rome. He left Saluzzo with a school-fellow, Dominic Costa, who expected to receive ordination as a priest from an uncle, at that time secretary to a Roman prelate. They arrived at their destination, but not without money, but their money failed. Bodoni, by selling some of his engravings on wood to printers, procured sufficient to enable them to get to Rome. But, upon their arrival there, Costa's uncle told them he could do nothing for them, and advised them to return. Bodoni, disappointed by this unexpected reception, yielded to the advice; but, before he quitted Rome, thought he would visit the printing-house of the Propaganda. His general demeanour and vivacity on this occasion pleased the Abate Ruggeri, the superintendent of that establishment, and led him to explain that Bodoni had the good fortune to be engaged there as a workman. In this employment he attracted the notice of the Cardinal Spinelli, at that time the head of the Propaganda, who became his patron, and by whose advice he attended a course of lectures on the oriental languages in the University of La Sapienza, and learned to read Arabic and Hebrew. Being intrusted with the printing of the 'Arab-Copht Missal,' and the 'Alphabetum Tibetanum,' edited by Père Giorgi, he so acquitted himself, that Ruggieri put his name at the end of the volume, and said of him that 'Ruggieri and Ruggeri' (a name of which he took the second syllable) were synonyms. In 1739, he was appointed 'Rector' of the library of the University of La Sapienza. Ruggeri's suicide, however, in 1766 (or as other accounts say, as early as 1762) rendered Bodoni's longer stay at Rome insupportable from regret. At this time he had also accepted an invitation of the Bishop of Fidenza to go to Fidenza to visit his father, through whose influence he was enabled to visit his parents, to see his family, and to inherit a small property. Bodoni returned to Rome, in the interval, offering to place himself at the head of the press intended to be established at Parma, upon the most advantageous terms. But the Library, Bodoni broke through his engagements, and remained there till 1768.

In 1771 he published specimens of his art in 'Saggio Tipografico di Dègri e Majuscule,' in 8vo.; followed in 1774 by 'Iscrizioni esotiche,' composed by J. B. de Rossi; and, in 1785, the 'Narrative of the Circassian,' with the 'Principio Clilico,' distinguished works of the same description, entitled 'Epithalmia esotica linguis reddita,' exhibiting the alphabets of twenty-five languages. Between 1753 and 1788, although his fame became universal, it was not actively employed.

In 1788 the Chevalier d'Azarra, the Spanish minister to Rome, made an offer to Bodoni to establish a press in his palace in that city, to print editions of the Greek, Latin, and Italian classics. Bodoni however refused his solicitations; and in 1789 the Duke of Parma, unwilling that so eminent a printer should be patronized by a foreigner, invaded parochial animosities, formed a similar project, and furnishing Bodoni with a portion of his palace and a press, some of the most beautiful editions of the classics known issued from it: more especially a Homer in folio, in a single volume, in 1791; Virgil in 1793; Cicero, in 1794; Latin Poets, in 1794; Tacitus's 'Annales,' in 1795; and 'Diogenes,' in 1795. Dibdin says, of this last work, only thirty copies were printed, with a few on large paper. In 1794 Bodoni produced a most beautiful edition of the 'Gerusalemme Liberale.' His most sumptuous work of all was his Homer, in three volumes in folio, printed in 1805, with a preface dedicated to the Emperor Napoleon in Italian, French, and Latin. Bodoni was the first French artist to enter Italy, and the early part of the revolution, when Bodoni and his labours had received a marked protection. On the 21st of January, 1810, Bodoni presented a copy of this splendid work, printed upon vellum, in two volumes, to the emperor, in the gallery at St. Cloud, and in return, received a pension of 300,000 francs.

After this time, while Italy was under the French rule, Bodoni received the most tempting offers to quit Parma. Prince Eugene Beauharnais offered him the superintendence of the press at Milan, and Murat that of Naples; but both were flatly refused by Bodoni. He was, however, well received at Paris. In 1811, having received the Cross of the Two Sicilies from Murat, he proposed to publish for the education of the young prince, the son of Murat, a series of French classics, and commenced the task of his part, by a folio 'Telenachus' in 1815. 'Racine' was to have followed; but it was not published till 1814, after Bodoni's death.

Bodoni had long suffered from the gout, to which a fever was at last superadded. He died November 20th, 1813. Within a few months of his death the Emperor Napoleon nominated him a 'Chevalier de la Réunion,' and sent him a present of 18,000 francs to aid him in the publication of the French classics. Bodoni's widow sent forth a work which Bodoni had prepared as long before as 1809, the date of which year appears on the title-page, entitled 'Le piu insigni Piture Parmensi indichi agli Amatori delle Belle Arti,' accompanied by engravings of the different pictures. In 1818 the 'Manuale Tipografico del Cavaliere Giambattista Bodoni,' containing specimens of his various types, appeared from the Bodonian press, the business of which was still carried on by his widow. It forms two splendid volumes in 4to, with his portrait prefixed.

In 1770 Bodoni published a work in English; an edition of Lord Orford's 'Castle of Otranto,' printed for Edwards of Pall Mall, in 1791, 8vo.; and an edition of Thomson's 'Seasons,' in two sizes, folio and quarto, 1794.

Bodoni's classics were not all as correct as they were beautiful. Didot discovered about thirty errors in the Virgil, which are noticed in the preface to his own edition. Among the books of King George III. in the British Museum, is one of twenty-five copies of the Homer on the largest paper, a most splendid specimen of typography. Bodoni's life, the reader may refer to Joseph de Lama's 'Vita del Cavaliere Giambattista Bodoni, 2 tom. Parma, 1816, the second volume of which is filled with an analytical catalogue of the productions of his press. To this book, and to the Supplement of the 'Biographie Universelle,' the students of typography are chiefly indebted for the present account. The reader may likewise refer to Memorie Aneddoti per servire un giorno alla vita di G. B. Bodoni, par le P. Passeroni, 8vo., and to "La Biographie des trois illustres Pianmontais, Lagrange, Dumont, et l'Inventeur des Béquilles," by J. G. Verceil, 8vo. 1814. A medallion with a portrait of Bodoni appears in the frontispiece to the first volume of De Lama's life of him.

BOECE, or BORTIUS, HECTOR, the Scottish historian, was of the family of Bocce of Balbride, or Panbride, in the shire of Angus (now Forfar), a property which an immediate ancestor of his acquired by marriage with the heirs. He was born about the year 1465-6 in the town of Dundee: whence he had the appellation of Deiounans, as he is styled in the ecclesiastical corruptions by Ferrarius. The particulars of his early life are not ascertained; but it appears that he received his grammar education first in his native town and then at Aberdeen, whence he went to Montague College in the University of Paris, where he was afterwards appointed professor of philosophy. This academy he in his after-life highly extolled, and continued gratefully to remember. It was here he became acquainted with many of the learned persons of his time; amongst others Erasmus, whom he kept steadfastly joined to. He is called by Augustine, his bishop, as a mark of his regard, dedicated to him a catalogue of his works. He calls Bocce 'vir singularis ingeni, felicitatis, et facundi oris,' and says of him that 'he knew not to lie.'

In the beginning of the sixteenth century, Bocce was invited home to Scotland by Bishop Elphinstone, who had been his principal of the college about to be erected in that city. This invitation, considering the distinguished person from whom it came, and the high office to which it pointed, must have been flattering to Bocce; but he was unwilling to forsake the literary habits he enjoyed in Paris, which he had been accustomed to think solace held out to him, and he was induced to accept the invitation by means, as himself says, 'of gifts and promises.' When he came to Aberdeen he was made a canon in the cathedral, and was put in possession of the vicarage and the patronage of the parish of St. Ninian, then also presented him to the chaplainry of the altar with its emoluments during his life. (Kennedy's 'Annals of Aberdeen,' vol. ii. p. 36.) But the main inducement which was his appointment to the office of principal of the new college.

The learned author of the life of Melville (M'Crie's 'Melville, vol. i. pp. 210, 211) tells us that prior to the fifteenth century no university existed in Scotland, and that the name of Aberdeen is not of the most ancient. James I. of Scotland had, however, having acquired right to the patronage of the chancellor of St. Ninian, then also presented him to the chaplainry of the altar with its emoluments during his life. (Kennedy's 'Annals of Aberdeen,' vol. ii. p. 36.) But the main inducement which was his appointment to the office of principal of the new college.

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by Edward, bishop of that see, in the middle of the twelfth century, and his assertion does not stand unsupported. Keith's Catalogue of Bishops, indeed, is incomplete at this time, and does not clearly show the existence of Bishop Ed. 1131, as said by the writer of the Register of Abbot Moric's gift to Dunbar, with all doubt, the papal bull of confirmation by Pope Adrian IV., on the translation of the see from Mortlach to Aberdeen being addressed to Edward, bishop of the see. Keith failed to annex this document to his work, and his last editor has not found it. 106. Robert de Kynimond, who ruled the see of Aberdeen from 1337 to 1381, did, agreeably to what seems to have been the common practice of the place, teach the civil and canon laws on formal days.

But the labours of Bishop Elphinstone were yet wanting. The University of Aberdeen, like many of the foreign universities, and particularly that of Paris, the great prototype of such corporations, from the time of Charlemagne to the middle of the thirteenth century, was without any fixed school-rooms, or lodgings. These were probably in the cathedral, convents, or private dwellings of the city, as was many years the case with the Universities of St. Andrews and Glasgow. A greater defect was its contracted course of study, which was limited to theology and the law. The learned and active prelate set himself to remedy both these evils; and at his request the king, James Iv., applied to the pope to institute a university at Aberdeen comprehending every lawful faculty. Accordingly, Pope Alexander Iv., by a bull dated 10 November, 1497, instituted in Aberdeen such a general seminary in the city of Old Aberdeen. This bull was published in 1496, and the next year King James, by charter of confirmation, 22nd May, 1497, empowered Bishop Elphinstone to erect a college within the University. In 1498 a charter of incorporation was issued for the privileges of the university, and studying at Old Aberdeen; and in 1505 Bishop Elphinstone issued his [first] foundation of St. Mary's, afterwards King's College, which was confirmed the following year by the pope and then by the charter of incorporation. It is not likely that during any part of Elphinstone's connexion with the University of Aberdeen the academical appointments would be carelessly made; and as that distinguished prelate had now been bishop of the diocese nearly twenty years, we may reasonably suppose that the university chairs were well filled. Yet we find that Boece brought with him and took for his colleague Mr. William Hay, who was a native of the same shire of Angus, and had been educated along with him; considering, as it appears, none of the professors of theology were of note or learning. The college was not large, for it appears that Bishop Hay and Bishop Boece who were the other professors in the college, but it is unnecessary to notice them here; and there are no materials for judging with accuracy how Boece continued to perform the duties of his place. In the end of the year 1511, or thereabouts, Bishop Boece, died.

In the beginning of 1522 Boece published at Paris his 'Vita Episcoporum Murthlaisium et Abetronensis,' a work to which he was, it seems, led by the exemplary life of the late bishop, an account of whom, indeed, occupies the greater part of it. The subscription, which is to Bishop Dunbar, is dated from the College of Aberdeen, prid. Cal. Sept. 1521. The same year his printer, Badius Ascensius, gave to the world Major's 'History of Scotland,' composed by Mair (principal regent of Glasgow College, and afterwards bishop of this see) in dedication of the college; and he was attending Montausque College in the University of Paris some years previous. Several other histories of Scotland existed at this time, particularly Prior Wymont's metrical 'Cronykl,' and Fordun's 'Scotichronicon,' long the great fountain of Scottish history. Bishop Elphinstone applied himself to the same department of learning, and compiled (chiefly out of Fordun) a history of his country; but it is probable that Mair's book at once settled the fate of Elphinstone's work (which is yet in manuscript), and determined the course of his future labours and a known great acquirements of Boece to the task. In 1526 the first edition of Boece's History of Scotland was published. If we apply to this work, as some appear to have done, the standards which would be applied to history, its value with its literary inaccuracies, and save it from contempt; but we must apply to it the standard of the day in which it was issued: when knowledge was in the hands of few, and in those few hands meagre and inaccurate; when communication was difficult, and intercourse rare; and when physical science was in its infancy—we should then no doubt admit that Boece merited what he received. In 1527 the king gave him a pension of 50L. Scots yearly, to support his studies, and his printing of his book at Paris, where it was published the same year. Two years afterwards this pension was directed to be paid by the customs of Aberdeen until the king should promote Boece to a benefice of 100 marks Scots of yearly value. By a subsequent regulation the pension was paid partly by the customs of his country, and partly by the town of Aberdeen, by which he held at his death in 1536. The same year (1536) Bellenden's translation of Boece's History was published at Edinburgh. This translation, which was made at the command of King James, whose limited education precluded him from handling the Latin original. While it proceeded, Bellenden, as we see from the treasurer's accounts, had a yearly allowance from the king of 30L. Scots. In the same accounts, June, 1533 (Pitcairn's Crim. Trials), we find a sum of 12L. Scots entered to Bellenden 'for the new Cronikil given to the Kingis grace;' but whether this 'new Cronikil' was the chronological compendium of Scottish history written that year by a brother of the minor Observants at Jedburgh (Nicholson's Scottish Historical Library, p. 38), or Bellenden's own performance, does not appear. Bellenden's translation of the introduction of the book was also added and altered as he thought proper; and it again was put from the Scottish dialect, in which it was written, into English, with equal freedom, by Harrison. (Ap. Holinshed's Chron. vol. i.)

In 1527 the king's brother Arthur, who was a doctor of the canon law, and a licentiate in the civil, and the author of a book of Excerpts from the canon law, appears to have been appointed canonist of King's College. (Kennedy's 'Annals of Aberdeen.') The next year Boece himself took the degree of doctor of divinity in the University of Paris; and when the magistrates and town-council of Aberdeen voted him a present of a tun of wine, when the new wines arrived, or 20L. to buy a new bonnet. ('Council Register,' ap. Kennedy's Annals, vol. ii. p. 357.) The year following, a Nova Erection of King's College was issued for the better provision of its members, into which unquestionably the wisdom and experience of Boece entered, but to what extent is uncertain. He died at the year 1536, and was buried in the chapel of the college near the tomb of Bishop Elphinstone. In the front of the chapel is his coat of arms: a sable and chief, H. B. ob. 1536. (Kennedy's Annals.)

BEOCTIA was the ancient name of that part of the district of Livadia which was bounded on the west by Phocian, on the north by the Euboean, and on the south by Attica and the Halycean sea. This country may be described as consisting of two basins of very irregular form and of unequal dimensions, the valley of the Asopus, and the lower part of the vale of the Cephissus. The valley of the Asopus is bounded on the south by the range of Parnes and Chironom; the small basin of the Lake Hylike may perhaps be considered as belonging to this division, which contained the towns Thebes, Tanagra, Thespiae, Platea, and Ascea. The northern basin is completely surrounded by natural bounaries, inasmuch as it is supposed to be united to the Phocian. It included the lake Copais, and the towns Orchomenus, Charonea, Coronea, Lebadea, and Halieartus. The following resemblance or comparison has been suggested between the two natural divisions of the country: each of them had its lake and its river; and as those who dwelt by the Cephissus were called Epheciphiotis, so those who inhabited the marshy land near the Asopus were called Parasopit, perhaps also Parapomtii, as we learn from a passage in Euripides (Bacch. 667 Herm.). There was also a tribe of Parapomtii on the Cephissus. In ancient times the two valleys were under the separate dominion of the two towns which in each of them were most distinguished by their wealth and population. In the northern Orchomenus for a long time the inhabitants enjoyed certain privileges and customs in his barony, and paid them over to the great chancellery of Scot-
long time took the lead, and the city on the Isemus, under the different names of Cadmea and Thebes, was always the ruling power in the southern portion. On the coast of the Euboic sea were the towns of Anthedon and Aulis; and a few miles inland, on the bank of the river, the mountain of the same name, was the unfortunate Mycaleus.

According to the recent survey of Captain Copeland, a mountain wall lines the whole continental coast of the Euripus, from the valley of the Asopus to the flats at the outlet of the lake Sperchiuus. From Caria Stradus, which is immediately opposite to the inlet Celes Trales, this range of mountains runs westward and forms the boundary between the basin of the Cephisus and the Sperchiuus, known in former times as the range of Oeta. This high mountain-barrier, which separates the outlet of the lake Asopus, nearly as far north as the bold rocky coast of Cape St. John, from the north of the ruins of Larymna, belongs to the ancient Boeotia. The heights marked along this coast, beginning with that nearest to the mouth of the Asopus, are as follows: Mount Cupa 2409 feet, and one of these three is probably the Salganeus of Strabo. North of these elevations, still following the coast, the following are marked—1303, 2655, 2272, C. Skropo-neri 1315, 1630, hills near the ruins on the site of Larymna, 1556 feet. The whole length of the coast from Capa Stradus to the Thasian coast is described as about thirty miles. The coast of Euboea opposite to Styalama and Larymna rises still higher, and the narrow sea between the two coasts is in some places more than sixty fathoms deep. There is also deep water along the Boeotian and Euboic coast, from the outlet of the lake Asopus to the mouth of the river Atius. From the point where the contracted channel of the Euripus begins to widen again, a low tract which contains the outlet of the Asopus continues for some miles along the coast to where the high lands of the range of Paros abruptly rise. After describing the coast, Strabo observes (p. 405. Ca. saub. ' that the interior consists of hollow plains, surrounded on all sides by mountains; on the south of those of Attica, on the north by those of Phocis; on the west Citharon exists, and the Choeronea and Mount Helicon rise a little above the Cissalian Gulf, where it joins the mountains of Attica and Megaris, and then turning into the plain country subsides in the territory of Thebes.' The basin of the lake Copais must no doubt be at a considerable elevation. Thiersch asserts that the level of the lake Copais is more than 1000 feet above the sea, but this is an exaggeration, and the statement appears to be only a guess. This lake is the receptacle of an extensive drainage. The Cephisus, which rises in the high central mountains of this part of the country (p. 215. C. Alexand. ii. 5), flows in a south-east course into the lake Copais, which receives also the waters of the small streams of the Melas and Laphythus. The lake is separated from the sea by the range of Mount Poon, about four or five miles across. Between these two, on a much elevated plain, there are several channels, but the wells or shafts which communicate with them are now choked up. (See Thiersch, Etat actual de la Grece, ii. p. 23.) The great work for draining the lake is one of the oldest existing memorials of the civilization of the country. These conduits have become choked up from neglect, Crates of Chalaeis, in the time of Alexander, began to restore them, and he succeeded so far, in spite of the civil troubles, that the sites of the ancient Orchomenus and Eleusis were discovered. When Strabo says that the Cephisus changes its course into the lake Locris, he does not probably mean to say that this is a natural outlet. He says in another passage (p. 406) 'that a chasm having opened close upon the lake near Copas, made an underground passage for the stream thirty stadia long, which received the river. The Cephisus emerged at Larymna of Locris, where there is a lake of the same name, and entered the sea.' A small stream is marked in Captain Copeland's map near Larymna, which may probably be the stream mentioned by Strabo. The basin of the Copais contains a large amount of fertile land, capable of growing cotton and other crops in quantity. According to Dicaearchus, the length of Boeotia was 500, its breadth 270 stadia. Its surface is 1080 square miles, and its population, according to Mr. Clinton's deductions, was, in the time of Thucydides and Xenophon, 130,500 (Fast. Hel. ii. 392); but we do not consider either of these estimates as resting on any solid reason. If we admit the area to approximate to the truth, which we doubt, the population given is unreasonably low for a country which is very fertile, and was probably well cultivated, Kent, an agricultural county, which contains a very large proportion of land in corn, has a population of 481,000 on a surface of 1557 square miles. Xenophon says that the Athenians and Boeotians were on a par in point of population, but probably there were not so many slaves in Boeotia as in Attica. Boeotia was remarkable in ancient times for its extraordinary fertility, and we agree with Mr. Thirlwall in thinking that it was much admired for the richness and thickness of their atmosphere that depressed the intellectual and moral energies of the Boeotians, and justified the ridicule which their temperate and witty neighbours so freely poured on their proverbial 'sulking.' (Hist. of Greece, iii. 1) When the choice of a place in Greece was made for the name of sensuality, not for stupidity and dullness. Some of the principal productions and manufactures of the country are enumerated in the Acharnians of Aristophanes, v. 781 seq. The linen fabrics of Boeotia were held in great estimation, and the iron mines which were antiently worked in the eastern chain of mountains supplied the material for the famed Boeotian cutlery; hence we read in antient writers of Aonian iron, Aonian weapons, and helmets of Boeotian workmanship, when excellence is meant to denote a peculiarly fine quality.

There is perhaps no country of Hellas, with respect to the antient inhabitants of which so much and such complicated traditions exist. We may divide the earliest of these traditions into two classes, one including those which refer to the Boeotians, or to the inhabitants of the Egyptian region, and another containing those traditions to which we owe the old story of a Phoenician colony. It is very difficult to distinguish between truth and fiction in these narratives. With respect to the former class we are inclined to reject many of the statements altogether. The argument on which they are principally derived from the similarities existing between Egypt and Boeotia; the Melas used to overflow its banks like the Nile; the lake Copais was covered with swimming islands like those near Buto; the Nymphseion in Boeotia is the analogue of Memphis; the Pharaohs were equally celebrated for their linen manufactures, and the same veneration was paid to the eel in both countries. Besides, the name of the traditional king of Orchomenus, Minyas, is nearly the same with that of the first Egyptian monarch, Memes or Min. But the evidence is at all events quite fallacious, for the similarity of products may be sufficiently accounted for from other causes, and the fundamental worship of the Orcheomensians, namely, that of the Charies or Graces, had nothing corresponding to it in Egypt. The questions of the Phoenician earliest settlement in Boeotia, the traditions of Trophonius and Agamedes, and the story told in Herodotus (ii. 121) of the treaty of Rhamnusians, C. O. Muller has shown (Orchom. p. 100) that the former existed among the Triphylian Minyans before the time of Herodotus, and that the latter story points out to Greece became more intimate, and therefore that it could not have been derived from Egypt after that time. This does not indeed altogether remove the difficulty, for the story may have existed in Egypt at the time when the supposed colony sailed from Boeotia, and may have been carried thither; but when we consider how commonly the Egyptian priests appropriated the Greek legends, and how easily, when there was one point of resemblance between two legends existing in the different countries, they invented an identity, we may be less inclined to add to this the numerous forgeries with which they have impregnated the country of the Greek travellers.

The traditions of the second class, which are much older, and consequently more involved than the former, relate that Thebes was founded by a Phoenician prince named Cadmus, when in search of his sister Helen, who had been carried off by Jupiter. But this legend admits of the following plausible solution, which is due to C. O. Muller (Orchom. p. 118)—It was the custom of the Greeks to refer to Cadmus, when they had once transformed him from a Pelasgic into a Thracian or a Thracian prince, the Thracians in Greece and in the Aegean Sea. For example, the Phoenicians were the first workers of the gold mines in Thasos: hence Thasos is set down as a brother of Cadmus, and the relation of the Phoenicians to the Thasians is referred to the search after Europa. Similarly, as the Phoenicians taught the Greeks the characters of the alphabet,
the supposed Thonician, Cadmus, was made the personification of this action. Now it is not probable that Thebes, an inland town, which had no internal commerce, and where there was, in fact, in part, stagnation, should have been inhabited by the Phoenicians, who generally built no cities but as emporia for traffic. We are therefore thrown back upon the supposition that the whole story is a fiction, arising out of a misunderstanding of the completely Greek name Phoenix, and that Cadmus was the name of many deities, one of whom was called Phoenix Thebanus. The old inhabitants of Thebes were called Cadmeans, their city Cadmeia, and they carried this ethnic name with them into their colonies. Cadmus was probably a deity of the Tyrrhenian Pelagi, a tribe whom Müller considers to have been originally one and the same with the Cadmeans (Orchom. p. 121); and this appears to be confirmed by the etymology of the word κάμος (καβ, found in καβ-ων, εκαβων, κα-β-ον), and by what Herodotus says (i. 52) about the Pelasgic derivation of the word δεσ. Besides, the effect produced by Cadmus sowing the dragon's teeth, in the supposed Phoenician legend, is the same as that experienced by Jason. Now Jason is an Iolian Minyan, that is, a Pelasgian; therefore, if, as is generally supposed, a sameness of mythi argues a relationship of the people in which they exist, Cadmus and the Cadmeans were Pelasgians also. The Cadmeans, in every way celebrated in ancient poetry, and especially in the Greek drama, is purely mythical; the whole genealogy is nothing but the development of the idea of an offended primitive power, and a statement in the form of a narrative of the punishment of its revolters. (See Müller's Second Essay on the Eumenides, sec. 81.)

The Cadmeans and the cognate tribe of the Minyans occupied Boeotia till about sixty years after the taking of Troy, when they were driven out by the Boeotian Boeotians, and wandered for a time over the territory of the Cadmeans, and in the neighbourhood of the Pasageatic sea, who had themselves been forced to leave their settlements by the Thessalian immigration from Thesprotia. According to one tradition the Boeotians not only expelled the Cadmeans, but also slew the Thessalians, the Cadmeans having slain the Ascarataeans and other towns at the foot of Mount Helicon. These Thracians were a half-Greek people, and were connected with the Pierian Thracians, as is proved by their common worship of the muses, and their Orphic-Dionysiac rites. Their Dionysiacs however was not the same with the Cadmeans, who was represented as a co-deity of the Thcean Demeter. [See Bacchus and Demeter.] Thucydides says (i. 12)—The Boeotians who now inhabit the country were expelled from Arne by the Thessalians sixty years ago. They have no name, it seems, no country, called Boeotia, but formerly known by the name of Cadmea. He adds, parenthetically—There was however a portion of them (παρεκχωροντες) in this country, even before that time, and to this belong the Boeotians who took part in the expedition against Athens. Thucydides probably never drew up the catalogue of the ships, introduced the Boeotians into it merely to please the then inhabitants of that country, to whom his wanderings probably extended, and the remark of Thucydides is perhaps only a proviso to reconcile the historical geography of the period of which he was in his time considered incontrovertible. (See Müller's Orchom. p. 394.) The Boeotians having thus expelled the Minyans from Orchomenus, and the Cadmeans from Thebes, the former fled to Laconia, whence they were driven by their twenty years' occupation there, and took refuge some of them in Triphylia, others in Thessaly, and these at a later period went with the colony to Cyrene. (See Thrige's Res Cyrenenius.) The Gephyreans and the Aegidiots, who were priest-families of the Cadmeans, proceeded to Athens and Sparta; but the old Pelasgic people, the Cadmean commonalty, first went to Athens and afterwards to Thebes, Mantine, Samothrace, and the coasts of Aiolis. Twenty years after the Boeotian conquest of Boeotia, the Dorian invasion of the Peloponnesus took place, and the expelled Pelopids and Carians went to the Sic and Boeotia, were joined by so many of the Boeotian Boeotians, and the commonalty of this city was generally known by the name of the Aiolian or Boeotian colony. (Strabo, 402, c.)

We have only fragmentary information with respect to the Boeotian Boeotians, which from this time continued to be the inhabitants of Boeotia, nor are we able to speak with much certainty of the constitutions of the different towns, and of their relation to one another. We know from Athenians that the Boeotians were members of the Amphictyonic assembly, and we are informed by various authors that the Boeotian towns soon became members of a league of the Boeotians. The Boeotians were members of the confederacy of confederates met in the plain before Coroneia, at the temple of Athena of Iton; and this meeting took place at the festival of the Pambonotia. Every one of the confederate states was, as such, free, but several of them had smaller confederacies. This smaller confederacy of Thucydis, i. 68, and Dr. Arnold's note.) It is very difficult to determine the number of the independent states; but as we are told that at the ancient festival of the Daelias, which was celebrated every sixty years at Plataea, fourteen wooden images were carried in procession to the summit of Citharon, and as we know that seven was a holy number among the Boeotians, we may infer that fourteen was originally the number of the members of the confederation, just as we find in other states that holy numbers are made the basis of political divisions. (Müller's Orchom. p. 552; Nicholaus's Civitates. vol ii. p. 84, English translation.) The lay and religious ceremonies of the confederation were determined by drawing lots among the members, so that at any time one of the members determined the proceedings. (Thucydis, v. 35.) The Boeotian confederation was dissolved in B.C. 171, after having undergone many changes and fluctuations. (See Clinton's Fast. Heil, ii. 398, b.)

With regard to the form of government which prevailed in the several Boeotian towns, we have good reason for believing that it was the same with that of Thebes, which was in the historical times generally a rigid oligarchy. In or shortly after the 15th Olympiad, Phileotas, a Corinthian by birth, was sent as envoy to the members of the Boeotian confederation for the purpose of legislating, apparently with the view to correct some of those instabilities which were constantly taking place, and threatening to destroy the equilibrium of the ancien aristocracies. This object he seems to have effected by the institution of a form of government, and it is said that probably the adoption of younger sons from other families was insisted upon in cases where a member of the ruling caste had no offspring of his own, and so a diminution of the numbers of the privileged order was obviated. (Aristot. Pol. ii. 12.) The executive power was vested in an archon, chosen yearly by ballot. With such a government the Boeotians must naturally have been opposed to the neighbouring democratic state of Attica; and accordingly we find them about the year 507 B.C. joining the Peloponnesian and Chalcidians in an attack upon the Athenians (Herod. v. 540), and afterwards, in 475 B.C., they joined them against Athens. The Peloponnesian war, and the Sullan war, and two of the Roman civil wars, as well as our own war, form a link between the two great. A form of government was restored (see Aristot. Pol. v. 2, comp. v. 6.), and the signal defeat sustained by the Athenians at Coroneia freed Boeotia from her foreign yoke. The Thebans were active partizans of Sparta in the Peloponnesian war, and contributed materially to the downfall of Athens; but in the year 395 B.C., they became members of the confederation against Macedon, which was broken up in the course of the
following year by the victory which Agis I gained over them at Coronea. The Peace of Antalcidas was followed (397 B.C.), and five years after the treacherous sedition of the Cadmeans or citadel of Thebes, by Phocidas the Macedonian and its subsequent recovery by Pelopidas, brought about another war between Boeotia and Lacedaemon, in which the armies of the two powers met and the Boeotians, led by Phocidas, made Boeotia the leading power in Greece. But the former fell at Mantinea, and the power of Thebes fell with him. The Macedonian influence now began to prevail: Athens and Thebes were overthrown by Philip at Chaeronea (338 B.C.); and his thuggery after the latter city was entirely destroyed by Alexander the Great, and its territory divided among the Perioeci. In the year 315 B.C., Cassander rebuilt Thebes, with the zealous co-operation of the Athenians, but it never regained its political importance. But its site remains to this day as the capital of Perseus, but it dwindled away to a mere nothing under the Roman dominion. (Pausan. viii. 33. 1.)

Notwithstanding the proverbial dullness of the Boeotians, some of the great writers of Greece were natives of this district. Hesiod was born at Acasta, Corinna at Tanagra, Pindar at Cynonopechale, and Ptilarchus at Chaeronea.

We refer those who wish to investigate fully the difficult subject of the early history and government of the Boeotian towns to C. O. Müller's work, Orkomeno und die Minger, Berlin, 1832; and the admirable articles by A. Klitz, De dictatore Boetic[ico], Berlin, 1821; and to Weis-Christmas. Allerthein. J. v. p. 128.

BOERHAAVE, HERMANN, was born on the 31st of December, 1668, at Voorhout, a village two miles from Ley- den, the second son of a stonemason. Being designed for the church, he was instructed by his father in the classical languages, and at the age of eleven he was already able to translate both Greek and Latin with tolerable accuracy. About this time an accident occurred which caused him to abandon his career in the church. Who, more than once, was thrown into a lake, was no more troubling than the disease. Tired of these useless experiments, he took the management of his case into his own hands, and finally effected a cure by dressing the ulcer with salt and urine. Partly for the sake of his education, and partly that he might have the benefit of surgical advice, he was taken by his father in 1682 to Leyden, where he was placed in the fourth class of the public school. His genius and industry soon raised him to the sixth, from which it was usual, after six months, to be transferred to the university. He entered the latter at least in 1687, his father died, leaving a very slender provision for his widow and nine children. Triglandis (one of his father's friends, who was soon after made professor of divinity at Leyden) recommended young Boerhaave to Van Alpen, in whom he found a more amiable and generous patron.

Greek, Latin, Hebrew, Chaldee, with antient, modern, and ecclesiastical history, and the mathematics, were among his more especial studies, and he soon began to give public proofs of his eloquence and erudition. In 1688 he was chosen by the University of Leyden as one of the professors of Greek. (Oratio academica, quæ probatur, bene intellectam ad Ciceronem, et confutatam esse, sententiam Epicuri de summo bono. Lugduni Bat. 1690.) In 1689 he took the degree of doctor of philosophy, the subject of his inaugural thesis being, "Physica et Mechanica." That year, 1689, his father died, leaving a very slender provision for his widow and nine children. Triglandis (one of his father's friends, who was soon after made professor of divinity at Leyden) recommended young Boerhaave to Van Alpen, in whom he found a more amiable and generous patron.

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About this time, having exhausted his scanty resources, he sought the invaluable means of enabling him to continue his studies. Without giving up his intention of entering the ministry, he now began the study of physic by a diligent perusal of Vesalius, Bartholinus, and Fallopio; he was a constant attendant at the dissections, and examined the anatomy of different animals himself. After he had gone through a course of medical reading, finding, as he tells us, that Hippocrates was the fountain of all medical knowledge, and that all later writers were little more than transcribers from him, he returned to him, and spent much time in making extracts from his writings, digesting them in order, and fixing them in his memory. Among the moderns none engaged him longer, or with more delight, than Sydenham, and he has left the testament, 'that he persuaded him frequently and each time with greater eagerness.' He prosecuted chemistry and botany with equal ardour, and, in conjunction with all these inquiries, still pursued his theological studies. He took the degree of doctor of philosophy at Leyden in 1693, having held a public dissertation 'De utilitate exploratorum excrementorum in aegris, ut signorum.' (Harde-wick, 1693; Lugduni Bat. 1743.) He now returned to Leyden with the design of undertaking the ministry, but was diverted from his laudable purpose by a singular event. A short time before, Boerhaave happened to be in a public boat, when a conversation arose among the passengers concerning the doctrines of Spinosa, which, as they all agreed, were opposed to the latter's orthodoxy and religion. At last one of them began to inveigh against Spinosa in a strain, that Boerhaave, weary with his angry invectives, asked if he had ever read the author against whom he was declaiming. The speaker was shocked in the midst of his invectives; this was observed by a stranger, who, inquired the name of the young man whose words provoked him, and to the discourse, and set it down in his pocket-book. In a few days it was the common talk at Leyden that Boerhaave had gone over to Spinosa. Had Boerhaave been at this time a man ofrong design of entering the church, it is difficult to conceive that this absurd report could have made him change his resolution. It seems more probable that, feeling himself eminently skilled both in theology and physic, he was wavering in his choice of a profession; and that the unimportant event of the slightest weight will turn a loaded but well-balanced beam, so over the breath of a slanderer made Boerhaave a physician.

He now commenced the practice of physic, and his time was taken up with visiting the sick, studying, making chemical experiments, and even engaging in a branch of medicine to which the utmost diligence, teaching the human form, and reading the Scriptures. In 1701 he was recommended by Van Berg to the university as a proper person to succeed Drelincourt in the lecturership of the theory of medicine. In 1702 he became professor of materia medica, and his inaugural discourse was on the study of Hippocrates. (Ora- liones commendando studio Hippocratis, Lugduni Bat. 1701.) His lectures were received with great applause, and he was soon prevailed upon by his audience to enlarge his original do-

itn, and instruct them in the ministry. This he undertook, not only to the advantage of his pupils, but to that of the science itself.

It was then, in 1703, that he delivered his lecture 'De usu ratiociniis mechanicis in medicina,' and also began, in 1706, his History of the Human Body. Boerhaave's object was to observe, and to intrude mechanical speculations into the domain of the art of healing. Thus he supposed that the adaptation of the calibre of the vessels to the size of the globules of the animal fluids was the principle which regulated the circulation of the blood. He supposed that the fluids from the blood in the different organs of secretion, as well as the morbid condensation of the blood in defluxions, tumours, and inflammations; so that, in the treatment of disease, all the efforts of the physician were to be directed to the re-establishment of this mechanical equilibrium, and the medicines given with this intention were called deobstruents, incises, &c. To these mechanical hypotheses he joined chemical ones; thus he supposed many morbid phenomena to arise from acrimony of the blood, which it was the business of the physician to remove by various medicines. The various forms of morbid pathology, as it is called, though banished for a time from the schools, has always kept its hold on popular belief, and bids fair to revive again. Late investigations into animal chemistry have shown that certain deviations from the healthy composition of the blood accompany, if they do not produce, certain diseases. Thus in jaundice the blood contains both the colouring matter and the resin of the bile; in gout the blood is loaded with earthy phosphates; and in cholera it is deficient both in water and in alkaline salts. One of all these symptoms is phlegmatism: chlorosis: in this disease, where the sickly pallor of the patient would naturally be attributed by the ordinary observer to deficiency or poorness of the blood, we find a singular deficiency of colouring matter: a thousand parts of blood, which ought to contain 133 parts of colouring matter, in one case contained only 58; another but 48 7. (Jennings on

Boehm had now began to bear some proportion to his merit, and accordingly in 1703 the professorship of physic being vacant at Groningen, he was invited thither, but he preferred remaining at Leyden.

He had now read lectures on physic for eight years without obtaining the chair of medicine and botany vacant by the death of Hottot. His inaugural discourse was on simplicity in the practice of physic. 'Oratio qua repugnante medicina facitis assurrit simplicitas,' Lugduni, Bat. 1709. At this time he also published the 'Institutiones medicinae in usum annuum exercitationis domesticos,' Lugdun. Bat. 1708, 1713, 1720, 1727, 1734, 1746; and Lutetiae, 1722, 1737, 1747; and the 'Aphorismi de cognoscendi et curandi morbis, in usum doctrinum medicinae.' Lugduni, Bat. 1709, 1715, 1718, 1720, 1725, 1728, 1730, 1734, 1746.

On these two great works the reputation of Boehmave is founded: they have been translated into several European languages and even into Arabic; and Van Swieten, himself a physician of no ordinary talent, illustrated the aphorisms with a commentary extending to five quarto volumes. Haller published a commentary on the 'Institutiones' in seven quarto volumes, Leyden, 1750; and Lamettrie published a French translation with notes, 'Institutions et Aphorismes,' Paris, 1743, 8 vols. 12mo.

Boehmav, as this work indicates the plan of study to be followed by a physician; he gives a compendious history of the art, and an account of the preliminary knowledge which is necessary for its practice; then, entering upon his subject, in five successive chapters he describes the symptoms and signs of the health and disease of the body, and the signs of signs of health and disease, together with hygiene and the art of prolonging life. Lastly, he treats of the aids which art affords to medicine; here he details the system on the principles of which we slightly touched above. It was the literature of foreign medicine and the observation of the fact that had hitherto been taken; a model of erudition and method, embellished rather than encumbered by his opinions on the acrimony of the fluids, and his mechanical and hydraulic theories. In his 'Aphorismi, Boehmav gives a classification of diseases, and draws from his own observations, their treatment, with a short but accurate summary of the whole of antient and modern medicine. This, like the former work, is a masterpiece of learning, order, and correctness of style.

But we must remember that his botany, which he held with that of medicine, by the publication of his 'Index Plantarum que in horto academico Lugduno-Batavo repeenturum,' Lugduni, Bat. 1710, 1718, 8vo. An enlarged edition of this work, with plates, appeared in 1720, under the title of 'Index Plantarum que in horto academico Lugduno-Batavo aluntur,' Lugduni, Bat. 1720, 4to, 1727, 2 vols. 4to.

Boehmav greatly increased the number of specimens in the botanical garden; he figured new plants, established new genera, and was one of the first to have observed the sexual differences among their characteristic distinctions.

In 1715 Boehmav was made rector of the university of Leyden, and in the same year was appointed physician to St. Augustine's Hospital, and professor of practical medicine, having already delivered the lectures more than ten years. Twice a week he gave clinical lectures at the hospital, and, like other great physicians, forgetting his theories for awhile, distinguished and treated the complex forms of disease before him with that unrivalled tact which stamped him as a genuine physician. During his first term of office of rector, Boehmav delivered one of his finest orations, 'Oratio de comparando certo in physica,' Lugduni Bat. 1715, 4to.

He already held the chairs of theoretical medicine, practical medicine, and botany, and on the death of Lemort in 1718, that of chemistry was added to the number, a subject on which he had lectured since 1703. In conformity with his custom, he opened his course by a general discourse worthy of his other performances of that kind, 'Oratio de chemia suo usu et expugnante,' Lugduni Bat. 1718, 4to.

Boehmav was one of the first who made chemistry delightful and intelligible; and though the rapid progress of the science has made his works on this subject obsolete, he will ever be mentioned with veneration in its history. He excelled in experiments, and repeated them with unwearied patience; he performed one experiment 300, and another 877 times. He was skilled in organic chemistry, and showed how the animal fluids might be composed of simpler substances. He was the first who gave distillation over the open fire, in the manner then practised. The fame acquired by his elements of chemistry may in some measure be judged by the following list of his works:—

'Elementa Chemiae quae anno 1721 in publicam inedita,' Bat. 1722, 4to.; 'Elementa Chemiae quae anno 1723 in publicam inedita,' Bat. 1732, 4to.; 'Elementa Chemiae quae anno 1733 in publicam inedita,' Bat. 1733, 2 vols. 4to., with the author's minor works: another edition printed at the Hague in 1746, in 8vo., translated into French by Allamand and enlarged by Tarin, Paris, 1754, 6 vols. 12mo.; 'Commentum medendi tum ad fœniculam, ovide et ovide de fœniculam, ovide de Abridged de la Théorie Chimique tîre des écrits de Boehrave, avec le Traité du Vorticel,' Paris, 1741, 12mo. There are also English editions published in 1733 and 1741, and an abridgment with critical notes in 1739.

The same year of weighing Boehrave's merits as a chemist must not consult the editions printed before 1732, as they were published merely from his pupils' notes. Boehrave, of course, was not pleased with the indiscreet zeal of his pupils, who often published works which in his opinion were not yet ripe; he complains of it in the Leyden Gazette for 1726.

So many offices discharged with unparalleled success obtained for Boehrave a reputation which was almost without a precedent, and which scarcely leaves the picture of the civilized world. The learned of every part of Europe corresponded with him, and every academy desired to be honoured by dissertations from the hand of the most distinguished master of his art. There is a story that a Chinese mandarin wrote him a letter, which easily could have been addressed to Boehrave.

The anecdote may be apocryphal, but it shows the universality of his fame. Much of his time was of course taken up with patients, some of whom came to consult him from the most distant countries of Europe; and in answering letters, which he was obliged to write, he was called upon to ask the advice of the first physician in the world. The pecuniary proceeds of his practice must have been enormous, for at his death he left more than two millions of florins. He was elected a corresponding member of the Academy of sciences at Paris 1715, and for some years held an associate seat in 1728; in 1730 he was elected a fellow of the Royal Society of London. He communicated to the Royal Society and to the French Academy some observations on mercury, which were published in the Transactions of the French and in the Memoirs of the Academy of Sciences for 1734.

In 1722 his course both of lectures and practice was interrupted by the gout, which he brought upon himself, he says, by an imprudent confidence in the strength of his health. His residence in the hortus academicus was a thousand times inoculated upon his friends and pupils. Rising before day-break, he had gone hot and perspiring from his bed into the open air, and exposed himself to the chill breezes of the morning. In consequence of his illness he had to remain for some time in his bed, and by any effort renewed his torments, which were so exquisitely, that he was at length not only deprived of motion but of sense. In the sixth month of his illness, having obtained some remission, he took simple medicines in large quantities, and got well. His unexpected recovery was celebrated on the 11th January, 1723, by a public illumination. Fresh attacks of illness in 1727 and 1729.shattered his constitution and forced him to resign the professorships of chemistry and botany: on this occasion he delivered the lecture entitled 'Oratio de comparando certo in physica,' already published.

He was again elected rector of the university, and on quitting this honourable office he delivered a discourse on the subserviency of the physician to nature. 'De honore medicæ servitutis,' Lugduni Bat. 1729, 4to. About the middle of 1737 that illness began which proved fatal. In a letter to a friend in London, dated September 8th, 1738, he details the symptoms with a masterly hand; and it appears clearly from his description that he was labouring under organic disease of the heart and lungs, accompanied by concomitants of general dyspepsia, disturbed sleep, and a disposition to a sense of suffocation. He expired on the 23rd of September, 1738, in his seventieth year.

Boehrave was the most remarkable physician of his age, perhaps the greatest of modern times: a man who, when he contemplated his genius, his erudition, the
singular variety of his talents, his unaffected piety, his spotless character, and the impress which he left not only on contemporaneous practice, but on that of succeeding generations, stands forth as one of the brightest names on the page of history, and may be quoted as an example not only to posterity, but to all noble families in the hope of a robust and athletic constitution of body," says Hutchinson. "So hardening by early severities and wholesome fatigue, that he was insensitive of any sharpness of air or inclemency of weather. He was tall, and remarkable for extraordinary strength. In the course of the Rhetorica, he sometimes spoke rough and artless, but so majestic and great at the same time, that no man ever looked upon him without veneration, and a kind of tacit submission to the superiority of his genius. He was always cheerful and desirous of moving mankind. His education was derived from nature and study; he never soured by calumny and detraction, nor ever thought it necessary to confute them; "for they are sparks," said he, "which, if you do not blow them, will go out of themselves." The town of Leyden, which, on his recovery from his first illness, had given him so signal a proof of its affection, erected a monument to his memory in St. Peter's church.

He married, September 10th, 1710. Mary Dolenveex, the only daughter of a burgomaster of Leyden, by whom he had four children, of whom one alone, Joanna Maria, survived him, and herself also in their infancy.

In addition to the works which we have already mentioned, he published the following:—"Oratio de Vi et Obitu Clarissimi Bernhardi Albini," Lugduni Bat. 1721, 4to.—"Epistola ad Ruysschium Clarissimum pro Sententia Multiplici," Lugduni Bat. 1721, 4to.—"Epistula ad Gracchum Clarissimum de Rebus Medici," Lugduni Bat. 1722, 4to.—"Descripti prius Morbi Historiae," in "Nouv. Medicinae Artis Leges conscripta," Lugduni Bat. 1751, 8vo.—"Atroci Rarissimique Morbi Historia Altera," Lugduni Bat. 1728, 8vo.

The following works have been attributed to him, but are not recognized as genuine in his own catalogue; many of them were in fact surreptitious editions of parts of his lectures, of which some did not appear till after his death:—"Tractatus de Peste."—"Consultationes Medicinae, sive Sylloge Epidemiarum cum Responsis;" the first edition was published at Louvain in 1743, but it has been frequently reprinted. —"Praxis Medica," Leide, 1730, 8vo.—"De Virtus Medicamentorum," taken from the notes of his lectures in 1711 and 1712.—Paris, 1723, and many other editions.—"Experimenta et Institutiones Chemicae," Lutetiae, 1728, 8vo., taken from his lectures from 1718 to 1724. —"Methodus Dissertandi Medicinae," Lugduni Bat. 1733, 4to.—"Methodus Disserti Medicinae, seu De Accessionibus locupletatissima," Lugduni Bat. 1739, 4to.—"Health and Writings, and the true voice of the true doctor," written by Haller, who published it in two volumes, 4to., in 1731, under the title of "Hermanno Boerhaave, Viro Summi,ique Praecipue, Methodi Studii Medicinorum et Accessionum locupletissimorum Medicos et Patrons," etc., quam rerum et verborum, cum Cornelius Peregrino, which is well to annex to it.—"Historia Plantarum qua in Horto Academico Lugduni Batavorum crescent, printed at Leyden in 1712, but with Rome on the title-page. There are London editions of 1721 and 1728, taken from his lectures from 1709 to 1728.

To these we may add an anonymous "Index Plantarum;" "Commentaries on the Aphorisms," 1728, 8vo.—"A Lecture on the Stone," London, 1740; and the "Lectures on Diseases of the Skin and Venereal Maladies," 1734, 8vo. The works which he edited are—the works of Drelincourt; the observations of Puss; the anatomical and surgical works of Vesalius, edited in conjunction with Albini; the "Tractatus Medicus de Loco Veneris," published by Apodiscus; the smaller anatomical works of Eustachius; Bellini, "On the Urine and Pulse;" Prosper Alpinus, "On the Prognosis of Life and Death;" and the celebrated edition of Aristeus.

These works came out under the auspices of Boerhaave, whose influence could never have been published but for his friendly aid: these are—"The Physical History of the Sea," by Count Marsigli, Amsterdam, 1725, fol.; the "Botanica Parisiensis," by Le Vaillant, when dying sent him the MS., Leyden, 1737, fol.; and Swammerdam's "History of Insects," printed at Amsterdam in 1737 in two volumes, folio, with plates, and a preface by Boerhaave.
the ecliptic, upon a movable sphere; and the other (a clepsydra) indicated the hours of the day by the dropping of water from one vessel into another. Gondobald was well pleased with these contrivances, that upon his return home he dispatched ambassadors to Theodoric, praying that he would procure for him the two wonderful time pieces which he had seen at Rome. The letter which Theodoric wrote to Boethius on this occasion, expressing Gondobald's wish, and requesting the philosopher's compliance, is preserved by Cassiodorus.

During the course of these transactions Boethius lost his wife Elpis, but married a second time, Rusticiania, the daughter of Symmachus, along with verse, in the year 537, he was a third time elected consul. It was during this consulship that he fell under the displeasure of Theodoric. Theodoric was an Arian; and Boethius, who was a Catho-
lic, published about this time a book upon the unity of the Trinity, in opposition to the Arians, Nestorians, and Sut-
chians. This treatise, which was universally read, made him many enemies at court, who insinuated that Boethius wanted not only to destroy Arianism, but to effect a change of government, and deliver Italy from the dominion of the Goths. From his credit and his influence he was represented as the most likely person to bring about such a revolution.

While his enemies were thus busied at Ravenna, they employed emissaries to sow the seeds of discontent at Rome, and to excite factious people to oppose him there in the ex-
ercise of his office of consul. Boethius, in his eagerness to promote the public welfare, but his in-
tegrity and steadiness only hastened his fall. Theodicor,
corrupted probably by a long series of good fortune, began now to throw off the mask. This prince, though an Arian, had not an equal proclivity to the Luxuria of his time towards the Catho-
lics; but probably fearing that they had an intention to
overthrow his government, he began to treat with them severely. Boethius was one of the first who became a victim to his rigour. He had continued long in favour with his prince, and was regarded by him as any other person; but neither the remembrance of former affection, nor the absolute certainty which the king had of his innocence, pre-
vented him prosecuting the philosopher, upon the evidence of three persons of infamous reputation. 'The offence laid to his charge,' says Favorinus, 'the first book of the Consolat
ion of Philosophy, were, 'That he wished to preserve the Senate and its authority: that he hindered an informer from producing proofs which would have convicted that as-
sembly of treason; and that he formed a scheme for the revolu-
tion of the Roman liberty.' In private letters also, the witnesses had forged letters which they averred
had been written by Boethius. For these supposed crimes, as we learn from the same authority, he was, unheard and undefended, at the distance of five hundred miles, proscribed and executed.

The severity would be blamed, did not at this time carry his sentence fully into execution, but contented himself with confiscating his effects, banishing him to Pavia, and there
confining him to prison.

Soon after the Justin, the Catholic emperor of the east, finding himself thoroughly established upon the throne, published an edict against the Arians, depriving them of all their churches. Theodoric being highly offended at this edict, obliged Pope John I., together with four of the prin-
cipal sees of Rome (among whom Symmachus, the fifth son of John of Ravenna, goto an embassy to Constan-
tinople, and commanded them to threaten that he would abolish the Catholic religion throughout Italy, if Justin did not immediately revoke his edict against the Arians. John was received at Constantinople with pomp, and treated with respect. He tried to compromise matters between the two princes; but so far was he from inducing Justin to re-
voke his edict, that, in compliance with the tenor of it, he recon-
ciled many of the Arian churches to the Catholic faith.

Theodoric became so incensed at the conduct of Pope John and his ministers, that upon that occasion he cast his whole
army into prison. Boethius, though innocent of what was done at Constantinople, was at the same time ordered into stricter confinement at Pavia, the king having probably come to the resolution of proceeding to extremities upon this account.

Though confined in prison, and deserted by the world, Boethius preserved his vigour and composure of mind, and wrote during his confinement, in five books, his excellent treatise on the 'Consolation of Philosophy;' the work upon which his fame chiefly rests. He had scarcely concluded this work, or, according to some of his commentators had not concluded it at all, when Pope Florus, Symmachus and the other senators put to death, Theodoric ordered Boethius to be beheaded. His execution took place in prison, Oct. 23, 526. His body was interred by the inhabitants of Pavia, in the church of St. Augustine, which near the time of his death had existed till the last century, when that church was destroyed. The tomb had been erected to him by Otho III. in 996. Theodoric, who did not long survive Boethius, is said in his last hours to have repented of his cruelty. Gibbon (Decline and Fall of the Roman Empire, chap. xxxix.), says, the tower of Boethius subsisted at Pavia till the year 1584.

The most celebrated production of Boethius, 'De Conso-
latione Philosophiae,' has always been admired both for its elegance and sublimity of style. It is a book written on rationally between the author and Philosophy personified, who endea-

vour to console and soothe him in his afflictions. The topics of consolation contained in this work are deduced from the tenets of Plato, Zeno, and Aristotle, but without any notice of the sources of consolation which are peculiar to the Christian system, which circumstance has led many to think him more of a Stoic than a Christian. It is partly in prose and partly in verse; and was translated into
Saxon by King Alfred, and illustrated with a commentary by the afterwards celebrated Bede. An English version of this work was made by John Walton, canon of Oseney (commonly called John of Oseney) in 1410 are preserved among the Harleian manuscripts in the British Museum. Chaucer and Queen Elizabeth were also trans-
lated. The first English translation was printed by Colville, or Coldewell, Richard (Graham) Vyscomt Preston, W. Causton, the Rev. Philip Ridpath, and R. Duncan of Edingburgh. King Alfred's translation into Saxon was published at Oxford in 8vo., 1698, by Mr. Christopher Raw-
linson. The English version of this work was translated into English by J. S. Cardale, 8vo. Lond. 1629. A translation into French by Jean de Meun, was printed at Paris by Verard in 1494. Few books were more popular than this treatise in the middle ages; and few have passed through a greater num-
ber of editions in almost all languages. The first English

version of Boethius 'De Consolatione,' was printed at Nuremberg in 1476, in folio. The best edition of Boethius's whole works is that 'cens commentariis, enarrationibus, et notis Jo. Marmellii, Rodolphii Agricoli, Gilberti Porretae, Hen-

folio, at Basle in 1570. (See the note prefixed to a translation of the Treatise De Consolatione, 8vo., Lond. 1785; Chalmers's Biogr. Dict., vol. v. p. 509-514; Fabrec.

Bibl. Lat. 4to. Ven. 1778, tom. ii. p. 146-165; Brucker

Philologiae Histor.; and Baillat, Vies des Saints, vol. vii. p. 365, in which work 'Saint Bocce is included, '13 Oc
tobre.'

BOG. The name of bog has been given indiscriminately to very different kinds of substances. In all cases the ex-
pression signifies an earthy substance wanting in firmness or consistency, which state seems to arise generally (perhaps not always) from the presence of a superabundant supply of moisture having no natural outlet or drain.

In some cases, when springs of water, or the drainage from an extensive area, are pent up near the surface of the soil, the water collects in these places, and the soil state the land is perhaps more properly called a quagmire. A second state of bog is where, in addition to the condition just described, a formation of vegetable matter is induced, which dying and being reproduced on the surface, assumes the state of a spongy mass of sufficient consistency to bear a considerable weight. Bogs of this description are nume-
rous and extensive in Ireland, where they are valuable from the use made of the solid vegetable matter, both as fuel and as a principal ingredient in composts for manures. Where the surface of the bog is embanked, and the water which has been reclaimed by draining; and the subsoil is then readily brought into cultivation. Bogs also occur in all parts of Great Britain where the form of the surface and the nature of the earth favour the general condition under which they are found. The water in the granite plateau of Cornwall, on the road from Launceston to Bodmin; and in the large granitic mass, of which Brown Willy is the centre, the bottoms of the valleys are covered with bogs, the lower part of which is consolidated into peat.
Although peat moss always springs from some moist spot, it will grow and spread over sound ground, and if not stopped by some natural or artificial impediment, such as a wall, wood, or fence, it will spread over the whole extent of the fen in any moisture which reaches it, and retains it like a sponge.

The depth of a bog depends on the level of the surrounding grounds. It cannot rise much higher than the lowest outlet for the water. Where there is no immediate outlet the stream, or where the springs of the canal are not sufficient to supply the springs and rains, or till it rises to a level with its lowest boundary, where it becomes the source of a stream or river, and forms a lake. The mud being deposited at the bottom, gradually becomes a true peat, or is quite reduced to its eleventh or twelfth part in a bog. In this case it may become a stratum of rich alluvial soil, some conviction of nature may lay dry, for the benefit of future ages.

From this circumstance has arisen the great advantage of draining bogs, to which the attention of agriculturists and inspectors of drainage is directed. This subject is treated in the article on DRAINING.

The bogs of Ireland are estimated in the whole to exceed in extent two millions eight hundred thousand English acres. The greater part of these bogs may be considered as forming one connected mass. If Wicklow head on the east coast to Galway, and another line from Howth head, also on the east coast, to Sligo, the space included between those lines, which would occupy about one-fourth part of the entire superficial extent of Ireland, would contain the superlative extent of the peat; or the mass of bog is composed of mere mountain-bogs, and of bogs of no greater extent than 800 English acres. This district resembles in form a broad belt drawn east from west across the centre of Ireland, having its narrowest end nearest to Dublin and gradually increasing in breadth as we go out to the sea or to the ocean.

This great division is traversed by the river Shannon from north to south, which thus divides the great system of bogs into two parts. Of these, the division to the west of the river contains more than double the extent of bogs of any other division. The Shannon traverses the Shannon valley, and that the supposed Shannon valley, and that the original extent of the Shannon valley is from one great morass, on the contrary, the bogs to which it is applied are perfectly distinct from each other, often separated by high ridges of dry country, and inclining towards different rivers as their natural directions for drainage.

The surface of the land is very quickly from the Bog of Allen on all sides, particularly to the north-west, where it is composed, to a considerable depth, of limestone gravel, forming very abrupt hills. In places where the face of the hills has been opened the mass is found to be composed of rounded particles of limestone varying in size from a minuter to less than one inch; the largest pieces are not so much rounded as the small, and frequently their sharp angles are merely rubbed off. They are usually penetrated by contemporaneous veins of Lydian stone, varying in colour from dark to light grey, and always containing streaks of light grey, usually light smoke grey, rarely bluish black; when it is bluish black, the fracture is large conchoideal; that of the grey is uneven, approaching to earthy. The Lydian stone, when unattached to the limestone, has usually a tendency to a phloiodal form, sometimes cubical; the edges are more or less rounded; the longitudinal fracture is even, the cross fracture is conchoideal.

The Grand Canal from Dublin to Shannon Harbour passes through a considerable part of the great bog-district of Ireland. In forming this canal it was necessary to make considerable embankments, the surface-water of the canal being generally on a higher level than the surface of the immediately adjoining bogs. Where this was not the case, it was taken of the circumstance to conduct the drainage of the bogs into trenches for the supply of the canal.

The bogs situated to the south of the great belt in the centre of Ireland occur in Tipperary, Kilkenny, Clare, and Limerick. This belt of bogs, which has a broad belt occur in Antrim, Down, Armagh, Tyrone, and Londonderry.

It appeared from the examination of the surveyors appointed by parliament in 1810 to investigate the nature and extent of the bogs in Ireland, that they consist of a subject of the peculiar subsoil, and the average thickness of twenty-five feet, no where less than twenty feet, and some found to exceed forty-two—this substance varying materially in its appearance and properties in proportion to the depth at which it lies: the upper surface is covered with moss of various colours and textures, the fibres of moss, still visible though not perfect, and extending to a further depth of perhaps ten feet under this. At a greater depth the fibres of vegetable matter cease to be visible, the colour of the turf becomes blacker, and the substance much firmer and lighter. It is next to the surface, its composition is more changeable and variable, and gradually increasing in the degree of blackness and compactness proportionate to its depth; near the bottom of the bog it forms a black mass, which, when dry has a strong resemblance to pitch or bituminous coal, having a conchoideal fracture, and forming very distinct parts, not liable to be disturbed when the whole body of moss occurs on low ground, a fact which seemed to strengthen the opinion of their having always originated from the decay of forests. This theory of the original formation of bogs was by some time generally adopted, but the result of more recent investigations shows that it cannot be supported. That some bogs may have been formed in this manner is not denied. It is stated in the Philosophical Transactions, No. 275, that—"The Romans under Osiusius, having gained many losses in the mountains, did fill them so with the salt of the sea, in Yorkshire, which at that time overspread all the low country; and the conqueror, taking advantage of a strong south-west wind, set fire to the pitch trees of which the forest was chiefly composed, and when the greater part of the trees were thus consumed, the Romans sent Britons cut down the remainder, except a few large ones, which were left growing as memorials of the destruction of the rest. These single trees did not long withstand the action of the winds, but falling into the rivers intercepted the water, which, when it reached the sea, filled the flat country; hence the origin of the mosses and moor bogs which were afterwards formed here. This moorland near Hatfield, seven miles north-east of Doncaster, and about Thorne, is now a boggy peat covered with heath, and full of clefts, higher than the adjoining land, and very wet; whence it has been aptly compared to a sponge full of water. The Thorne waste with some adjacent tracts, and the Hatfield moor, contain about 12,000 acres."

In the Ordnance Survey of the County of Londonderry, presented by Major Mathew, to the British Association during its recent meeting (Aug. 1835) in Dublin, are some remarks on the subject which are deserving of attention:—

'In the production of bog, sphagnum' is allowed on all hands to have been a principal agent, and superabundant moisture the usual cause. To this subject various opinions have been advanced, more especially that of the destruction of large forests, which, by obstructing in their fall the usual channels of drainage, were supposed to have caused an accumulation of water. That opinion however cannot be supported. In the Bag Reports, such trees as are found have generally six or seven feet of compact pest under their roots, which are found standing as they grew, evidently proving the formation of pest to have been previous to the growth of the trees,

* Sphagnum palustre.
When bogs become consolidated or compressed, they are called peat-mosses. The consolidation here mentioned must be distinguished from that of sustaining a growth of timber as it is seen to have frequently borne.

Successive layers of trees (or stumps) in the erect position, and furnished with all their roots, are, as stated in the preceding section, cut and buried in layers at short distances, and at a small vertical distance from each other. It appears that the consolidation of the lower portion of the turf was a necessary preparation for the first growth of timber, and considering the huge size of the roots thrown out by these trees, and the extent of space over which they sprouted, it is as a mode is readily perceived by which they obtain a basis of support sufficiently firm and extensive to uphold their rising and increasing stems. The first layer of turf was now matted by the roots, and covered by the trunks of the first growth of trees, the third or second course of trees was matted, and to accumulate round the growing stem, a new layer of turf was created to support a second growth of timber, the roots of which passed over those of the preceding, and so on with a third or more, until at length the singular spectacle was exhibited of several stages of trees growing at the same time. Such seems a natural way of viewing the subject, but it is often stated that one stump is found actually on the top of another, which would imply that the lower tree had been destroyed before the turf had ascended to the top of the stump. In such an instance, using Mr. Griffith's example of the rate of increase of recent bog, and supposing it compressed by growth into one-fifth of its original bulk, little more than one hundred years would have elapsed between the two periods.

An extensive area of bog near Chatsworth in the county of Lancaster has lately attracted public attention from the circumstance of the Liverpool and Manchester Railway having been carried through it. The length of Chatsworth is about six miles, its greatest breadth about three miles, and its area, which is its entire surface, is the whole of which is pure vegetable matter throughout, without the slightest mixture of sand, gravel, or other material. On the surface it is light and fibrous, but it becomes more dense below. At a considerable depth it is found to be uniformly porous and marshy, but in its respects resembles coal: it is in fact exactly similar to the composition of the bogs of Ireland, as already described.

The moss is bounded on all sides by ridges of rolled stones mixed with clay, which prevent the immediate discharge of its waters. It is probable that this bar, by interrupting the course of the waters, originally caused the growth of Chatsworth. This moss presents at its edges nearly an upright face; the spongy surface of the moss being elevated at a very short distance from the edge from ten to twenty feet, and its thickness varying from a few inches to a foot. The immediate substratum to the bog is a bed of silicious sand, which varies from one to five feet in thickness, below which is a bed of bluish and sometimes reddish clay marl of excellent quality. This marl varies in thickness very considerably; in some parts it is not more than three feet thick, in others its depth has not been ascertained; below the marl is a bed of sandstone gravel of unknown thickness. This is a bed of gravel which extends beyond the edge of the bog, and prevents the direct discharge of the waters from the bog, and, instead, produces flat bogs. The general depth of Chatsworth varies from fifteen to thirty feet. (See also Camden's remarks or this moss, vol. ii. p. 566, Gibson's edition.)

About 1797 the late Mr. Roscoe of Liverpool began to improve Trafford moss, a tract of 300 acres, lying two miles east of Chatsworth, which operation was so successful as to encourage him to proceed with the improvement of Chatsworth, the most extensive lowland bog in England, including 7000 acres. After first constructing sufficient drains, the beauties of the country and the advantages of the place were apparent; a thin sod was then ploughed with a very sharp horse-plough, burned in small heaps, and the ashes spread around. Being then tolerably dry, and the surface level, the moss was ploughed six inches deep and the ground cultivated. The next crop of grass, not quite a yard to the acre, was set upon it. When this began to crumble and fall by the action of the sun or frost, it was spread over the land with great exactness, and the first crop was put in as speedily as possible, with the addition of about twenty tons of manure to the acre. This first...
crop, which must be put in with the plough, or with the horse-scuffle or scarer, may be either a green crop, as potatoes, turnips, &c., or any kind of grain. After making a great variety of experiments, Mr. Roscoe gave it as his conclu-
sed opinion, that the best method of improving moss-
land is that just stated, of the application of a caulescent substance, in sufficient quantity to convert the moss into a soil, and the raising of crops of minimal cultivation, such as the course of cultivation and the nature of the crops may be found to require. The cost of mowing was stated by Mr. Roscoe at 104. per acre, at which price rate it would not have been possible to have performed the work but for the assistance of a large number of men, and this quantity was as much as, without the employment of the men, the mowing could have conveyed over the moss by a cart with a driver and two horses.

In June, 1833, an ancient wooden house was discovered in Drumkelin Bog, in the parish of Inverconn, near the north coast of the county of Donegal in Ireland, by James Kilpatrick, while he was searching for bog timber. The description of the house and the other circumstances con-
ected with it were given by Captain Mudge, who was then engaged in surveying the coast, to the Hydrographer of the Admiralty, and by him communicated to the Society of Antiquaries of London, on his being invited to examine it. The house was four feet below the present surface of the bog; but it is estimated, by comparing the present surface with that of adjacent parts from which no peat has been taken, that the top of the roof must have been about sixteen feet below the present surface. The material of which the house was built is a yellow clay, and the work of the house was very firmly put together, without any iron; the roof was flat and made of thick oak planks. The house was twelve feet square and nine high: it consisted of two floors one above the other, each about four feet high, with a door on each side of the house. The whole stood on a thick layer of sand spread on the bog, which continues to the depth of fifteen feet below the founda-
tion of the house. Captain Mudge supposes that a stone chisel, which was found on the floor of the house, had been used to construct it; and the Black Smith of the timbers, as the chisel corresponded exactly to the cuts and holes. When the house was removed from the bog, and a drain had been opened to carry off the water which flowed into the hollow, a paved pathway was traced for several yards, at the end of which was discovered a hearthstone made of flat freestone slabs. The hearthstone was covered with ashes, and near it were several bushels of half-burnt char-
col, with nut-shells, some broken and others charred, be-
sides some blocks of wood partly burned. On the same layer, and in the houses of the native Mexicans, the ashes were found standing, just such as had supplied the timber of the house; and beneath all this, as already observed, there are still fifteen feet of peat. It is the opinion of Cap-
tain Mudge that this house must have been suddenly over-
whelmed by boggy matter, a conclusion which appears necessary to explain all the circumstances.

Bogs not unfrequently burst out and suddenly cover large tracts. This phenomenon happened in the present year (1835) in Ireland on a part of Lord O'Neill's estate, on the Bally-
nagow Brook, near Ballysusky, in the county of Down. On the 19th September an individual near the ground was surprised by hearing a rumbling noise as if under the earth, and im-
mediately after a portion of the bog moved forward a few perches, when it exhibited a broken, rugged appearance, with a soft peaty substance boiling up through the chinks. It remained in this state until the 22nd, when it again moved suddenly forward, covering corn-fields, potato-
fields, turf-stacks, hay-yacks, &c. The noise made by its burst was so loud as to alarm the inhabitants adjoining, who made inquiries by boat, and who were directed to proceed. It directed its course towards the river Maine which lay below it; and so great was its force, that the moving mass was carried a considerable way across the river. Owing to the heavy rain which had fallen for some time previously, the turf was not carried off, but arrived at the bank of the river in its bed, and considerable damage was thus obviated, which would otherwise have occurred from the forcing back of the waters. It is stated that upwards of 150 acres of arable land have been covered by this outbreaking of the bog.

BOG-EARTH, is an earth or soil composed of light sil-
ceous sand and a considerable portion of vegetable fibre in a half decomposed state, such as is often found accumulated over an impenetrable substratum, where the water has de-
posited the mud carried off from boggy places. It is in high repute with gardeners, being excellent for flowers, especially for some American plants, which thrive best in such a soil. A good fertile kind consists of nearly 25 per cent. of vegetable matter. When the water has been allowed to subside, and if necessary with some quicklime, to promote the further decomposition of the fibres, it is far superior to any artificial manure. Where it is not to be obtained in a na-
satural state, it is easily imitated artificially, by mixing the mud of ponds, with which wet places near the marshy water, leaves, wees, and grass, keeping the mixture well watered and frequently turned. It must then be exposed to the air for a considerable time in heaps, until the requisite texture is produced. Some sharp sand is an essential ingredient, and must be added if clay is found in the soil.

BOG or BUG [VISTULA].

BOG (the Hýpanis of the Greek and Roman writers), a considerable tributary of the Dniester, rises to the south of Proskuroff, south-east of Tarnopol in Podolia, in the elevated plateau which extends from the river Dnieper to Kief, and receives the waters of the Ingal, Balta, Teshterr, and Salonicha before it quits the territory of Podolia. Thence it flows in a south-easterly direction towards Nikolaieff, and into the Dnieper, 46 miles from it. It descends by a succession of falls in the vicinity of Sedyni, and flows in a rough current which lies between its left bank and the right bank of the Dnieper, where it winds its way through a liman, formed by its own inundations, nearly fifty miles in length, and which is crossed in many places by Oxossaff. It is between 470 and 480 miles in length, and in the lower part of its course attains a breadth of 500 feet; but its bed is so much obstructed by rocks and sandbanks, that it is only navigable when its waters are much swollen. The Senintha falls near the town of Olivopol, in the independent province of Chernos, and the Yekul at Nikolaieff, or Sedyni, which are included in the same province. By the treaty between Russia and Turkey in the year 1774, the Bog became the line of frontier between the two countries, from the mouth of the Seninka to the Dnieper, where it is crossed by the Mus-
covite upon the Ottoman in more recent times. We now brought the whole course of the Bog within the Russian terri-
itory. Its current is extremely gentle, and its waters, in its lower course, are of a saline taste. (Herod. iv. 52.) The principal towns situated on the banks are Bran ibulobopol, Olivopol, Vesenesen, and Nikolaieff. [DNIESTER.]

BOGDANOVITCH, HIPPOLYTUS THEODORO-
vitch, was born December 3rd, 1743, in the town of Pe-
revolotchina in Little Russia, where his father practised as a physician. On his death the family had to be educated in the College of Justice, where he soon began to display a passionate fondness for poetry and the drama. So greatly was he for a time captivated by the latter, that at the age of fifteen he determined to make the stage his profession, and for that purpose presented himself to Kheraskov, the author of the Rossia, and at that time the director of the Moscow theatre. Regarding this application as a boisth freak, Kheraskov represented to him the impropriety of the step he was anxious to take, but at the same time by the most methodical manner and intelligence, that he exhorted him to pursue his studies, and professed his assistance and instruction in literary com-
position. Bogdanovitch had the good sense to adopt this friendly counsel, and thenceforth began to apply himself diligently to the acquirement of a language and science, which he considered a perpetual or the best authors. His own industry was rewarded by the judicious advice and good taste of Kheraskov, whom he had now taken up on his abode; and he began to try his pen in some pieces which were published in the Uni-
versity Journal entitled Potezco Uesceles (Profitable Re-
creation).

In 1761 he was appointed inspector at the university of Moscow, and also translator in the foreign office; but in less than two years he went with Count Bielesko as the permanent legation to Dresden, where he remained so long that city he wrote, at least commenced, his delightful poem entitled 'Dushenka,' for it was not published till long afterwards—1785. It is upon these three cantos that his reputation rests, and they earned him the presentation and the Empress Catherine von their first appearance. The Empress Catherine
was charmed with a production, so unlike any thing that had preceded it in the language; and it almost immediately put him in the highest estimation with all the public. It was the idol of the court and the public: this rather than intoxicating popularity did not inspire him with increased confidence in his own powers, but seems rather to have chilled his invention; for although he afterwards wrote much more, the public showed themselves anything but enthusiastic over the productions that were calculated to win a second wreath for the author of ‘Dukenka.’ Even that poem itself is more distinguished by the felicity of execution than by the originality of subject or materials, its fable being the mythological figure of Psyche, which has been variously illustrated by different writers from the time of Apuleius to the present day, but by none perhaps it has been versified more elegantly than by Bogdanovitch. He bestowed upon the narrative all the captivating graces of style in a language which although it could not boast of elegance, yet, as has been justly observed, when the poet has arrived at the full extent of his genius, it will allow that there are many positive beauties in it, as well as striking comparative excellence. Some idea of its peculiar attraction may best be conveyed by saying that it is in the Russian language the poet’s most sonorous and entrancing, and its characters are a flowing sweetness of poetic diction, and a captivating ease and felicity of expression. There is also something of the same mingled gaiety and tenderness, of the same liveliness of fancy which pervades the poems of the English or Anglo-Irish bard. Had Anacreon written the legend of Psyche, he would probably have taken the same view of it that Bogdanovitch has done, who has thrown over the whole a gay and lively colouring, but is deficient in the paths requisite to give full life to the incidents.

Notwithstanding his early predilection for the stage, Bogdanovitch wrote only two dramatic pieces, one of them a comedy in verse entitled ‘The Joy of Dukenka.’ Except many short poetical productions and other contributions to various journals, he had the greater part of his remaining publications consist of translations.

In 1795 he retired from St. Petersburg with the salary of president of the archives continued to him as a pension, and passed his latter years in the peaceful solitude of Little Bolgorod, a small town in the 8th degree of Pomes, was born A.D. 1756, in the village of Oplew at Friesland, and studied divinity at Heidelberg and Geneva, then the two principal seats of reformed theology. At Geneva he became imbued with the intolerant principles of the then octogenarian Beza. When Bogdanovitch became minister at Sneek, he showed his own intolerance by endeavouring to compel the Mennonites there to a recantation. In 1604 he was made minister at Leeuwarden. In the polemics of his age he joined Gomarus against Arminius. He stood to the extreme of the Remonstrants, and was engaged on the capital punishment of heretics. He also wrote a ‘Mirror of the Jesuits,’ in Dutch, Leew, 1608, 4to.; a polemical work against Grotius, about or before 1614; and other pamphlets, but without the same success. In 1632 he suffered the deprivation of a preacher who held Remonstrant opinions, and greatly contributed to the victory of the Gomarists, or Contra-Remonstrants, over the Remonstrants, or Arminians. He was not without learning, but obtained celebrity, especially by his zeal against the Remonstrants.

Count William Lewis of Nassau, an enemy to the Remonstrants, recommended Bogdanovitch to the stadholder Maurice, who, for political reasons, opposed the Remonstrants. Bogdanovitch is said to have published an essay in which he endeavoured to prove that hatred was not the capital punishment, but we suppose this to be the above-mentioned translation of Beza’s tract, to which Bogdanovitch and Geldorp wrote a preface. Bogdanovitch the president, and four other members of the synod of Dort, were commissioned to translate the apostolic letter to the Philippians, which, as money was in the Synod, is chiefly Bogdanovitch’s work. It is still used in the churches of Holland, and is admired for its correctness, oriental taste, and purity of language. It is said that Bogdanovitch declined some lucrative invitations to the Hague and to Paris, and that his refusal was rather resented than accepted. It was in 1631 that the English translation of the Bible was authorized by Act of Parliament. Bogdanovitch was engaged in the translation of the Hebrew and Greek portions of the New Testament, and from his powers he exhibited a high degree of skill and ability, though he never produced anything that was calculated to win a second wreath for the author of ‘Dukenka.’

When Bogdanovitch returned home he was sharply reproved by the states and the synod of Friesland, to which province he belonged. He was also accused of having exposed his superiors to imputation, and it is said that he was even driven from his residence by his political enemies. Bogdanovitch died in 1633, as professor primarius at Franeker.

(See the second volume of Brandt’s Historie der Reformate—this work has been translated into English and into French; Le Clerc, Hist. der Vereinigten Nederland., u. d. u. ; Frey, Dissertatio de Synodum foederis; Witsius, de Synodoetica, die Kamp,en, in Encyclop. van Erck und Gruter; The Works of Arminius, translated by James Nicholls, i. pp. 443, 444; Acta Synodi Nationatis Dortrecht habitar, Lugd. Bat. 1620, fol.; Geschichte der Synode von Dordrecht von Martinus所得 hear, 1802, 8vo.; Kiepert’s Ketzergeschichte; Stuart on the Life of Arminius, in the Biblical Repository, Andover, 1831; Letters of John Hales.)

BOGLILORE (Hagelpur), a district in the province of Bahar, formerly known as the circar of Mogul, was under the government of a Mirza, receiving the title of Rajamahal, which forms a part of the Mogul province of Bengal. Boglilore is bounded on the north by Tirhout and Purneah, on the east by Purneah and Moorshedabad, on the south by Birbhum and Ramghur, and on the west by the Dacca district of Bengal. It lies between 24° and 25° N. lat. and 86° and 87° E. long., and occupies the south-eastern corner of the province of Bahar. Its greatest length in the N.W. direction is about 133 miles, and its greatest breadth is about 80 miles: its total area is about 8200 English square miles, as laid down by Major Rennell; but the boundaries, as is very common in Hindustan, are not very accurately defined, except in partial cases, where the courts of justice have been called upon to determine the disputes of rival zamindars.

A consideration part of the surface of the land is occupied by rock, and is altogether incapable of cultivation. In other parts the ground is studded at intervals with fragments of rock of various sizes. On the western hills similar masses of rock occur so frequently, that, when the declivities of the slopes are covered with verdure, the rocks render such a mode of cultivation impracticable. It has been estimated that the level ground in this condition
is upwards of 1700 square miles, and that the hills which are uncultivable are to the extent of 1150 square miles. The remaining portions, which are fit for the plough, consist of rich and productive soil. In the north-eastern part of the district, on the level lands overflowed by the Ganges, opposite to the district of Burdwan, lie the washermen of the vicinity collect carbonate of soda, which they call *muri cae mafii.* The saline matter effloresces on the surface in the month of October after the retirement of the waters of the Ganges, and may be collected several times from the same spot. It is remarked that no particle of this substance is formed after rains, but only follows the inundations of the river, and also that on digging to a small depth pure water unimpregnated with the carbonate of soda is obtained.

The Ganges flows to the eastward through the district of Bogipore from Monghir (where it forms the boundary between this district and Tibrhoot) to the north-eastern corner of the Rajmahal territory. The district is besides watered by many small streams which fall into the Ganges on its way. The largest of these streamlets are the Mura, the Ulayi, the Nogini, the Akguna, the Nacti, the Bagdhar, the Ghorghat, the Mohane, the Bahuya, the Bilasi, the Dobee, and the Modetriharna. None of these streams are navigable except during the flooding of the river, when some of them are used by small boats and for floating down timber and bamboo. In the dry season, unless near their sources, the channels of most of these rivers are dry. There are besides many pools or stagnant pools, apparently the old channels of rivers which have long been abandoned, and in many of which fresh water is found throughout the year. One of them, called Domjala, situated to the south of Rajmahal, is in the rainy season seven and a half miles long and three and a half miles broad, and even in the dry season is four miles long by two and a half miles broad.

From June to the following February the wind blows almost constantly from the east; during the other four months of the year the west wind prevails. These westerly winds bring in the summer, and dry and parching. The winters are colder than in the adjoining districts of Purunnah, and the summer season is frequently oppressively hot.

Besides Bogipore, the capital, the district contains the towns of Nadigar, Chapra, Colgong, Monghir, Bogwangoa, and Oudanolla. The population consists of rather more than two millions, of whom 450,000 are Mohammedans, and the remainder Hindus. The inhabitants are very unequally distributed, some purnagnas having more than 100,000 souls while others extremely dry and deserted. Of the mountainous people residing to the south and west of Rajmahal, this district is described as an uncivilised race, differing in manners, customs, and religion from the inhabitants to the north of them, who live under the protection of the native governments, subsisting by plunder, often desolating the neighbouring districts by their incursions, and only kept in order by means of certain pecuniary allowances made to their chiefs on the condition of their preserving the peace of the country. In the year 1782 the privilege was granted to the Mahrattas, and called Manjies, were to sit as assessors, and to declare their opinion, according to the laws and customs of the hills, which was to be subject to the confirmation of the judge of circuit before whom the trial was had. The Manjies were to be summoned to the number of not less than twelve whenever a prisoner was brought before them. The chief of the district was the reason for which the chiefs acting as assessors were to be selected by ballot from among those summoned. The three first selected might be challenged peremptorily, and any others for reasons assigned by the prisoner.

Unqualified slavery exists throughout the district, and the owner may sell his slaves in any way he chooses. In general these people are well used, and they are said to be industrious.

Great numbers of pilgrims, soldiers, and European travellers are daily passing through the district both by land and by water, and this forms a principal source of profit to the inhabitants, who furnish travellers with provisions and other necessary articles of consumption. It is estimated that at certain seasons as many as 100 passage-boats stop on the Ganges within the Rajmahal alone.

Rice, wheat, barley, and maize form the principal articles of agricultural produce, their relative importance being in the order in which they are here named. Potatoes are cultivated in the smaller towns of Monghir and Bogipore. Cotton is grown, but is not sufficient for supply for the looms in the district. Small quantities of silk and saltpetre are produced, and about 7000 mounds of indigo are exported annually on an average.

Black bears are found in the woods, but rarely occasion any harm. The vulture is another species of these animals, called by the natives hard-bears, which subsist on frogs and white ants, with other reptiles and insects. A species of baboon, the Hunimaia, exists in considerable numbers, and commits great depredations with impunity, being held so sacred by the inhabitants, that to kill one is considered as a crime, sure to be followed by ill luck. The Ratuya, a short-tailed monkey, is likewise common, but as he does not hold a sacred character in the eyes of the natives, he is not suffered to come near the towns. The commonest bird in the woods is the Parakeet. The tiger is not uncommon, and is frequently killed in the vicinity of the villages by the inhabitants, but as it is considered a sacred animal, no harm is inflicted on it.

(Anonymous. Indian Reaversions; Rennell's Memoir of a Map of Hindustan; Regulations of the East India Company, as contained in the Appendix to the Judicial Division of the Report of the Committee of the House of Commons on the Indian Affairs of the East India Company, 1832.)

BOGIPORE, the capital of the district last described, is a town of modern erection, beautifully situated on the right bank of the Ganges, in 25° 13' N. lat. and 86° 58' E. long. The town consists of about 5000 dwellings, and contains about 30,000 inhabitants. The other towns in the district are Mohammedans. A small number of persons, about fifty, who profess the Christian religion according to the ritual of the Church of Rome, have a church in Bogipore. These people are partly the descendants of Portuguese soldiers, and partly Roman Catholics, and are under the spiritual charge of a Romish priest, a native of Milan, sent by the society De Propagation De Fide, who likewise numbers among his flock a small society of Roman Catholics in the adjoining district of Purunnah.

A Mohammedan college exists in the town, but is now in a state of decay. A school was established here in 1823, under the patronage of the supreme government in Calcutta, and is supported by the public money. The object of this school, when first established, was the instruction of young children from the villages, and the extension of the institution, the success of this school was doubtful, and at one time it was proposed to discontinue it; other counsels prevailed however, and the plan adopted was enlarged in 1826, so as to admit the children of persons not attached to the army. In 1830 the school contained 134 pupils, the greater part of whom were children of chiefs from the hills; and as these scholars are quite free from the prejudices of caste, and apply themselves readily to learn the English language as a qualification for their appointment to the native courts, there is every hope that the institution may prove instrumental towards the civilization of the people to whom these scholars belong.

The few houses in the town which are inhabited by Europeans are handsomely built, and the Mohammedan mosques and also other public buildings, but with these exceptions the dwellings are of a mean character, and are generally scattered about without order.

About a mile north-west from the town there are two
round towers, supposed to be of Jain origin, which are considered sufficiently holy to be the objects of pilgrimages. [See JAIN.] Many natives visit them from a considerable distance, and for their accommodation a building has been erected near the spot by the rajah of Jeypoor, who numbers many students of the Jain sect among his subjects who visit them.

Bogotap is 110 miles north-west from Medellin. (Report of Committee of the House of Commons in 1835 on the Affairs of the East India Company, Public Section, Appendix.)

BOGOTA', or, as it was called till lately, Santa Fé de Bogotá, was the capital of the Spanish vice-royalty of New Granada up to 1811, then to 1819 of the republic of Cali, and afterwards of the republic of Colombia, and since its dissolution in 1831, the metropolis of the new republic. It is the seat of a archbishop and of a bishop, and is about 74° 10' W. long. Bogotá was founded by Quesada in 1538.

This town is situated at the foot of two lofty and rocky mountains, Montserrat and Guadalupe, which belong to the range which forms the western coast of South America, and are the affluents of the Rio de la Magdalena from those of the Orinoco; these mountains completely shelter the town from easterly winds, and supply it with water. Bogotá is slightly elevated above an extensive plain which lies to the west of it, and which measures about 48,000 square miles from south to north, and nearly as much in the other direction. This plain, which is surrounded by mountains which rise to a considerable height, is nearly 8640 feet above the sea.

The soil is very rich, but by far the greatest portion of it is devoted to the cultivation of tobacco, indigo, and other marigolds, or swamps; only that part which immediately joins the town is partly cultivated and partly formed into Potreros, or places for grazing cattle. The river Bogotá, or Funa, from which the town has received its name, winds through the northern end of the plain, at the distance of nine or ten miles from the town.

The climate of this plain is very temperate, the thermometer seldom rising above 60° or 65° in summer, and falling in winter to 40° or 45°. At the town it is only 2° from the equator, the mildness of the climate must be ascribed to its high elevation above the level of the sea, and in some degree also to the heavy rains. There are two rainy seasons, one during the months of April and May, and the other between September and the end of December. During these months the rain is nearly continual.

In June, July, and August the weather is unsettled and showery, and only from the beginning of January to the end of March it is rather dry. Plains with small elevations or islands on the sea are generally a very dry climate, and rather suffer from want of rain; the difference observed in the plain of Bogotá is to be attributed to its comparatively small extent, and the great elevation of the mountain-ranges which surround it. Bogotá is therefore not unhealthy. Epidemic diseases are unknown, and Europeans commonly enjoy good health, after having had on their arrival a fever for a few days.

Like many other towns built by the Spaniards in America, Bogotá presents the figure of a cross, of which the principal square and church form the centre. The streets are narrow, intersect one another at right angles, and are tolerably regular. All of them are paved, and the principal have footpaths, where the passengers are sheltered from the sun by projecting canopies. A steady stream of water is constantly flowing through the middle of the streets. The principal street, Calle Real, is well paved, and built with the greatest regularity. At the extremity of it is the principal square, where on Friday market is held. One side of the square is occupied by the palace, the other side by the custom-house, the cathedral, and its offices. The other squares also are spacious, and all of them are ornamented with fountains. At night the streets are imperfectly lighted by a few lamps placed at the corners of them.

The market-place is well supplied with every kind of provisions, especially fruits and vegetables, and those of Europe are mingled with others peculiar to America. At one place are seen hampers full of strawberries, apples, and peaches, and at another pine-apples and quinces; at another, heaps of cabbages, carrots, and potatoes, by the side of yuccas and bananas; between sacks of maize, barley, and wheat, are piles of cocoa and loaf sugar. In one place are sold various medicinal herbs gathered by the Indians in the mountains, and not far from them pinks, roses, and jessamine.

As Bogotá is subject to frequent earthquakes, most of the houses consist of one or two stories only; they are built of baked bricks; the greater part are covered with tiles, and the exterior of them is painted a greyish colour. The Spaniards adopted the mode of building houses which they inherited from the Arabs of North Africa into all the large towns of America, and consequently the houses in these places more resemble those of Morocco and Algiers than those of England or France. The front wall presents only three windows of different dimensions, without glass sashes, and defended by large iron or wooden bars. Two gates and an intervening passage lead to a spacious court-yard, which is surrounded by a projection of the roof and a gallery when the house is of two stories, and by a guard-house if it is of two stories. Round this gallery is a long suite of rooms, which receive daylight only through the doors. The kitchen, which commonly occupies a corner of the court-yard, is spacious, less on account of the quantity of provisions cooked than the number of useless servants who assemble there. There are no chimneys, stoves only being in use.

The furniture is simple. The use of carpets is general; the ancient straw mats of the Indians however are no longer used by fashionable people, and have been superseded by carpets of European manufacture. There is nothing in the drawing-rooms but two sofas covered with cotton, two small tables, a few leather chairs, after the fashion of the sixteenth century, a looking-glass, and three lamps suspended from the ceiling. The bedsteads are somewhat ornamented, but not finished furniture, and are never used: wooden mattresses are substituted for them.

The cathedral of Bogotá, which was a noble building, was ruined by an earthquake in 1837. It contained an image of the Virgin, which was covered with diamonds and other precious jewels, and was the principal church of Bogotá at the end of twenty-six, are in their interior resplendent with gold. A great number of churches are dependent upon convents, the revenues of which are very considerable. There are nine monasteries and three nunneries: those of the Dominicans and of the Sisters of St. Francis are in San Juan, and were not endowed; half of the houses in Bogotá belong to them. These monasteries are more remarkable for solidity than beauty, and are arranged nearly in the same manner as the private houses.

The palace, which once was the residence of the Spanish viceroys, and at present is inhabited by the president of the republic, is a flat-roofed house; two adjoining ones, much lower, ornamented with galleries, constitute its dependencies. The palace of the deputies is nothing but a large house at the corner of a street, which is let to be used for shops. The senate assembles in a wing of the convent of the Dominicans, which has been fitted up for the purpose.

There are three colleges in Bogotá, all well situated and well built. The principal one, that of the Jesuits, possesses the character of solidity peculiar to buildings erected by that famous order. The majority of the professors are monks or priests. The course of instruction in these establishments consists of the Latin language, philosophy, the mathematics, and theology.

An hospital is dependent on the convent of San Juan de Dios, but it is far from being well managed. The other public buildings in Bogotá are the Mint and a theatre.

The majority of the inhabitants are Creoles. The half-blood Indians and other foreigners are numerous, being alone employed as servants. Mulattoes are much rarer than in the rest of Colombia; the whole number of inhabitants is estimated at 30,000 or 40,000. The inhabitants of Bogotá are mild, polite, and cheerful.

The site of the public walk, which forms one of the principal entrances of the town, is a fine piece of ground, intersected by fragrant hedges of rose-bushes and a variety of wild flowers of luxuriant growth. It is crossed on Sundays and festivals for all classes of society. The other walks consist of open grassy plots and bull-fights, and occasionally the theatre; but more frequently the chance of chance are resorted to, at which bets run as high as 10,000 pistares. The pomp displayed in the religious processions, and the great number of saints' days, greatly contribute to the amusement of the populace.

Bogotá owes its importance solely to the circumstance of its having been so long the seat of government, for which it is well adapted, owing to the ready communication with the
country to the north and east. In three days the town of
Hondorf on the banks of the Rio de Magdalena is reached,
from whence the post generally arrives at the coast in
seven days, owing to the great velocity of the current, which
however delays its return after the rainy season, some-
time twenty days. In six months the convenience of the
establishment of a steam-boat has been projected.
Again, the river Meta runs to the east of the mountains
which stand at the back of the town. This stream falls into
the Orinoco, and thus gives facilities for sending information
down the river. (Humboldt; Mollien's Letters from Co-
lombia.)

BOGWANGOLA (BHAGAVAN GOLA), a consi-
derable town in the district of Bogipire, on the right bank
of the Ganges 24° 21' N. lat., and 88° 29' E. long.; about
cast of the N. E. point of the mouth of the river,
considerable trade, and forms an important grain market,
from which the inhabitants of the town of Bogipire are princi-

BOHEMIA (in German, Böhmen), also termed Böheim
in many ancient records, derives its name from the Boi,
who once occupied the parts about the sources of the
Elbe and Moldau. It now constitutes a kingdom, with
the island Bohemia Proper, the margraviate of Moravia, and that small portion
of the duchy of Upper Silesia, which was not ceded to Prussia
under the treaty of Hubertusburg in 1763. The margraviates of Upper and Lower Austria, Moravia, and Bohemia Proper, until the treaty of Prague in 1635 transferred them to the electorate of Saxony. The details which we
are about to give will be confined to the territory generally
known by the designation of Bohemia; which is an irre-
gular quadrilateral in the S. E. of Germany, extending north
between 48° 52' and 51° 2' N. lat., and 12° and 1° 66' E. long.; it contains a superficies of about 30,000 square
miles, or 12,606,400 acres, which is more than two-thirds of
the area of Ireland or Bavaria. It is bounded on the north
west by the kingdom of Saxony, on the north-east by the
Prussian province of Saxony, and by Austrian and Prussian
Silesia, on the south-east by Moravia, on the south by the
Archduchy of Austria, and on the south-west by the

BOHEMIA is inclosed on every side by lofty and in parts
wild and dreary mountains. On the west side, and from a
point about one-third of the distance between the river and the
sea, one takes a N.E., and the other a S.E. direction. The
first of these ranges, which separates Bohemia from Saxony,
and may be termed the left arm of the Sudetean chain, is

Bohemian Forest mountains, which is wholly of primitive formation, and
characterised by naked and precipitous features and deep ravines.
Towards Bavaria its slope is extremely abrupt, but on the Bohemian side the descent is gradual, and the highest
points are the Heidelberge, whose summit forms a
spacious plateau, at an elevation of 4622 feet, the Kubani
or Boubin, 4496 feet high, the Rachel (which some however
place in the Bavarian territory), 4394 feet, and the Disch-
seeburg. Bohemia is also intersected by several ranges of inferior

The interior of Bohemia presents an undulating surface,
very frequently studded with high and pointed eminences,
but with a general slope towards the centre of the country. The most extensive plains are in the provinces of Königgratz and Chrudim, from Neustadt to the Nassyberg mountains. The country is full of valleys and mountain passes, among which we may mention the delightful valleys of the Elbe and Beroun; but the deepest is the Riesengrund or Gunt's Glen among the Giant Mountains. From Zippe's Survey it would appear that the whole of the mountains which arise in the valley of the Elbe form a range of mountains in the exception of two points, the one in the north where the Elbe quits Bohemia, and the other in the north-west, about Braunau and Trautenaun, which are of a later formation. A very extensive formation of sandstone is observed in the hills near the confluence of the Elbe and Teplicz. A remarkable mass, the Steinwald, near Aderbach, which is nearly five miles in length and above a mile in breadth. It stands at some points in compact masses, and in others is shaped into lofty columns, pyramids, cones, and, forming irregular, are surrounded by the coniferous forest. After the west of the coniferous forest there is a more particular mountain range, the Giant Mountains, which is remarkable in the neighbourhood of Josephstadt and Königgratz. It forms in many parts a rich alluvium by the overflowing of its banks, and quits Bohemia after a course of 150 miles at Herrenkretscham, near Schan dorf, where it enters the kingdom of Saxony. Its sources are 4260 feet above the level of the sea, while its bed, at the point where it leaves the Bohemian territory, is not more than about 287 feet above it. Its principal tributaries within the borders of Bohemia are the Moldau and Eger. The Moldau rises in the swamps of the Steck Morava, and the Bohemian Forest Mountains, close upon the confines of the Bavarian bailiwick of Wolfstein; it first flows S.E. and when it has reached Rosenberg at the southernmost extremity of the kingdom, takes a northerly direction through the valley of the Moldau, and falls into the Elbe near Melnik after a short bend to the east. The Moldau, termed the Vitawa by the natives, runs for about 286 miles before its junction with the Elbe: it generally runs between steep banks, and at its confluence with the Elbe is nearly as broad as the river; and its current is impeded by the woods of the Ledebur to Prague, its length is about 130 miles, and from Prague to Melnik about eighteen. Its breadth at Prague varies from 250 to 286 paces; its height of its surface, which is 1311 feet at Krumpau, declines at the bridge in Prague to about 229. In wintertime, called the Chief of the Bohemians, rises on the east side of the Fichtelberg in the Bavarian circle of the Upper Main, whence it soon after enters Bohemia and flows eastwards for about eighty miles until it joins the Elbe on the west bank near Theresienstadt. Tributaries of the Moldau, the Elbe, the Eger, and the Kolo, which rises near Königgratz and skirts the principal of Glatz in Prussian Silesia for a short distance, the Mettau, which flows from the vicinity of Josephstadt, and the Iser, which descends from the S. slope of the Giant Mountains, not far from Brandis, and the streams that join the Moldau are the Luschnitz, which flows from the neighbourhood of Moldautein, the Wottawa or Watawa, which flows from the Bohemian Forest Mountains, and for some distance first bears the name of the Widra, the Sazawa or Carpathian; the Moldau then flows near Harau, or Berauanka, which rises near Königssalz. The whole drainage of Bohemia finds an outlet through the narrow pass of the Elbe at Herrenkretscham. As this outlet, independent of its confined width, bears evident marks of violent dissection, it is not surprising that fresh water, walled in with mountains, it has been conjectured that the whole of Bohemia must at one time have formed an immense lake, which has been drained by a disruption taking place at the point where the Elbe ceases to be a boisterous stream. Among the numerous falls of water in Bohemia the most interesting are those of the Elbe, of the Moldau across the Devil's Wall, and those in the vicinity of Neuvald. Though full of small pieces of water, Bohemia has no lakes large enough to meet the wants of the people, particularly the Servina swamp (or Gezeera), between Břír and Postelberg, and the Slatina swamp near Doran on the Eger: a considerable portion of the first of these has lower drained and converted into pasturage land. The river Moldau is navigable in the rainy season only for vessels of 100 tons burthen; but it is of great importance to Bohemia in the production of its riches, and it is in great repute. A recent enumeration of such as are publicly known amounts to upwards of 160: at the head of the ferruginous springs are the Franzens brunnen, near Eger, the three springs at Marienbad, and that at Gies- sberg; and among the most celebrated is the Franzens brunn in the Giant Mountains, which is the only one of Corbel and Teplitz, one at Marienbad, and others at Bilin, Liebenwaid, and there are bitter waters at Sleditz, Saitzschitz, and Pula; sulphurous springs at Teplitz, Soberschitz, &c.; aluminous and vitriolic springs at Stecknitz, Mochenau, and there is a spring called the acid springs at Schlan and in other places. The virtues of the springs of Carl-bad, as well as the beauty of the adjacent scenery, have placed that spot at the head of the baths of Germany, and acquired for it the name of the Pearl of Bohemia; the yield 154,000 litres 222,500 gallons in an hour, of which the Springer alone yields 2473 gallons. The temperature of some of them at the moment of their first emission is not less than from 59° to 60° of Reaumur (about 140° to 142° of 22° Fahr.). From the original baths at 19° (59° Fahr.): the Franzens brunnen near Eger not more than 9° or 10° (34° Fahr.). The whole quantity of mineral water exported from the Bohemian springs in the year 1825 was 232,320 quarts. The interior of Bohemia and its remoteness from any coast, for it is nearly equidistant from the Baltic and Mediterranean, give it a clear and salubrious atmosphere and general constancy of weather. The climate naturally becomes keener and blinder as the chains of mountains which encircle Bohemia rise in height. The regions about Gottesaib (God's gift) in the Ore Mountains are considered the coldest in Bohemia, and there are few months of the year in which there is not need of fire; nor will grain ripen in them. In the Bohemian Forest range, the climate is more variable, and in winter the snow does not disappear until the middle of April, as well as in those parts of the province of Budweis which are saturated with moisture, there are many districts, in general covered with woods or forests, which are not habitable. From observation it appears that the mean temperature at Prague is 17° 17° of Reaumur (47° 47° Fahr.) whilst on the elevated site of Re- berg it is not more than 4° 4° of Reaumur (12° 12° Fahr.). In the neighbourhood of Reichenberg, where the harvest is two or three weeks later than in the low country, the highest degree of temperature has been known to be 43° and the lowest to the severest degree of cold —6° (18° Fahr.). The prevalent winds blow from west to some points north, and from west to some points south. The winds from these quarters, according to Diak's observations, invariably bring dry weather with their low pressure, but in summer, when the winds blow from the north, the mists and fogs, by their point of departure in summer, the finer the weather. In winter it is precisely the reverse, they being usually accompanied by rains and thaws. On the other hand, the nearer to the north their point of departure, the more frequent are the storms and the more violent are the storms by which they are attended.

The soil of Bohemia varies considerably in productiveness, but it is nowhere entirely sterile except in certain parts of the Bohemian Forest, on the Ore, and Giant Mountains, those lands alone along the line from the Moldau to Kunieritzerbege to Königgratz, which are coated with sand, and in some of the districts where swamps abound. The rest of the low land is in general rich and productive, particularly the province of Suazit. No soil in Bohemia is more fertile than that of the Moldau, especially along the site of large sheets of water, its deep black loam being highly favourable to the growth of wheat, rye, and barley. Bohemia produces almost every description of grain and pod seeds, but not much maize: the quantity of arable land is about 1,583,000 hectares, yielding an average yearly crop of wheat amounting to 2,586,000 Imperial bushels; of rye, 24,430,000; of barley, 11,020,000; and of oats, 32,035,000; among other productions are nuts, potatoes, vegetables, liqueur-root, chicory, excellent hops, &c. Flax is grown in every province, but of various
quality, and hemp is raised in some few quarters; rape- seed is also largely cultivated for the sake of the oil. Fruit abounds to an extraordinary extent; the standing crops are
obtained in one, excepting the vicinities of the Elbe and Molau, which yield annually about 392,000 gallons. The
border mountain ranges, from which however some of those which adjoin Moravia must be excluded, contain rich sup-
plies of waterfalls the water power of which is prodigious, renders those supplies no longer so abundant as in former
times. Mosse, particularly the Iceland sort, herbs, grasses, and
medicinal plants, many of them of rare occurrence else-
where, are plentiful in the mountain regions.

Bohemia is more mountainous than some of the larger
granite, and sandstone; precious stones, particularly the celebrated Bo-
heimian garnet or pyrope, rubies, sapphires, topazes, chry-
solites, amethysts, cornelians, chalcedonies, and agates;
limestone, beautiful marbles, porcelain earth, slates, potter's
clay, and a large variety of serpentine, basalt, porphyry, &c.
The mountain districts yield gold and silver, quicksilver, tin, lead, iron, bismuth, zinc, cobalt, arsenic,
manganese, nickel, chrome, &c. Of salts Bohemia furnishes
natural alum, natron, several kinds of vitriol, and almost
every variety of the uses of salt from mineral springs; and
as common salt is extracted from some of the springs, it
has been inferred that beds of rock-salt exist in some
quarters. Considerable strata of sulphurous slate, as well as
coals, have been found, and in some directions peat-turf
is obtained.

Bohemia has a very superior breed of horses. This
breed, though not of large size, has undoubtedly the advan-
tage over that of any immediately adjacent country from its
courage and spirit; from these three words only is derived
the sum of 140,000. The cattle of Bohemia, amounting to
about 244,000 oxen and 651,000 cows, is not adequate to
the home demand. The native race is in general small and
of inferior shape; and, on account of the insufficient sup-
ply of large imports are made from Poland and Moldau. The
sheep, of which there are about 1,500,000
beads, afford excellent wool. The stock of goats and swine
is abundant. Poultry, particularly turkeys and geese, are
reared everywhere; honey and wax are produced in all the
provinces, but the clover and pasture have Malta been
inhabitants where the population has increased, but no where in so
marked a manner as in the "Giant-mountains;" it cannot
however be termed scanty; and Bohemia still possesses stags,
deer, hares, wild hogs, pheasants, and partridges in abun-
dance. The valleys contain springs, such as springs, and
and lynxes, continue partially to infest certain districts, chiefly
those adjoining the "Bohemian-forest mountains."
The fox, marten, pole-cat, weasel, and squirrel also inhabit
the Bohemian woods. Birds of prey abound. Considerable
supply of birds is also obtained from the birds of prey; but, from the extensive, productive parts of this
country; amongst these is the salmon, which finds its way
from the North Sea into the Moldau and Wottowa. The
mountain-streams are full of trout; and eels and cat-fish are
plentiful in the lakes, and the peal of the church bells, from which the nourishment is extracted, which are also obtained
in the Wottowa and White Elster, near Steingriin, in the
district of Eger.

We have already given a statement of the present popu-
lation of Bohemia, which amounts to 3,908,275 souls. To
this amount about 30,000 military and persons connected
with the military establishment must be added; so that the
actual number of inhabitants is about 3,932,000, or about
195 to every square mile. There has been a progressive increase of the population which has been from the subsequent data. In
1785 they amounted to 2,716,084; in 1795, to 2,879,793; in
1805, to 3,263,379; in 1815, to 3,142,450; in 1825, to
3,329,192; and in 1831, to 3,888,828, of whom 1,548,530
were males, and 2,040,298 were females. In the sixteenth
years between 1815 and 1831, therefore, the increase was
746,378, or 46,648 per annum; in the six years between
1825 and 1831 it was 359,636, or 59,939 per annum; and
in the two years 1832 and 1833 it was 74,047, or 37,073
per annum, a diminution which is ascribed to the diminu-
tive effect of the state of war which prevailed during a part of the
year 1832. Of the present population about one
third lives in towns, and the remainder form the rural popu-
lation. The total number of houses in 1834 was 555,448,
which gives an average of 7-5 souls to each house. Bohemia, with the exception of the capital, contains no town of the second or third rank; none
of which the population is between 50,000 and 100,000
or between 15,000 and 50,000; and it has but twelve even
of 10,000 inhabitants. The number of ecclesiastics is 4107, or about 1 to every 950 souls, and of persons of noble blood, 2134, or about 1 to every 1829. We may here remark, that the population is comparatively greatest in those parts where the soil is by no means the most fertile, or where the land is most inhabited by the Slovaks and their brethren in Moravia, they are descendants of the Lechi or north-western branch of the
Slovakians, who were the first to cultivate and refine their
native language. The Czechs are passionately fond of
music and singing, and as they are confirmed in their intel-
ligence and strength of memory. Next to this race, the
Germans, who are about 900,000, are the most numerous;
they chiefly inhabit the districts bordering upon Prussia,
Bavaria, and Saxony, and spread themselves from the pro-
vincial districts of Prussia eastwards to the Danube, in
Mermer and Bidschow or Biczow, as far as that of König-
igratz. In mechanical and mercantile pursuits they are supe-
rior to the Slovakian inhabitants; and their language has
taken the leading place of the other dialects throughout the country. The Jews, who are not to be found 62,000 or over 72,000 (they did not exceed 3600 families), appear from the inscrip-
tions on several ancient tomb-stones to have been settled in
Bohemia as far back as the first century; their principal
occupation is trading and money transactions; most of the
brandy distilleries and many breweries are in their hands,
and they generally rent the government potash works. At
Prague there is a colony of Italians who settled there in
early times, and are exclusively employed in trading.

The premature death of the inhabitants is not so great
as in many other countries, and longevity is of frequent occurrence. The average proportion of the deaths to the whole popu-
lation is 3 in every hundred souls, which includes the mor-
tality of the capital: in the low country it does not exceed 1
in 39.

The Roman Catholic religion is professed by the ma-
Jority of the inhabitants. The secular clergy consists of the
metropolitan archbishop of Prague, the three bishops of
Prague, Riga, and Lignitz, and the seven suffragan bishops,
and twelve prelates; and the affairs of the Bohemian church are conducted by the metropolitan and the three above-
mentioned bishops. There are chapters and collegiate bodies composed of provosts, deans, and members of chap-
els (canons) and other clergy of the diocese of Prague,
and the other two provinces. The remaining members of the
establishment comprehends 7 provosts, 11 archdeaconies, 133 deaneries, 1197 benefi-
cies or cure of souls, 83 parochial administrations (tparr
administrationen), 340 ministries (locaten), and 82 presbyter-
ships (expostureit). Considerable limitations have been
imposed on the regular clergy, who still possess 75 mos-
staries and 6 convents, including an English sisterhood.
The Protestants are most numerous in the north-eastern
parts of Bohemia; but there are none in the south-western:
they are confined to the cities. They are chiefly Protestants in the city of Prague, and some Protestants are
found in the city of Bohemia, and in the city of Bristow. Others of his cast had long before him affirmed that Boh-
emia was nothing less than Judaea itself, the land of Sion and Bethlehem, Tabor and Emmaus, Horeb and Jerusalem; and even one of them even deemed a remnant of Adames subs-
ists even at the present day.

The houses of the Bohemians possess in general few
claims to elegance of structure, or even comfort in their arrangement; and there is scarcely a town which is not ill built and badly laid out. Places of any magnitude are usually constructed of stone, but here and there of slate; in the agricultural and mountainous districts, the houses are rapturously detached from the other material of the wood. The whole number of families in the year 1830 was 876,633.

The Bohemians may be described as being, with few exceptions, a peaceably inclined and religiously disposed race of men, devotedly attached to the government under which they live, and brave and resolute under the endurance of hardship; they are remarkable for hospitality and kindness towards the needy and afflicted. The moral condition of the people too is good, as may be inferred from the average of offences which were the subject of investigation or trial during the five years 1826-30; during this period, on an average, 2579 cases per annum, which did not exceed 1 every 1428 individuals. The number of illegitimate births amounted in 1829 to 16,509, of which 8442 were males and 8067 females; every eighth birth occurring under this description. The annual average number of births for the period of thirty years between 1786 and 1814 was 126,879; and for the fourteen subsequent years (1815 to 1828) it was 143,087. The average of deaths for the first-mentioned period was 106,399; and for the last-mentioned, 106,299. With respect to marriages, the number of those celebrated between 1785 and 1814 was 94,069; and between 1815 and 1828, 77,387.

The cultivation of the soil is susceptible of great improvement. The great mass of the peasantry are held in servitude, and have little interest in the products of their labour. The land is not owned by the cultivators; in fact, agriculture is in the hands of the nobility and a few free peasants, who are proprietors of the actual labourers on their estates, and exact heavy service from them. Owing to the inadequate supply of fodder for horses and cattle, that is an insufficiency of manure. The whole extent of available soil is estimated at about 11,106,090 acres (7,774,264 Vienna yochs); the remainder consists of rock, marshes, tracts of sand, roads, and paths. In some parts the produce of the land is tolerably abundant; for instance, in the province of Silesia, the vicinity of Prague and on the Bohemian prairies, to which extent is the greatest in all the northern provinces, with the exception of the districts about Eger, where the people appear to entertain an extraordinary aversion to it; its extension and improvement have been essentially promoted by the encouragement given to agriculture in Saxony and Silesia, is said to amount to about 300 tons annually. Among dyeing plants the chief is madder-root, which are raised in large quantities around Solmitz and Liboch. Bosnia is celebrated for its excellent kind of hops, of which the produce is considerable; those grown in the province of Saatz, and next to these, the hops cultivated in the provinces of Rakonitz, Bunzau, and Pilsen, are in highest esteem. The quantity exported appears to vary between 16,000 and 20,000 cwt. annually. A reason to believe, was much more extensively cultivated in former times, but at present; but the climate is undoubtedly unfavourable, and hence the surface devoted to its cultivation is not more than 6400 acres (4481 yochs), of which, as before observed, does not exceed 392,000 gallons. The Burgundy grape was transplanted to the neighbourhood of Mellick about the year 1348, and the wine derived from it in favourable seasons is accounted little inferior to the parent-juice. An ordinary kind of sparkling champagne, called "Cerneseker," is made near Ausig; but the other descriptions of wine produced near Prague, Bechlin, Kaudnitza, &c., are but of indifferent quality. The demand exceeds the supply of the other kinds of wood. The quantity of the precious metals has declined, the whole annual supply of these mines, which is estimated at 231,000, has not fallen off in value. The quantity of gold and silver, now principally got near Pribram, Jaschmuthal, Rule, and Suedling, in the years 1826-28, was considerably compared with what was obtained in the sixteenth century, when the mines yielded as much as 1,090,000 marks, or about 9,517,300 ounces of silver, up to the year 1589 alone. Between the years 1765 and 1717, however, the produce of this metal into the public mint was not altogether more than 264,708 marks, or about 2,988,000 ounces, and in 1827 the annual production had sunk to 1292 marks. Quicksilver has hitherto been found only in the form of cinnabar; the copper mines have ceased to be productive, and are abandoned; these of tin (and it may be here observed that Bohemia is the only part of the Austrian dominions where tin is found) have likewise been deserted, that between the years 1817 and 1828 their annual produce fell from 1844 cwt. to 679 cwt., and the working of the mining has been abandoned by the government to private individuals. The lead mines, principally situated about Pribram, Mise, and Bleiswalt, in the year 1825, were abandoned; these produce in 1825 consisted of 14,168 cwt. of lead containing silver, 15,023 cwt. of pure lead, and 10,904 cwt. of litharge; making in all 43,094 cwt. Lastly, the iron mines, the production of which lies in the province of Narentin, in the province of Beraun, in that of Pilsen, employ about eighty furnaces and 6000 hands; and have increased since the year 1825 from an annual produce of about 7800 tons to about 17,500; but the article is inferior to the German and Italian quality. Quantities of coal are produced in both parts of Bohemia; and there is a nearly a province which is not supplied. Marble is obtained at Steiner; sandstone in several places; the Przilpe, Breitenstein, and other quarries, yield excellent mill-stones; large quantities of basalt are used in building and paving at Parchen, Rosau, &c.; quotas of superior quality are got at Böhmisch-Aicha, Weisswasser, Giesbürgel, and elsewhere. Among the precious stones found in Bohemia, the celebrated garnet, which is equal to that of the East in brilliancy, and superior in lustre, is found in the county of Swetiuau in the province of Czasalau, and Dalschau, in the province of Loitmeritz. The produce of the coal-mines has greatly increased in the last years in consequence of the increasing price of wood, particularly in the northern provinces, where the quantity of wood consumed each year 1825-28 rose from 45,900 to nearly 80,000 tons. The southern parts of the province of Rakonitz, in particular, furnish a coal of very superior description. Graphite or black-lead is found in considerable layers near Krumau and Svjejann and is extensively worked; but is far inferior to the English. About 4900 cwt. of copper is annually obtained, and vitriol and sulphuric acid are prepared from the residua.

Bohemia is one of the most manufacturing provinces in the Austrian territory; and the northern provinces, especially those on the borders of Moravia, Trutnau, where the rawness of the climate, or an indifferent soil is unfavourable to agriculture, are the principal seats of manufacturing industry. The glass of Bohemia has been in repute for its cheapness, lightness, and durability ever since the thirteenth century; although its product has sensibly declined in modern times, it still employs nearly sixty works, and about 4000 hands, and keeps a capital of 800,000L. and upwards profitably engaged. The best manufacturers of this article are at Neuvard and Novisenda; and the finest articles are at Neuvard and Novisenda are highly polished and cut glass. The best mirrors and enamelled wares are produced at Neuhurkenthal and Bürstein. The cultivation and working up of flax constitutes a chief means of subsistence among the inhabitants of the highland districts. Many parts of the districts adjoining the northern and eastern ranges of mountains form one continued manu-
factory of linena, in which thousands of humble cabins per-
etually resound with the noise of the Jenny or loom; 300,000
hands at least (a considerable proportion at their leisure
hours only) are employed in the manufacture of
yards of plain and figured linena in that of linena 1100
individuals depend on the making of tapes and ribbons,
and full 20,000 on lace-making. The yearly value of
the several products which their united industry supplies is
estimated at 1,200,000fl. sterling. But this branch of
manufacture is on the decline, in consequence of the progress
in making in that of cottons. With regard to the last, much
twist of the inferior numbers is spun by machinery and at
near Neumarkendorf, Wernstedt, Rothenhaus, Joachim-
thal, and Schönlinde, &c, but the higher numbers are im-
ported from England and sold under the name of English
weaving of plain calicis, of which the annual value is esti-
mated at 300,000fl., is principally carried on in the provinces
of Leitmeritz, Bnitzlau, Elbogen, and Biczow; the finer
directions, to the extent of about 250,000fl. a year, are
manufactured in the same quarters, as well as earlagen
and cotton-printing, which has greatly advanced of late
years, is best done at Cosmanos, Reichstadt, Jung-Bnitzlau,
and Prague. The number of pieces made throughout
Bohemia is said to be upwards of 100,000, over and above
what is produced by machinery and the manufacture of
all kinds employ about 20,000 hand-spinners, and be-
tween 9000 and 10,000 weavers; these however are in-
dependent of about 18,000 individuals who are employed in
making hosiery, the yearly value of which is estimated at
150,000fl. And of these a very large number, particularly
that at Landakron in the province of Chrudim, are on an extensive scale; the quantity of cottons
bleached by all these establishments is computed to amount
to 40,000,000 pieces of twist, 200,000 shocks of linena, and
100,000,000 yards of muslins, sacs, and plain calis, at 160,000fl.
per annum. The potash manufactories employ
about 6000 hands, and the annual value of the article pro-
duced is about 200,000fl. Large quantities of worsted stuffs
and woolens of an inferior quality are made, and those
stocking-manufactures employ about 8000 hands, and are
manufactured to the extent of about 500,000fl. or 600,000fl.
yearly value, and 60,000 cwt. of the raw material; of these
nearly one-half are made in the province of Bnitzlau, in which
lies Reichenberg. From these we have our best and finest
woollen descriptions of Bohemian wools. It has been esti-
mated that the trade in wool and woolen manufactures affords
subsistence to 70,000 individuals and upwards; namely, about
35,000 spinners, 11,000 to 12,000 weavers of piece-goods, 3000
weavers of linen, and all kinds of stockers and
stocking-makers. Of silks the manufacture has hitherto
been inconsiderable, and it is almost wholly confined to
Prague. Leather and manufactures from it give employment
to about 4000 hands, and the value of the articles pro-
duced may be estimated at about 400,000fl. a year.
The manufacture of china has been brought to
much perfection at Slagggenwald, Elbogen, Pikenstein,
and in other places; and that of earthenware is carried on
in several parts of the country. Iron wire is made to the
extent of 100,000 tons at nearly 2,000,000fl. sterling a year.
and it has two lines of iron railways, the first
constructed in Austria on a large scale; the one running between
Budweis and Linz, and the other, which is ninety miles in
length, between Pilzen and Prague. Much benefit has ac-
curred to the country from the establishment of a permanent
exhibition of native productions and manufactures, as well as
the recent foundation of a society at Prague for the pro-
motion of national industry.

The intellectual wants of the people do not, on the whole,
appear to have been neglected. The national schools con-
sist of a normal seminary for educating teachers, 49 head
schools, and 2556 common schools, of which 2500 are Roman
Catholic, 36 Protestant, and 20 Jewish. For the higher
branches of education Bohemia possesses a university at
Prague, 26 public schools, three philosophical, and three theological seminaries, a polytechnic institution,
an academy of painting, a conservatory of music, several
military schools, and other establishments. In Prague there
is an academy of the arts and sciences, the only institution
of the kind in the hereditary dominions of the house of
Austria, and an economic patriotic society, which has done
much for the encouragement and improvement of agri-
culture.

The civil administration of the country is vested in a cen-
tral government, subordinate to the higher authorities in
Vienna; its seat is Prague, and its president is styled the
superior burgrave. Judicial affairs fall under the superior
cognizance and control of a court of appeal and bench of
criminal justice in the same capital.

BOHEMIA.**

* * *

Bohemia, Forest of, called in German Böhmer-
wald, and by the aborigines of Bohemia or Czechs,
Bohemia, or Bohemian, is the most forested
part of the empire on both sides of the Danube, and
separates in the greatest part of its course Bohemia from
Bavaria. Its direction is nearly N.W. and S.E.

It commences at its north-western extremity near the
place where the Rhine parallels it, by the meridian of
12° 20', to the south of the town of Eggenburg, by
which it is divided from the neighbouring Fichtelgebirge
is upwards of 1500 feet above the level of the sea. In this
depression rise two torrents, the Wondra, which running
towards the south-east for about 40 miles, then flowing
south-west empties itself into the Naab. The
range terminates at its south-eastern extremity with the
hills which advance close to the banks of the Danube oppo-
site the town of Linz in Upper Austria, where the surface
of the Danube is still about 830 feet above the same
line.

This mountain-ridge is very distinctly marked on its
south-western declivity, where it descends very abruptly
towards the table-land of Southern Germany, which is at
a mean upwards of 1000 feet above the sea; towards its
northerly extremity it is less abrupt. In the vicinity of
Linz, it slopes down by a continuation of hills. The north-
theastern declivity towards the course of the Moldau and
Elbe rivers is not abrupt; and here several lateral ridges
detach themselves, and gradually sink as they approach
the banks of the Moldau and Elbe.

The principal ridge, which extends about 112 miles, does
not rise to a great height. The northern half presents on
its summit extensive flats, overtopped here and there by
some hills, which never attain an absolute altitude of more
than 2500 feet above the sea. The southern extremity is
640 feet above the same line; and some summits attain the elevation of the highest mountains in Scotland. Mount Heidelberg is the
highest, and rises to 4622 feet; Mount Kubani to 4496;
Mount Arber to 4582, Mount Rachel 4394, and Dreises-
berberg to 4044 feet. The last mountain is on the boun-
daries of Bavaria, Bohemia, and Austria.

The lateral ridges which branch off to the north-east are
much lower and do not contain any lofty summits, but
some of them are of considerable extent; such particularly as the ridge which extends about 7 miles, from a
range where the high summits begin to rise, and which
fills the country between the Wollinca and Beraunca rivers
with high hills. This ridge is called Brdy-Wald. Farther
south is the Listi-Wald, which afterwards declines more to
the south, and entirely fills the country which the
Moldau forms in its upper course. [El.]

The breadth of this range averages only from twelve to
sixteen miles, yet it opposes great obstacles to the inter-
course between the countries along its sides, and account
of the steppes of its south-western descent, its narrow plateaux, and its rugged valleys, which are sometimes covered by a mantle of snow for a long time. The region is the most northern, which traverses the pass of Tirschenreuth, runs through the depression at its northern extremity, and connects the town of Eger with Ratisbon. Farther south is the road which connects Nürnberg with Pilsen, and is also the road of Silesia to Bohemia. The road from Ratisbon to Pilsen runs through the pass of Waldmünchen. From Passau two roads lead to Bohemia; one terminating at Klettau traverses the pass of Eisenstein, and the other leading to Strakonitz, the pass of Winterberg; lastly, the road between Pilsen and Ratisbon runs through the pass of Freistadt. Thus we find that only six roads run over a mountain range extending 112 miles in length, and two of them are at its extremities; they are consequently from twenty to twenty-five miles saunter. The difficulties of crossing these mountains are probably little prevented by the Germans from spreading farther to the east, and maintained the aborigines of Bohemia in the possession of their country and perhaps the Germans would never have entered it, had they not found the other mountain-ranges enclosing Bohemia on all sides. The climate of the inhabitants of Bohemia, which skirts the Bohemian side of these mountains is smaller than in other districts of Bohemia, the population being almost entirely composed of Christians.

Many rivers descend from this range. Some of them go to the Danube, and send their waters to the Black Sea; others fall into the Elbe, and go to the North Sea. Those on the south-western declivity have a short course, and fall into the Danube, which runs as a free stream, at the distance of the Regen, which joins the Danube opposite Ratisbon. On the side of Bohemia the rivers have a longer course. Here rises the Moldau, which is the true source of the Elbe river, and two of its most considerable affluent], the Wottowa with the Welinka and the Beranka. Most of the rivers of Bohemia are mostly composed of primitive rocks. The highest part of the ridge and its most elevated summits consist of granite. Gneiss everywhere accompanies the granite, but prevails in the forest of Budy, where it advances far into the interior of the mountain. Mica-slate also frequently occurs with the same tractive. Trinitic clay-slate frequently covers the granite and gneiss formation.

Though the highest part of the ridge is barren and nearly without vegetation, the lower parts of its slopes are covered with extensive fields of a loamy nature, while as the difficulties of the transport are great, it is impossible to bring the timber to a market, and consequently the forests would be nearly useless but for a fine white sand which is found in many places on the eastern slopes. This has given rise to numerous villages, where chalk is produced and known all over the world under the name of Bohemian, and is preferred to English glass in most countries of Europe.

Metals are found in many places. Native gold is met with at Horkowice in the district of Baram and in several other places, but in small quantity. Some rivers bring gold sand down, which is washed, especially the Moldau, the Saxawa, and the Wottowa. Silver is more abundant and worked with advantage in some places, especially at Przibram, where it is extracted from lead-ore. A small quantity of cinnebar is got near Horkowice. Tin is worked in a few places. Lead is very abundant at Mies, Przibram, and Bleistadt. The iron mines are numerous, and are worked with great industry. Antimony, zinc, and copper are also found.

Some precious stones also occur, especially opals, chalcedonies, and jasper, but the famous Bohemian garnets are not found in this range. Coal is found in considerable quantity on the northern lateral ranges, though they are less frequent than in the north-eastern districts of Bohemia. Great quantities of fine clay, fit for the manufacture of china ware, are found in the neighbourhood of Passau, and sent to many parts of Germany.

BOHEMIA, [Graz].

BOHEMIA, the eldest son of Robert Guiscard, the Norman conqueror of Apulia and Calabria in the eleventh century. After Robert had become duke of Apulia and Calabria, and his brother Roger had made himself count of Sicily, Bohemond, at the instance of his various experiences in Greece near Durazzo. His father returning to Italy, Bohemond remained in Ilyria with his Norman and Apulian army. In 1081, after the death of Emperor Thessaly, and besieged Larissa. At his father's death, in 1085, Roger, Robert's second son, took possession of Apulia and Calabria, and Bohemond on his return from Greece found himself deprived of all share of his paternal inheritance. Nevertheless, in 1087, Bohemond, with the help of the part of his nephew and namesake against Bohemond. A war ensued between the two brothers, which terminated by Bohemond accepting the principality of Tarentum, and leaving his brother Roger in possession of the rest. When the Crusaders set sail for the Holy Land, in 1096, the Crusaders took their way through Italy, and assembled at Bari to embark there. Bohemond, bold and aspiring, resolved upon joining them, and trying his fortune in the East. Being at the time in his brother's camp near Amalfi, the latter, to whom the knights of Bohemond assembled, warlike, painting to them in glowing colours the attractions and the merit of that holy war which was going to be carried on in Palestine; and he succeeded so well, that nearly the whole of his brother's army determined to accompany him. Amalfi, the lord of the Jews, claimed Bohemond for their commander. Roger being thus deserted by his troops was obliged to raise the siege of Amalfi. Both the prince of Salerno, and Tancred, the hero of romance, immortalized by Tasso, and the war-like adventurer of the Crusaders, and the songs of Enrico, son of Robert Guiscard, agreed to follow Bohemond's banner. The Norman and Apulian expedition embarked at Bari, and landed at Durazzo, the scene of Bohemond's former exploits. Bohemond, with a band of knights, took a line of advanced positions near Constantinople, and caused an approach to Constantinople mainly to contribute to induce the emperor Alexis to offer peace terms to the Crusaders. He was introduced to the emperor, who treated him with great distinction, and by his polite behaviour, aided by splendid presents, he prevailed on Bohemond and several of the other chiefs to swear allegiance to him for the conquests they should make in the East. Anna Comnena, the daughter of Alexis, has left a striking portrait of Bohemond. He was remarkably tall and handsome, his eyes were blue, his nose aquiline, his face beauteous, his body large, and his smile soft and pleasing, and he was said to be a very fair-souled man. His virtues were casting down, a deceitful, a despiser of laws and promises. In the arts of cunning policy he appears to have been quite a match for her father. After the capture of Antioch, Bohemond, being master of the town, divided the city into quarters, and gave them to his followers, and became lord of Antioch. The division of the Crusaders, was attacked by a vast multitude of Turks near Doryleum, and his division was mostly cut to pieces, but by his exertions he maintained the conflict until Godfrey of Bouillon came to his assistance and routed the Turks. Bohemond was greatly respected by the Turks, and warned them of the danger. He was desirous of obtaining possession of the town, Bohemond found out an Armenian renegade who enjoyed the confidence of the Turkish commander, and who agreed to introduce him and his men by night within the walls. Taking advantage of this he sent several men to seize the possession of Antioch on the condition that they should bestow upon him the principality of the town. Some of the leaders demurred to this, but the Armenian could treat with Bohemond only; the Christian camp was suffering for want of provisions, and Kerbogha, the sultan of Mosul, was advancing against them with a large force. No time was to be lost, and all the chiefs, with the exception of Raymond of Toulouse, agreed that Bohemond should be prince of Antioch. The following night Pierous, the Armenian, and Bohemond, under the protection of the Turks, when nearly all the Mussulman population was massacred, June, 1098. At break of day Bohemond's red standard was seen flying over the loftest tower of Antioch. The Christians were soon after besieged in their turn by Kerbogha, and after suffering the extremities of hunger they came out to offer the Sultan battle, in which the Saracen and Turks were completely routed, and Bohemond greatly signified himself. When the Crusaders left Antioch in the spring of 1099 for Jerusalem, Bohemond accompanied them as far as Lacedaemon and then returned to Antioch to consolidate his new possession. He afterwards received the investiture of his principality from the patriarch Daimbert at Jerusalem. In an excursion into Mesopotamia he was taken prisoner by a Turkish emir, and remained two years in captivity. Both the sultan of Iconium and the emperor Alexis offered large sums to the emir in order to obtain
Possession of Bohemond, who however continued to persuade the emir to accept his own ransom, although of less amount, and to make alliance with the Christians against the sultan of Damascus. In 1161, he left Antioch and went to Apulia in France, where Philip I gave him his daughter Constance in marriage: Philip's natural daughter Cecilia married Tancred. Upon Bohemond's return to Italy he collected a large force, and sailed from Bari for Durazzo. After several combats with Alexis' forces, he had an interview with the emperor, in which the latter acknowledged him prince of Antioch. Bohemond died in Apulia in 1111, and was buried at Canosa. His son, Bohemond II., succeeded him as prince of Antioch. (See Gibbon, William of Tyre, Maister's Chronicle of Robert Guiscard, and Michaelis, Histoire des Croisades.)

Böhme, or BÖHM, frequently mis-written BEHMEN. In relating Böhme's life we retain the characteristic quaintness of his age.

There is a small market-town in the Upper Lusatia called Alt-Seidenburg (Brucker writes Patel-Seidenburgum), distant from Görlitz about a mile and a half, in which lived a man whose name was Jacob, and his wife's name was Ursula. They were poor, but sober and honest. In the year 1575 they had a son, whom they named Jacob. This son was of an extraordinary birth, being the son of the Teutonic philosopher. His first employment was the care of cattle, but when grown older he was placed at a school, where he learnt to read and to write, and was afterwards apprenticed to a shoemaker in Görlitz. Having served his time, in the year 1596 he took to wife Catharine the daughter of the butcher Johann Hunschmann, a citizen of Görlitz, by whom he had four sons. His sons he pleased honest trades. He himself became master-shoemaker in 1595.

Jacob Böhme relates that when a herdsboy he had a remarkable trial. In the heat of mid-day, retiring from his playfellows he went to a stony crah called the Landskron, and, finding an entrance or aperture overgrown with bushes, he went in, and saw there a large wooden vessel full of money, at which sight, being in a sudden astonishment, he retired in haste without touching it, and related his fortune to the rest of the boys, who, coming with him, sought often an entrance but could never find any. Some years after a foreign artist, as Jacob Böhme himself related, skilled in fables, stories, took it, and by the book much enriched himself; yet he perished by an infamous death, that treasure being lodged there and covered with a curse to him that should find and take it away.

He also relates that when he was an apprentice, his master's son, being a abbe who loved and came to the shop a stranger, of a reverend and grave countenance, yet in mean apparel, and taking up a pair of shoes desired to buy them. The boy, being yet scarce promoted higher than sweeping the shop, would not presume to set a price on them; but the stranger, having imparted, Jacob at last named a price which he was certain would keep him harmless in parting with them. The old man paid the money, took the shoes, and went from the shop a little way, when standing still, with a loud and earnest voice he called, 'Come, Jacob Böhme! take these from the shop a boy of princely birth, and sacredness called, much enriched; yet he perished by an infamous death, that treasure being lodged there and covered with a curse to him that should find and take it away.

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sician, Balthasar Walter, from Silesia, who had travelled in search of antient magical learning through Egypt, Syria, Arabia, &c., where he found such small remnants of it, that he returned unsatisfied, addicted to his own country, where he became inspector of the chemical laboratory at Dresden. Having become acquainted with Böhme, he rejoiced that at last he had found at home, in a poor cottage, that for which he had travelled so far in vain. Walter introduced the ap-

er to Böhme. 

B. Walter went to the German universities, and collected such questions concerning the soul as were thought and accounted impossible to be resolved fundamentally, of which he made a catalogue, being forty in number, and sent them to Böhme, for which he received answers to his satisfac-

tion (which answers are public in many languages). Bal-

thasar Walter came to Böhme and professed that he had received more solid answers than he had found among the best wits of those and more promising climates.

The physician at Görlitz, Dr. Kober, arranged his burial, which was performed with the usual ceremonies, to the due performances of which the clergy were compelled by the magistrates. His friends placed a cross on his grave, but it always remained with new wood. Jacob Böhme's wife died of the plague two years later. One of his four sons was a goldsmith; the others had learned other trades. All died soon after J. Böhme.

He was lean, and of small stature; had a low forehead; his eyes were grey and very sure; his beard was thin and short; his voice low, but he had a pleasing speech, and was modest and humble in his conversation. He wrote very slowly but legibly, and seldom or never struck out and cor-

rected what he had written. 

After Böhme's death his opinions spread over Germany, Holland, and England. Even a son of his persecutor Richer-

bois, being then a merchant's clerk at Thorn, edited at his own expense an epitome of Böhme's works in 8 volumes, and arranged their sheets in a sort of index. The younger Richer became fond of Böhme's doctrines while he at-
ttempted to refute them. He printed of his extracts only about 100 copies; consequently they are now extremely scarce. The first collection of Böhme's works was pub-

lished by Gichtel in 16 volumes, 1690. Four more collections followed, one in 1695, another 1702, the last one in

1738. The works of Böhme were published and translated into Dutch at the expense of and by Abra-

ham Wilhelm van Beyerland, who had bought a complete library of Böhme's works from Count Schuida at the Baumgarten, at Görlitz. Beyerland also procured autograph copies, which he collated for his edition. Beyerland's editions are in 12mo, 8vo, and 4to. More complete than Beyerland's is the edition by Gichtel in 19 vols. 8vo. Amst. 1675. The text is at least as accurate as the editions of the heirs of Beyerland. This was reprinted with Gichtel's manuscript marginalа, Altona, 1715, 2 vols. 4to., and again with a notice of former editions and some additions from Gichtel 's Memorials, 1720. There are some later editions of separate works. The edition, translated into English is that by the celebrated William Law of Oxford, Lond. 1764, in two volumes 4to. Compare also Ja-

cob Böhme's 'Theosophic Philosophy, unfolded by Edward Walter, expressed in the account of the life of J. B. London, 1691-4; Jacob Böhme ein Begründer der deutschen Metaphysik, 1818-8; Jacob Böhme's Werke, Amsterdam, 1620, four volumes 8vo, 1626-8, 1698, and 1730, in ten volumes 8vo. Auszug aus Böhme's Schriften, Amst. 1718, and Francfurt, 1791-8. Also Dutch and German translations. The preacher and physician John Pordage, who had written about Böhme, was born in London 1669, endeavoured to systematize the teachings of Böhme in the following works: 'Metaphysica vera et divina. This is translated into German in three volumes, 1783. 'System der Theologie,' Weimar, 1789-91. 'Deo in omnibus sapientia et dominio universae,' translated into French by Louis de Jaucourt, 1729-90. 'A further Lucorum habitum in monastic and contemplative life,' by Durand Hotham, Esq. 1764, 4to. 'Memoirs of the Life, Death, Burial, and wonderful Writings of Jacob Behmen, now first done at large into English from the best edition of his works in the original German, with an intro-
duction pointing out the late translation of the right use of this mysterious and extraordinary Theosopher,' by Francis Okeley, formerly of St. John's College, Cam-

bridge, Northampton, 1670, 8vo. 

Claude St. Martin, who died at the beginning of the present century, published French translations under the title 'La philosophie mystique de Böhme.' "Des Trois Principes," "De la Triple Vie;" "Des Quantre Questions;" "Censura Philosophiae Theutonice seu epistolae de Bohnio illusorius philosophia in Heur. Mori Oper. omn." (philos.) Lond. 1679, fol. tom. 1, 419 sqq.; extracted with additions in J. J. Oly, J. J. Haer, Hist. Ecc. Sec. xii. Ham-
against those additions
One of the most zealous supporters of Böhme's theosophy was the poet H. Mori, who wrote a poem in his praise, which
that name, which has produced not only political but also
theosophical martyrs. See 'Ad Philosophiam Teutoniam
manu conditum seu determinatio de origine animae humanae,
was an Aedoe cretor et infundator, an a parenibius tra-
ducere et traditum est. His views on the structure of
Schleiermacher, Martiis 3. 1646. A Carolo Rotham socet Petrensi et tune
uno ex procuratoribus academiac. LUND. 1648.'
The following title will show that the disputes about Böhme
became very warm. 'A true state of the case of Mr. Ho-
Böhme, lastly, and of the 25 German academies, and the
reasons of his appeal to parliament against the sen-
tence of those members of the committee for reforma-
tion of the universities, who on May 22 last resolved: the writing
and publishing of his book entitled The Petition and
Aggregate of Reasons and Arguments against the prueba
of parliament, and himself to be deprived of his
Enrollment in that college.' Printed in the year 1651.
Böhme and his followers were especially persecuted by
the clergy, who seemed to deem his writings on theosophical
subjects an infringement of the prerogatives of the clerical
order. The ecclesiastics at Görlitz persecuted Böhme during
his life, and refused to bury his corpse until they were
compelled by the magistrates not to disgrace the earthly
reins of a man who had led a harmless life and always been
useful to them. The early admiring of Böhme were for the greater part not pro-
essional divines, but noblemen, country gentlemen, cou-
tiers, physitianists, chemists, merchants, and in general, men
who were eager in the pursuit of truth, and who did not
stick at the breach of the church's and secular
formalities. The persecutions raised against him brought Böhme first
into the notice of men of rank, who took delight in con-
versing with the poor shoemaker and his followers, while
universities and ecclesiastical courts enacted laws against his
opinions, and his persecuted disciples appealed even to
England to the high court of parliament. Sir Isaac Newton,
William Law, Schelling, and Hegel, were all readers of
Böhme.
William Law, in the appendix to the second edition of his
Textbook of Fables or daubles or daublae Truths of the
Gospel, 1756, mentions that among the papers of Newton
were found many autograph extracts from the works of
Böhme. Law conjectures that Newton derived his system
of fundamental powers from Böhme, and that he avoided
mentioning Böhme as the originator of his system, lest it
should come into disrepute.
Böhme's theosophy consists in the endeavour to demon-
strate in every thing its necessity by tracing its origin to the
attributes of God. Consequently some of Böhme's phrases
sound sounding, and his explanations may have been misinterpreted as being such. Böhme traces
the parallelism between the visible physical, and the
invisible metaphysical world. His comparisons and images
are not the essence of his theosophy, but only illustrative
of thoughts which he commanded the admiration and
approbation of some of the deepest thinkers, while others
are apt to neglect him entirely on account of his errors
in subordinate non-essentials. Böhme forms undoubtedly
an important link in the chain of thought, which connects the present theosophy with the beginnings of former
ages. He often produces magnificent ideas, but he occa-
sionally supports his theory by false etymologies, and by
chemical and astrological notions which have been long
ago rejected. A specimen of false etymology is his deri-
vation of the word qualitat. (i.e. quality) from the German
Qual, i.e. pace, and que, i.e. well, fountain, source.
He has now again many admirers in Germany, but perhaps
no one would approve of this mode of demonstration.
The articles on Böhme in English works are often very
incorrect. The word Böhme (Jacob), a shoemaker, liv'd at Görlitz, was re-
markable for the multitude of his patrons and adversaries.
He derived all his mystical and rapturous doctrine from
Wood's 'Atheo Oxiottines,' vol. 1. p. 610, et 'Histor. et
Ani. Acade. Acad. Petrensis,' p. 308. Wood was
born in 1622, eight years after Böhme's death.
BÖHMISCH LEIPA. [LEIPA.]
BOHODUKHOFF, or BOGODUKHOFF, a town in the
Russian government of Charkoff in the Ukraine, and the
capital of a circle of the same name, is situated on the
Meria, a small river which flows into the Vorskla. It was
built in the year 1657, and is surrounded by rams of
about 1000 houses, and nearly 7000 inhabitants, whose chief occupa-
tion is tanning and preparing leather, as well as working it
up into boots and shoes. Large flocks and herds are reared
in its neighbourhood, and the place accordingly carries on a
very considerable trade. Numerous admirable quantities of fruits and vegetables are also raised
about Bohodukh'off. 50° 10' N. lat. 35° 40' E. long.; 1451
yards (about 987 miles) distant from St. Petersburg.
The circle to which this town gives its name, lies between
and 50° 40' N. lat. 30° 40' and 30° 40' E. long. The
area is about 1140 square miles; above three-fourths of
this area are cultivated by the plough or the spade, and
less than one-seventh part is occupied by woods.
The number of inhabitants has increased during the last fifty
years, from 9000 in 1657, to about 25,000 at present. The
towns: Bohodukh'off; Krhomynsk, a walled town on the
Meria, with five churches, 800 houses, and about 5000
inhabitants; and Solostashe, a walled town on the Uda, with
four churches, nearly 1000 houses, and 2500 inhabitants,
who are actively employed in cultivating grain, fruit,
and vegetables, and rearing cattle.
BOI, a nation of antient Gaul, which made various immi-
grations into Italy and Germany. The district whence they
are said to have originally emigrated is in the ancient
inscription 'L'antique Gaule'), but it would appear that they were near the
Lingones and the Helvetii. They are mentioned as forming part of the first Gaulish emigration recorded by
Livy, Justinus, and others, which set off in quest of new
lands. The Bovii, kald Boves, and the name is that of the
nephews of Ambigius, king of the Bituriges. Belvesesus
went over the Alps into Italy, while Segovesus crossed the
Rhine into Germany, and penetrated to the skirts of the
great Herceyntian forest. The Boii would appear to have
followed Segovesus, and to have settled in the heart of Ger-
many, in the country called after them Boiohemum (Bohe-
min), from which they were afterwards driven away by the
Marcomanni, a German nation, and withdrew south of the
Danubius, to the banks of the Cénaus (Inn), Bojoudrum,
and Odenviriam. They settled near the Danubius,
taking possession of the Truscan city of Felasina, afterwards
Bononia. [BOLOGNA.] The Boii were often engaged in
war with Rome, and they obtained at times advantages over
the Roman arms, but they were finally subjugated by Scipio
Nasica, and part of their lands was taken from them.
As they still continued restless, they were altogether removed by the
Romans and sent across the Noric Alps, when they settled on the banks of the Dravus, near the Scordisci,
some remaining after a few years in the country of the
Graii, who were almost entirely destroyed; and we find in Pline (iii. 24.) a vast tract between the Dravus and the Danubius called
'Deserta Boiorum.'
We find the Boii engaged in the Helvetic immigration
into Gaul in the time of Caes. Whether these were from
some part of their tribe which had remained in Gaul, or
whether they came back from Germany into Helvetia,
is not known. After the defeat of the Helvietians, the
Adiuz begged of Caesar that the Boii might remain among them,
which being assented to, they settled in a district in be-
tween the Ligurias and the Elaver (Allier).
The Boii, from Bohemia, who had settled on the banks of
the Cénaus, became subject to the Roman empire, and formed
part of the province of Vindellinia. During the decline of
the Roman empire to the 16th century, they were
in constant intercourse with the Celts of Boio-
comanni, the Thuringii, and other tribes who occupied their
country, which afterwards took the name of Boioria, or
Boiaria, some say from the united names of the Boii and the
Avari, a Pannonian tribe. From Boiaria the modern appel-
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While recourse is had to these external applications it is indispensable to correct the disordered state of the organs. This may be accomplished by the use of mild alternative medicines: the bowels should always be freely opened at first, and then regulated by gentle unirritating laxatives. At the same time strict attention should be paid to the diet, which should be of the simplest kind, containing no inflammatory or irritative but not stimulating, consisting of a moderate portion of plainly cooked animal food, without fermented liquors, without pastry, and without fruit.

BOILEAU, NICOLAS, SÉUR DESPREAUX, was born at Crussé, near the town of Vienne, in the department of the Drôme, and in Paris itself, on Nov. 1, 1636, and was the eldest child of Gilles Boileau, first Registrar (Greffier) of the Great Chamber of the Parliament of Paris. His mother, the second wife of Gilles, was Anne de Niels. Boileau has written inscriptions, little worthy of remembrance, and among them he eulogises his father as a man of probity and of gentle disposition, rather than as possessed of much talent; and of his mother, who died during his infancy, he says nothing more than that she pleased her husband by reflecting his good fortune.

Each of two elder brothers of Nicolas Boileau attained some distinction in his time. GILLES, born in 1631, pursued the law, and became successively Paymaster of the Hôtel de Ville in Paris, and Controller of the Royal Treasury. Louis joined the French army, and covered himself with glory. He afterwards cancelled, for having obtained a pension from Colbert, through the interest of Chapelaine: but he has allowed a small epigram to be transmitted to us, in which, perhaps ironically, he extols the literary and oratorical abilities of his brother.

The internal organs, the derangement of which most commonly produces disease, are those which belong either to the digestive or to the excrementitious systems, or to both. In consequence of the disordered state of these organs, either perfectly pure chyle is not eliminated, or the blood is not properly depurated, or excremenitious matter is re-absorbed into it, the circulating fluids become contaminated, and the result is the irritation and inflammation of the surface.

The rational and successful treatment of this disease must therefore be directed to the objects of the malady, and the correction of the disordered state of the system in which it has its origin. The first intention is accomplished by assisting the process of suppuration, which, as already stated, is always tardy and imperfect, but must be hastened by a liberal use of warm applications, by the use of poultices, by incising and evacuating, by the use of warm baths, and by the application of warm fomentations. The premature application of cold or of ice is what should be avoided.

Jacques Boileau was born in 1635, and studied at the College of Harcourt, where he graduated in theology. He later served as a curé in different parishes of the diocese of Paris. Boileau died in 1716, at the advanced age of eighty-two. His avowed works are numerous, but chiefly on forgotten questions of theology; and he wrote much also either anonymously or under feigned names, as Marcellus Aeneasinus, Claudius Fonteius, Jacques Barnabé, &c. A complete list of his works is not known, but many of them are now lost.

We have therefore omitted to narrate the whole story, and we shall here mention the only one which is now occasionally remembered, 'Historia Flagellantum, sive de recto et perverso Flagellorum usu apud Christianos,' Paris, 1700, 12mo. The word recto was inserted before this volume could obtain the approbation of the Jesuits. Boileau wore the old fashion with which the author has visited the abuses of superstitious penance occasioned much scandal, and exposed him to numerous attacks by zealots, which probably he had anticipated, and which certainly he disregarded. The treatise might as well have been left in the original Latin garb, but it was translated into French about a year after its appearance; and this version was republished in 1732 with many omissions, much softening, and an historical preface. It has also been rendered into English by De Vere Stansd, 1669. Boileau, who seems to have observed, showed that he was a man of wit. When some one asked his opinion of the Jesuits, he described them as people
who lengthen the creed and shorten the decalogue; and to an inquiry why he had written in Latin, he replied that he wished to escape perusal and persecution by the bishops. The biographers of Nicolás Boileau, who prefix his birth to Paris, name also the very house at which it took place, at the corner of the Quai des Orfèvres and of the Rue de Harley, adding that the chamber in which he first drew breath was the same in which the Satire Monnepée had been composed, and that, upon the conclusion of the immediate work was the production of many different hands, we know not how to attach credit to the tradition; whether we are to suppose that Pierre le Roy wrote the original few pages round which the larger volume afterwards accumulated, in the room which, seen to the eyes of our countrymen, or whether his secretary hired was brought thither their respective contributions. It is said that Boileau while in the cradle was attacked and fearfully mutilated by an enraged turkey-cock; and that, in addition to this infantile calamity, he never completed the work for the stone performed while he was in his boyhood. To these causes Helvétius attributes what he terms the coldness of Boileau's poetry, which, although written during a period of unbounded licentiousness, rarely, if ever, presents any amatory disposition of the whole of his published works. His education, his predominant taste was discovered by Serin, one of the Professors. Nevertheless the future guide of the French Muse was not at all distinguished by precocity in the pursuit through which he afterwards gained so much until he had found his happiness both for the bar and for the pulpit, that he devoted himself altogether to Parnassus. Long family connexion indeed appeared to bind him to the first-named of these professions: he felt that he was

\[\text{File, frère, cousin, beau-frère de greffiers} ;\]

yet at the same time being a great sleeper, accustomed to lie very late in the morning, and to nod after dinner (in all which particulars his biographers have discovered resemblance to Pope, and might have done so to Horace, &c.), he tells us that at the Palais

\[\text{Il est de ma nature une Muse offensive.}
\]

\[\text{Dormir chez un greffier la grasse matinée.}\]

The Law therefore had few attractions for him; and although he obtained from the Church a Priory of 800 livres annual rent, he afterwards resigned it, and most honourably distanced in charities the whole of his beneficed receipts. His earliest poetical attempts were in Satire, by which he nullified a prediction made by his father, who, when comparing the genius of each of his three sons, used to say, 'that as for Colin, he would never speak ill of any body,' which, after Boileau's publication of 1665, with a preliminary address to the King (a formula not to be omitted by any author who courted popular notice), were playful and sporting, not rabid and virulent; they showed, as he used to observe of himself, neither fang nor talon, and when the Treasurer's clerks, a matter-of-fact man, one day inquired where were the 'works for which the order instructed him to make this payment, the poet amused himself by answering, that he was a 'builder.' He was also appointed joint Historiographer with Racine; to which office which, nobly discharged the brunt of the master's exploits, appears to have been regarded by both of them as a sinecure, unless so far as they contributed some illustrations to a Magalda History. So well however were Boileau's habits and manners adapted to the harsh critic whom he encountered in it, the rigid Duke of Montausier, who at first had not scrupled to pronounce that the satire which had been unprovoked must of necessity be ill-natured. In 1664 Boileau had the melancholy task of announcing to the King the death of his historiographical colleague: Louis, who had his watch in his hand at the time, paid him the high compliment of saying, that notwithstanding his many engagements, an hour in every week should be reserved for the entertainment of his favourite. It was during this time that Boileau was admitted a member of the Academy. Twelve 'Epitaphe,' which flow with much greater ease than the Satires, were produced between 1669 and 1696. The 'Art of Poetry,' accompanied by a translation of 'Longinus on the Sublime,' into a Magazine or an Anthology, 'Les Requêtes,' in which year also appeared four cantos of the 'Lutrin,' a mock-heroic, suggested by the President Lamoinon. In the preface to the first edition, Boileau thought it prudent to deny that the argument had any foundation on fact; but in a letter afterwords, when he felt assured of his own safety, he made a sort of full apology. The whole truth, the Parisian Consuls wisely joined in the harmless laugh which had been raised against them. Nevertheless, there were critics who fastidiously decried the rich comic vein which they wanted to stifle, and in the Journal des Spectateurs, we find the following censure:—"It is perhaps that one of his works which has been least nibbled by the critics. It contains some matters which seem ultra-comic, as the Episcopale Benediction, which is altogether burlesque, and a little too much in the taste of the Louviers and libertines."

The two concluding cantos were not appended to the 'Lutrin' till ten years after its first appearance. The minor poems which escaped Boileau from time to time are altogether unworthy of him. The satirical poem 'On the Capture of Montauban' by Louis XIV., in which it is natural to suppose that the author's utmost care was expended, is tame, cold, and spiritless; and his occasional verses, if written in our own days, would scarcely find gratuitous admission into the Magazine of A. de Villiers de L'Isle Adam, or in a Dialogue after the manner of Lucian (as all Dialogues at that time were said to be), is the chief of his original prose works. It was written in the beginning of 1665, and it very pleasantly expresses the absurdity of Honoré de Gourmont's left, Madame de Maintenon's right; it probably gave a death-blow to the 'Astrée,' the ' Cyrus,' and the 'Cléides,' and it formed part of a controversy which at that time raged in France, and which produced lasting enmity between Boileau and Fontenelle—the comparative merits of the Homer of the ancients and the Homer of our own times. Boileau lived till 1706 in familiar intercourse with the choicest contemporary writers, and in the enjoyment of the best society of the capital.Repeated attacks of infirmity and an increasing deafness then warned him to retire, and he closed a very blameless and honor, was pacific, peaceful and piously, on March 13, 1711, having exceeded his 74th birthday by a few months. Boileau is one of that scanty number of poets who have left behind their

\[\text{No line which, dyying, they would wish to blot.}\]

and the high moral standard of his writings may be best estimated by the innocence of the very expressions to which the enmity of Perrault objected. Boileau in his 10th Satire, while denouncing the Opera, speaks of the

\[\text{Héros d'octe luxurieux, et de la morale lugubre.}\]

These terms were gravely represented to be offensive to modesty; and the silly charge awakened no less a champion than Arnauld, whose letter, together with a grateful acknowledgment which it received from Boileau, is printed in the edition of his works. 'What is an author's profession? ' inquired a country priest unacquainted with his person, upon receiving him in the confessional. 'To make verses,' replied the penitent. 'So much the worse. And what sort of verses?'—'Satires.'—'Worse and worse still. And against whom?'—'Against those,' answered Boileau, 'who themselves write bad verses; against works so mis-
chlevous as Operas and Romances.'—'Ah, my friend,' inter
rupted the confessor in conclusion, 'there is no harm in
this, and I have nothing more to say to you.'
It is justly therefore that he puts into his gardener's mouth a couplet, which speaks no more than truth of the charac
ter of his poetry:
'Mon maître, dirôla-tu, passe pour un Docteur,
Véritable docteur en sans-souci.'—Ep. xi.
The eulogy indeed is only the veneration of a compli
cent which he really did receive from some citizens of Paris, who had passed the day in his company. At parting, they assured him that they had occasionally travelled in the same diligence with even Doctors of the Sorbonne, but that they had heard so many fine things said by a single mouth. 'In fact, Sir, you talk a hundred times better than any Pupilteer.'
His purse was always open for purposes of benevolence.
When ingenuity compelled the Advocate Patin to dispose of his library, Boileau paid largely a third more purchas
ing money than had been offered for the collection, at the same time signifying that he bought only the reversion, and that the books were to remain the property of their original owner during his lifetime. In a similar spirit, he prevailed upon the King to continue the pension to Cornelle, which had been revoked on Colbert's death; observing, that he himself should feel ashamed of participating in the national bounty, if so great a writer as Corneille were excused from it.
The French critics are much inclined to compare Boileau with Pope, and naturally to give preference to the former; but, we think, so far as they admit comparison, the English poet may encounter it without apprehension. Both of them were born near the close of the sixteenth, and at the age of Boileau's death, the former had the ad
vantage of one additional modal, which there cannot be a doubt he studied very attentively. There are passages in the works of Pope which are undistinguished translations, and which he hoped to be so. Every reader will at once per
ceive that the Fable of 'Justice and the Oyster' is one of these, which apologist Boileau transferred from the close of his first Epistle to the King, where it originally stood, to its present more appropriate place, at the end of the second Epistle. Pope has applied to Dryden that which Boileau said of Moïre:
"I'ignorance et l'erreur à ses hautes mains places,
En haïssable Marque, en ruine des Comédiens,
Venuent pour dresser son chef d'œuvre nouveau.'
"Frida, malice, folly, against Dryden rose.
"From grave to gay, from lively to severe,' as Boileau had already determined.
"'D'une voix légère
Passer du grave au doux, du plaisant au sérieux.'
Memory or observation will supply innumerable other close parallels; and the 'Essay on Criticism' especially, one of Pope's very large and twenty-one years ago, is very similar to the 'Art of Poetry.' A remark however which has been made on Boileau himself, is not less applicable to Pope also; and is perhaps most of all applicable to him when he imitates Boileau—that he seldom borrows but to improve; that he abhors, according to a forcible phrase of La Bruyère, créer les pendes d'autrui.

One striking example of inferiority is adduced by Warton. Pope says (and he says it weakly and obscenely, notwithstanding the preceding line has become proverbial),—
"No place so named of the boyo
Nur is Paul's church more safe than Paul's churchyard;
Nur, by to alter, there's they'll talk you deep,
For fools rush in where angels fear to tread.'
This satire is forced and unnatural, whereas the passage from which it is borrowed was suggested by a real inci
dent:
"Gardes-vous d'imiter le susceptible ferioue,
Qui de ses vaines cécile lecture harmonieux
Abuse en chantant quiconque sa balle,
Et pourroit de ses vers les passans dans la rue;
Il est inutile des saugens de comique,
Qui soit contre au mus un lieu de satire.'
"which verses," says Warton, "allude to the impertinence of a French poet, called Du Perrier, who finding Boileau one day speaking to the King upon requisition to him an Ode, during the elevation of the Host, and decried his opinion whether or no it was in the manner of Malherbe.'
The 'Moral Essays' are immemorially superior to the
"Satrie,' insomuch as Pope looked abroad into the word
and upon mankind, while the narrower view of Boileau was cirkuscodeert of his own and Ma
darinque. Each has failed in his poetry; and it now seems as if the captivations of the heroic couplet were indis
tensible for the development of their full powers, for the exhibition, if we may so speak, of their pages: yet Pope, more especially in his translation, has approached to the downright epigram with which the 'Ode sur la Prise de Namur' concludes. The 'Rape of the Lock' is far richer in imagery and much more playful in expression than the 'Lutrin'; and after-thought, which added to the one its great strength, is not heard of in the other. If the two more cantos with the lumbering personifications of Poetry and Justice. Of the sentiments which inspired the greatest effort of the English bard, the ' Eloise to Abe
lard,' Boileau, as we have already hinted, was perhaps more specifically original; and the version of Homer there can be little doubt that he would have shrunk in dismay.
Yet, after all the assertions of minute criticism, Boileau deserves a much higher station than he is allowed by Fontenelle. From the charge of poetical feeling he has been well defended by La Harpe, who says even of the 'Satrie' (among which he reckons the eleventh as the chef d'œuvre)—'I like to read them, because I like good poetry, good wit, and good sense.' La Harpe is by no means a man whom we imagine such a thing as censure the 'Ode on the Capture of Namur.' He also very searchingly examines an opinion expressed by Boileau that Molière was the greatest genius of the age of Louis XIV.; and the whole chapter of the 'Lycée,' which is upon this subject, is very instructive and edifying. It is a delightful commentary with which we are acquainted on a silly lit
erary dispute, which has been agitated more violently upon the Continent than among ourselves, and which will last as long as the tempers of men continue to be divided as sanguineans and pessimists. M. de Voltaire, himself, is, in another, giving him the languid praise of being the cor
rect author of a few good pieces, he neutralizes even this measured applause, by adding that he was the Zolius of Quintain, and the flatterer of X, and finally, he con
tradicts himself by stating in a third passage, that 'in any doubt the 'Art of Poetry' is the work which reflects more honour than any other on the French language.

BOILING OF FLUIDS. When certain fluids are heated to a much higher temperature, they will boil, and produce much vapour, they are said to boil, or suffer ebullition. Under similar circumstances the temperature at which this occurs is always the same in the same fluid, and is called its boil
ning point, being the greatest heat which the fluid is capable of acquiring; when the vapour which escapes from boiling fluid is condensed, the resulting liquid is perfectly similar to that from which its vapour was produced, having suffered no chemical change.

There are some substances which usually exist in the fluid form, or which may be made to assume it, by being heated, that cannot in strictness be said to have any fixed boiling point; and there are others that cannot be made to boil: thus when certain fixed oils are heated, instead of being condensed and yielding inflammable gas; and the greater number of the metals, when heated and ren

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dered fluid, suffer no ebullition, because they are incapable of being vaporised. The circumstances attendant upon the boiling of water will, upon the more familiar illustration of the nature of ebullition than those accompanying the boiling of any other fluid: we shall therefore commence with an account of them.

When water is heated, there is a point, just before it has acquired its highest temperature, at which a slight noise, or rather a succession of noises is heard, usually called simmering. This is occasioned by the formation of minute bubbles of vapour, at the bottom of the vessel, and near the source of heat, which, being specifically lighter than the water in which they are formed, rise into the upper and cooler part of it, and are then condensed. Soon after this, and when the whole of the water has acquired its highest temperature, the bubbles of vapour rise to the surface, and there burst. The steam, which, being transparent and colourless, is consequently invisible, but when it comes into contact with the cold air, it undergoes partial condensation, and is then visible, and appears as a mist.

The boiling point of water, which on Fahrenheit's thermometer, used in this country, is 212°, is subject to variation by altering the circumstances under which the ebullition takes place. Thus when it is stated to occur at 212° Fahrenheit, it is understood that the water is freely exposed to the air, and that the barometer stands at 30 inches, which is the barometric pressure at the height of the observation.

It is well known that the atmosphere presses with a force equivalent to a weight of fifteen pounds on every square inch of surface. By variations of this pressure the boiling points of fluids suffer great alteration; when it is increased the temperature of boiling fluid is raised, when it is lowered, by diminishing the pressure. Boyle appears first to have noticed these circumstances during his experiments with the air-pump; and it was afterwards observed by Fahrenheit that there was an occasional variation in the boiling point of water by the same thermometer was used at different times: this he found to depend upon the alterations of barometric pressure.

General Roy instituted a set of experiments to determine the temperatures at which water boils at the different heights of barometer, and the following table contains a statement of his results:

<table>
<thead>
<tr>
<th>Barometer in inches</th>
<th>Boiling point</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>204.9</td>
</tr>
<tr>
<td>26.5</td>
<td>205.7</td>
</tr>
<tr>
<td>27</td>
<td>206.7</td>
</tr>
<tr>
<td>27.5</td>
<td>207.5</td>
</tr>
<tr>
<td>28</td>
<td>208.4</td>
</tr>
<tr>
<td>28.5</td>
<td>209.3</td>
</tr>
<tr>
<td>29</td>
<td>210.1</td>
</tr>
<tr>
<td>30</td>
<td>212.0</td>
</tr>
<tr>
<td>30.5</td>
<td>212.8</td>
</tr>
<tr>
<td>31</td>
<td>213.7</td>
</tr>
</tbody>
</table>

It appears from this table that the boiling point of water varies 0.8 of a degree for every half inch of variation of the barometer, and consequently every tenth of an inch which rises or falls alters the boiling point of water 0.176 of a degree of Fahrenheit's scale.

Dr. Thomson (Heat and Electricity, p. 307) states that since the year 1817 to 1839 (both inclusive) the barometer has never been higher in Glasgow than 30.8 inches, nor lower than 28.417 inches, so that the boiling point of water has varied during that period from 213.4° to 201.6°, or almost 41° of Fahrenheit.

On ascending mountains, by the consequent diminution of atmospheric pressure, and in proportion to it, water is found to boil at a lower temperature. Thus on the summit of Mont Blanc, which is about 15,000 feet above the level of the sea, Swaunac found water to boil at 176° Fahrenheit, 41° below its usual temperature.

The effect of diminished pressure in lowering the boiling point may be readily exhibited: remove some boiling water from the fire, and ebullition soon ceases, but it is renewed by placing it under the receiver of a vacuum pump, and using exhausting pump, and another and very simple method of producing the same effect is by boil some water in a Florence flask, pour it while boiling, remove it immediately from the fire, and immerse it almost entirely in cold water, and then ebullition will recommence. This is occasioned by the sudden condensation of the steam which occupied the upper part of the flask, and the consequent formation of a vacuum; the existence of which is proved by the rush of air into the flask on removing the cork.

According to the Rev. Mr. Wollaston (Phil. Trans. 1817), an elevation of 530 feet causes a diminution of 1° of Fahrenheit in the temperature of boiling water; but it will be observed that this determination, which is probably an accurate one, does not agree with the stated height of Mont Blanc, or the barometer at that place, which is about 30 inches.

Professor Robison states that fluids boil in vacuo at 140° lower than under atmospheric pressure; consequently water so circumstances will boil at 72°. Dr. Thomson informs us that he has seen water boiling briskly at 98° in Mr. Barry's apparatus for distilling oils in vacuo.

We have now described the circumstances under which the boiling point of water is lowered by diminishing the pressure; and we shall proceed to show how, by increasing the pressure, the boiling point is raised.

When water is heated in vessels from which its vapour cannot escape except by overcoming pressure, its boiling point is very much raised. This experiment may be made in Papin's digester, which is a strong iron or copper vessel, with a tight-fitting lid screwed down, and provided with a safety valve, loaded with any proper quantity of weights. In this way water may be heated to upwards of 400°; indeed, according to Muschenbroek, the temperature of water can be raised so as to melt tin, which fuses at 452°. A more convenient apparatus for this purpose is the atometer by the late Dr. Marcet. In this the pressure is indicated by the height to which the steam raises a column of mercury, and the thermometer is shown by a thermostat. (Dr. Henry's Chemistry, vol. i. p. 126.)

According to the atometric experiments, the following atmospheres produce the annexed pressures and temperatures:

<table>
<thead>
<tr>
<th>Atmospheres</th>
<th>Inches of mercury</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29.8</td>
<td>212°</td>
</tr>
<tr>
<td>2</td>
<td>59.6</td>
<td>205.3</td>
</tr>
<tr>
<td>3</td>
<td>89.4</td>
<td>200</td>
</tr>
<tr>
<td>4</td>
<td>119.2</td>
<td>239.4</td>
</tr>
<tr>
<td>5</td>
<td>149</td>
<td>309.2</td>
</tr>
<tr>
<td>6</td>
<td>178.8</td>
<td>322.7</td>
</tr>
<tr>
<td>7</td>
<td>209.6</td>
<td>334.8</td>
</tr>
<tr>
<td>8</td>
<td>240.4</td>
<td>349</td>
</tr>
</tbody>
</table>

It is to be observed that the temperature of the steam is always equal to that of the water from which it is generated. When however what is termed high-pressure steam is suffered to escape into the atmosphere, its temperature is greatly reduced, not merely on account of the cold air with which it comes into contact, but by the great expansion which it undergoes, and the consequent conversion of sensible into latent heat. In this case it is so far from scaling like atmospheric steam, that it may be received upon the hand without feeling even an unpleasant warmth. The vessel is boiled in vessels which are not furnished with safety valves, or when from any accident they do not act or are overloaded, the strongest boilers burst with a tremendous explosion.

There are several circumstances which influence the boiling point of water beyond what has already been said, but not to so great a degree. M. Gay Lussac found that water boiled exactly at 212° in a vessel made of tin plate, while in a glass one it acquired 214°; and he concludes that the boiling point varies according to the nature of the different vessels, and the state of the air with which the ebullition takes place, and consequently depends on their conducting power and the polish.

Dr. Bostock also found (Annals of Philosophy, vol. xxv. p. 196) that the boiling point of water in various vessels and is approximately 217°. A saturated solution of common salt was placed over a lamp, and gradually heated up to 225° when it boiled strongly; a test tube, containing water deprived of air by boiling, was plunged into it, and the boiled liquid immediately returned to the tube, the lamp was then withdrawn, and the brine soon ceased to boil, but the ebullition continued in the water for some time longer; it subsided at about 218° or 217°, but was constantly renewed by dropping in pieces of cedar wood. The brine was again placed over the lamp, and a test tube was plunged into it, containing a portion of water, together with a thermometer. The water in the tube did not begin to boil until the thermometer had risen to between 216° and 217°, when ebullition first commenced: the fragments of wood were then dropped in, and an usual very much increased the ebullition; and it was found that
the water, kept at this temperature, had its ebullition pro-
"moted or suspended, according to the presence or absence of
the extraneous bodies. Dr. Bostock concludes that in water
there is no difference of boiling point occasioned by the cir-
stances described amounts to 4° or 5°, but in other occasion-
ally to 50° or more.

The boiling point of water is also very materially altered by
the presence of saline matter; there is indeed no one salt
which affects it, but almost all the salts increase it by a
commonly each to a different degree. The following are a
few of the variations taken from the experiments of Mr.
Griffiths:

<table>
<thead>
<tr>
<th>Name of salt</th>
<th>Boiling temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphate of soda</td>
<td>213°</td>
</tr>
<tr>
<td>Nitrate of barytes</td>
<td>25°</td>
</tr>
<tr>
<td>Sulphate of potash</td>
<td>215°</td>
</tr>
<tr>
<td>Sulphate of copper</td>
<td>242°</td>
</tr>
<tr>
<td>Chlorate of potash</td>
<td>218°</td>
</tr>
<tr>
<td>Alum</td>
<td>220°</td>
</tr>
<tr>
<td>Sulphate of magnesia</td>
<td>222°</td>
</tr>
<tr>
<td>Common salt</td>
<td>224°</td>
</tr>
<tr>
<td>Tartrate of potash</td>
<td>234°</td>
</tr>
<tr>
<td>Sulphate of nickel</td>
<td>235°</td>
</tr>
<tr>
<td>Muriate of ammonia</td>
<td>236°</td>
</tr>
<tr>
<td>Nitrate of potash</td>
<td>238°</td>
</tr>
<tr>
<td>Tartaric acid and soda</td>
<td>240°</td>
</tr>
<tr>
<td>Nitrate of soda</td>
<td>246°</td>
</tr>
<tr>
<td>Acetate of soda</td>
<td>255°</td>
</tr>
</tbody>
</table>

In these experiments it is stated that dry salt was used, but
as it is not mentioned whether the salts were or were not ana-
lyzed, it is impossible to draw any very satisfactory in-
ferences as to the nature and quantity of the substance
producing the variation of temperature, except in a very
few cases; two of which may be remarked, as showing that the
increase of temperature is not in direct proportion to the
quantity of salt dissolved, and must therefore in some de-
gree depend upon its nature. Thus 30 parts of common
salt raise the boiling point 12°, while 50 parts of muriate of
ammonia raise it 24°, but if quantity alone produced the
effect, it should have required 60 parts of muriate of
ammonia.

The following are the boiling points of some substances,
which probably exhibit examples of the lowest and highest
temperatures at which ebullition takes place; the bodies
are considered as under the average atmospheric pressure:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Boiling point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muratic ether</td>
<td>52°</td>
</tr>
<tr>
<td>Sulphuric ether (sp. gr. 0°7365 at 48°)</td>
<td>113</td>
</tr>
<tr>
<td>Bisulphuret of carbon</td>
<td>113</td>
</tr>
<tr>
<td>Acetic ether</td>
<td>16°</td>
</tr>
<tr>
<td>Benzilic ether (sp. gr. 1°5)</td>
<td>210</td>
</tr>
<tr>
<td>Oil of turpentine</td>
<td>314</td>
</tr>
<tr>
<td>Naphtha</td>
<td>320</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>534</td>
</tr>
<tr>
<td>Sulphur</td>
<td>570</td>
</tr>
<tr>
<td>Sulphuric acid (sp. gr. 1°848)</td>
<td>600</td>
</tr>
<tr>
<td>Mercury</td>
<td>662</td>
</tr>
</tbody>
</table>

BOIS-LE-DUC, a fortified town, the chief place of the province of North Brabant in the kingdom of Holland, 51° 42' N. lat., and 4° 10' E. long. The town was in 1184 by Godfrey III., Duke of Brabant, who possessed on the same spot a house in the middle of a forest in which he was accustomed to hunt, and hence the town has derived its name; Bois-le-Duc in the French, and a Hertogenbosch in the Dutch language, signifying the Duke's forest. Henry, the son and successor of Godfrey, caused the forest to be cut down, and surrounded the town with walls. In 1579 the town separated itself from the state, and was besieged both in 1601 and 1603 by Prince Maurice of Nassau. In 1629 it fell into the hands of the Dutch, and it was a siege of four months, which is spoken of as having been one of the most remarkable that occurred during the Eighty years' war. In 1672 it was attacked by the French, who were obliged to raise the siege in consequence of continual rains, which caused the inundation of the nearest lands by which the front was surrounded. An action was fought near Bois-le-Duc in September, 1794, between the English and French, in which the advantage was gained by the latter, and in the following month the place surrendered to the army under Gener. Fiechgru. The last occasion on which Bois-le-Duc was the scene of hostilities was in 1814, when, after being invested for several weeks, it surrendered to the Prussians under General Bulow. By a decree of Napoleon Bonaparte it was declared in 1810 to be united to the French empire.

Bois-le-Duc is situated near the confluence of the rivers
Dommel and Aa, the waters of which after their junction
receive the name of the Diest or Dieze, and flowing to the
north-east, one increases the remarkable form of the coun-
try. Bois-le-Duc is a clean and well-built town, about
five miles in circumference, and contains many good streets
and squares; it is intersected by canals, over which are up-
wards of eighty bridges. The town-hall, which stands in
the principal square, is a handsome building, resembling the
Stadt-house of Amsterdam, but on a smaller scale; it has a
steeple with a fine chime of bells. The town contains
six churches, four of which are appropriated to the service of
the Romanists, and two to the Reformed religion. St. John's
Church is one of the finest in the kingdom; its foundations
were laid in 1290, and it was not finished until 1312; its
roof is supported by 150 columns. During the reign of
Louis Bonaparte this church was taken (1810) from the
Protestants, by whom it had been held since 1639, and
given to the Catholics, who are very numerous in the town.
A citadel was built here in 1629 by Prince Frederick Henry
of Nassau under the direction of the states-general, in order
to keep the Catholics in check, and the name Papenbril was
given to it, a name which indicates its object and use.

According to statistical tables in the periodical work of the
Dutch government in 1829, the population of Bois-le-Duc in De-
ember, 1814, amounted to 13,071 souls. During twenty-five
years, from 1799 to 1814, the number of births was 11,589,
and of deaths 11,302, showing a rate of mortality of 1 in 27,
and a birth rate which indicates an unhealthy situation, and may prob-
ably be attributed to the marshy nature of the surrounding
region.

The town contains an academy of painting, sculpture, and
architecture, and a grammar-school, in which Erasmus and
Gressefeld were instructed in their studies.

Linens thread, ribbons, pins, needles, and cutlery, are
manufactured in Bois-le-Duc, which is favourably situated
for carrying on trade by means of the Diest, the Maese, and
the canal recently constructed from this town to Maas-
tricht, which gives it its name.

BOJADOR, CAPE, on the west coast of Africa, 26° 19' N.
lat., and 14° 10' W. long., forms one of the projecting
points of the Great Desert, or the Sahara. It rises to a
considerable height, and is the western extremity of a rocky
ridge, which is continued eastwards to the desert, and is
known to what distance. This ridge is called by the Moors
Jebal Khal, or the Black Mountain, according to Jackson.

The coast which extends northward to Cape Nun is one of
the most dangerous on the whole globe, being so flat, that
one may make a mile being in the water over the knees. Vessels consequently strike at a very
considerable distance from the beach. Besides, this low
coast is always enveloped in a hazy atmosphere, which ex-
tends for many miles out at sea. Jackson thinks that this
phenomenon is produced by the strong winds raising the
sand of which the numerous hills at some distance from the
shore are composed, and filling the air with it. But it must be
remarked that the phenomenon which is here observed
between the shore of the Sahara and the Canary Islands is
repeated more to the south, between Cape Verde and the
Cape Verde Islands, and his explanation is hardly admis-
sible in the latter instance. The danger caused by the
combination of such disadvantageous circumstances is still
alleged by the currents arising from the Straits of Gibraltar to Cape Blancato setting in towards the
land with great force and rapidity. The trade-winds also
which prevail in the Sahara, and generally in the sea to
the westward of the Canary Islands, rarely blow in the channel
which divides the land, and may be replaced by a westerly or north-westerly wind, from which
it will be evident that the dangers which here await the
unwary navigator are of no common description. It some-
times happens that a vessel strikes on the sands of this
coast when the captain looks towards the Great Canary or Tenerife; and we can hardly be surprised
that so many vessels are wrecked on a coast which is not
visited for the purpose of trade, except by a few fishing
barks from the Canaries. Jackson says that he knew of
thirty vessels, seventeen of them English, which had been
lost on it between 1790 and 1803; and he is inclined to think that their number was much greater, because most of them are quickly destroyed and never heard of. The unhappy sailors whose fate it is to cast away upon the shore fall into the hands of the Moors, and have to undergo the hardships of a most severe slavery in the desert.

The difficulties which oppose the progress of vessels near Cape Bojador was the reason why the Portuguese navigators in the beginning of the nineteenth century employed eighteen years in discovering the coast between Cape Nun and Cape Bojador. Though the former had been doubled in 1415, it was not till 1432 or 1433 that Gilanes succeeded in passing the mouth of the river. In 1439 the Portuguese built the fort of Bojador, as well as in the other Italian principalities of the time, on the spirit of feudal chivalry, although fast declining, was not altogether extinct. The laws, the duties, the customs, and courtesies of chivalry were studied as a science, in which Bojador, owing to his birth and rank, was early initiated, and he therefore could describe them with a feeling of consciousness and with a gravity which is not found in other romantic poets who did not enjoy the same advantages. Even among the flights of romantic hyperbole Bojador appears perfectly serious. His mind, stored with classical learning, was familiar with the conduct of epic narrative. The design of his poem is grand, the characters are well delineated, the various threads of his argument cross each other without confusion, but they are all left interrupted by the abrupt breakings off of the story. The first book was published in the third book, when the author was perhaps hardly arrived at the middle of his narrative. Bojador himself accounts for this interruption by alluding to the 'Gallic storm' which was then bursting upon Italy, and scared away his romantic muse.

Mentre chi c'è canto (cinque Dido dilettrice)
Veggio l'Italia tutta a favilla e a foco
Per via Galli, che con gran voce
Vengon per disertar non so chi loco;
Perché si fa in questo naso amaro?
Di Pio de' Pucci ad una a poco a poco;
Un'altra ruta, ma mi fa concerto.
Raccomando il mio lutto per un poco
(Last stanza of the last canto of the 'Innamorato'.)

Bojador was writing this towards the close of 1494, when Charles VIII., with a formidable army, had just invaded Italy and was marching to the conquest of Naples. He entered Florence in November, spreading confusion everywhere before him. On the 20th of the following December Bojador died at Reggio. The subject of his poem was afterwards resumed by Ariosto. [Ariosto.]

The first six cantos of the 'Innamorato,' were printed at Venice in 1495. In the next year they were again together with the nine cantos of the third book, which were all Bojador wrote, at Scandiano in 1495, under the direction of Count Camillo, his son. Several reprints were afterwards made at Venice and at Milan, all more or less incorrect. Nicolò degl'Agostini wrote a new version of the 'Innamorato' in three books, which however is very inferior to the original. In 1545 Lodovico Domenichi published an edition of Bojador's 'Innamorato' with many verbal and orthographical corrections. But before this, Berni had written his Ristampe of the 'Innamorato,' which was published in 1541-2, and obliterated the editions of the original poem of Bojador, the copies of which became very scarce, and the very name of Bojador was almost forgotten. The importance and success of unmerited neglect, a new and correct edition of Bojador's text of the 'Innamorato' has been lately made by Panizzi, with notes and a life of Bojador, London, 1831.

Bojador wrote also a sort of chronicle of the dark ages of Charlemagne and his successors, during the wars of the Normans and Saracens in South Italy, &c. 'Istoria Imperiale di Riccobaldo Ferrarese tradotta del Latino.' He called it a translation from Riccobaldi, a chronicler of the thirteenth century, but it is, in fact, a compilation, partly from Riccobaldi's work, originally in Latin, under the title 'Universalia,' and partly from other sources. Murratori, 'Rer. Ital. Scriptores,' has published both Riccobaldi's 'Pomarriun' and Bojador's 'Istoria Imperiale.' The latter contains many strange historical blunders and anachronisms, which serve to prove how inexact and crude Bojador's knowledge and experience was in Bojador's time, while they throw much light on those popular and confused traditions which gave rise to the stories contained in the romantic poems of Italy, and especially in the 'Innamorato.'
Mazzuchelli has published a medal in his collection, which was struck in honour of Bajoura in the year 1490, having his name on the obverse, and on the reverse a forgery of his name, assisted by Venus and Cupid, with the legend 'Amor vincit omnia.' (Museum Mazzuchellianum, tom. i. tab. 29.)

The castle of Scandiania, which still exists, though in a dilapidated condition, is now used as a storehouse for corn. The church of Bonjodoro was remarkably beautiful. (See Prolegomena to Bajoura's poem, Dr. Ferrario, Storia ed analisi degli antichi Romanzi di Cavalieria, &c., as well as Panizzi's edition and Life of Bajoura, already mentioned.)

BOKHARA, called also USBEKHISTAN, is a country situated between the Caspian Sea and the Bokhara desert, on the drier side of the Great Khanshan, on the north of the Black Sea and on the east of the Caspian Sea. Bokhara is a large and populous city, situated on the banks of the river Amu (Amoo-Daria), which is formed by the confluence of the rivers Vakist and Kizil. It is a town of considerable importance, being the capital of the province of Bokhara.

Bokhara forms the southern portion of that remarkable depression which extends northward to Saratow on the Volga in Southern Russia, and southward to the Hindoo Koom. The surface of this depression lies at a considerable distance from the sea, and is drained by the Amu and the Caspian. A large part of the area is low and marshy, and the mouth of the Amu is subject to overflow and inundation. The town of Bokhara lies on the right bank of the river, and its position is重要因素 in the trade of the province.

The climate of Bokhara is semi-arid, with a marked dry season from May to October. The summers are hot and humid, while the winters are cold. The town is subject to frequent earthquakes, and the earthquakes are accompanied by heavy rainfall. The town is also subject to occasional floods, which occur when the snow melts in the surrounding mountains.

The surrounding country is characterized by a rich agricultural land, and the town is famous for its fine wheat, cotton, and wool. The town is also a centre of trade, and is connected by rail with the Caspian Sea and with the interior of Central Asia. The town is a centre of trade and industry, and is celebrated for its silk industry.

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a crop the same season. Burnes says that 'south of the
Oxus the wheat yields a crop for three successive years.
When the wheat is gathered the cattle are turned in upon
the stubble fields, and in the ensuing year the same stalks
grow up to ear. The second crop is good, the next more
scanty, but it reaps a third time. The other grains which
are cultivated are barley and javelene (Holcus saccaratus).
As the climate is a quarter drier in the north, the barley
and the javelene are cultivated for that purpose. Of pulse,
peas, beans, and haricots are raised in great quantity.

Cotton, which forms one of the principal exports of this
country, is carefully cultivated everywhere. Hemp also is
raised, but not used as a dye, or for the manufacture of
dyestuffs; for this purpose the coloured species of the
dyeing-murex is used, yielding black, brown, and green
colours. The amount of cotton cultivated is said to be
sufficient to supply the wants of the whole country.

Cotton is raised in all parts of the empire, and the
produce is sold both to India and to the countries of
Eastern Europe. The cotton is ginned and the threads are
woven into gay, striped, and figured cloths of all kinds.

Tobacco is cultivated in many places; but of all the
kinds of tobacco the best is the native to the country of
Kurshie, which, according to Burnes, contains
10,000 inhabitants; and Karkool, to which Meyendorff
assigns 30,000 inhabitants, observing however that it is
smaller than the former. The best species of tobacco
is the Meeanka, but the rest are small, containing only
from 300 to 500 houses.

Bokhara, being situated between the two elevated table-lands of Asia, has frequently been invaded by the nations who inhabit the badlands and deserts, and the people of the
conquering nation has remained in the country and
settled there. At present eleven different nations may
easily be distinguished according to Meyendorff, namely
Uzbek, Tadjicks, Toorkmans, Arabs, Persians, Mongols
Kalmucks, Kirghis, and Kara-Kalpaks, Jews, Afghans,
Lesghis, and Gypsies.

The Uzbeks compose by far the greatest number of the
inhabitants. They are the last of the nations who have
subjected this country to their sway: they say that, before
the Tardirs, the country was inhabited by the ancient
tribes of Turks. The characteristics of their face are a
flattened nose, projecting cheek-bones, narrow eyes, which
frequently have a somewhat oblique position, and very little
beard. The Uzbek harems continue the entire life which the
whole nation led before their arrival in Bokhara; others are
employed as officers by government; and a few apply them-
selves to agriculture, commerce, or the mechanical arts.
These latter inhabit the large cities and their vicinity.

The Tadjicks are of the ancient Turco-Chinese races, the
aborigines of the country, and as the descendants of the
tribes of the ancient Sogd and Bactrians. Their body is stout and short, their complex-
ion florid, and in features they resemble the European.
The Tadjicks are very industrious. They cultivate the soil,
and apply themselves to agriculture, commerce, and all
the mechanical arts. The merchants who visit Orenburg
and the great fair of Nishni Novgorod are there called
Bokharans, but they are Tadjicks.

The Toorkmans, Kirghis, and Kara-Kalpaks belong to
the Turkish nation. The Toorkmans inhabit the desert
plain to the west of the Amou river, and acknowledge
their dependence on the khan of Bokhara only when it suits their
interests. The Kirghis and Kara-Kalpaks are few in
number, and live north of the Zar-afshan, and in the vicinity
of Kurshie.

The Arabs and Persians settled here at the time when
this country was subjected to the kaliphies of Bagdad.
Many of the latter have also been brought to this country as
slaves.

The Mongols and Kalmucks settled here at the time of
Tahengis Khan's conquest; some families also about 1770,
when the Tartug Mongols abandoned Russia and emigrated
to Sziigaria, or the Chinese province of Jihan Shan Pelu.
The few Afghans and Lesghis in Bokhara are said to be
the descendants of hostages which were brought here by
the famous Timur when he subjected their respective coun-
tries. Both in present speak their own languages.
The Jews and Gypsies have settled here voluntarily.

Meyendorff, who visited Bokhara in 1820-21, estimated
the whole population at nearly two millions and a half,
namely:—Uzbek, 1,500,000; Tadjicks, 650,000; Toork-

mams, 200,000; Arabs, 50,000; Persians, 40,000; Mongols, 20,000; Kirghis and Karakalpakas, 40,000; Jews, 4,000; Arabs, 400,000; gipsies, 2000; total, 2,475,000. He estimated the surface of the cultivated districts at about 6500 square miles, and thinks that they are inhabited by about one million and a half, so that those tribes who move to the nomadic life would amount to about one million. Burns however thinks that the whole population of the country can only be estimated at one million. It is easy to see that such estimates cannot be relied on.

The mechanical arts are not neglected in Bokhara, and so much moxa is made for home consumption, that" some kinds of cloth, in which both materials are combined, are in great demand in Russia for morning dresses of the rich nobility. The dye of all their manufactured goods is extracted from another plant which grows in the Stygian regions, and is the same that is used for tanning so well as the Russians, but they make excellent Marocco leather. Their swords are good, but much inferior to those of Persia.

The towns of Samarcand and Bokhara were some centuries ago famous as seats of learning, and were much resorted to by students from all the Mohammedan countries of Asia. At present the number of foreigners who live here for the sake of study is considerable: the madrasses, or colleges, are numerous, and though the instruction is not limited to the study of the Koran and its numerous commentators, and some metaphysical subtleties. After having acquired this stock of learning, the students become madruss or mullahs. But the lower classes of the people are not neglected than by the Mohammedan countries, and the greatest part of them can neither read nor write. The Tadjiks, who wish to employ their children in commerce, take greater care of their instruction than the other tribes. The children of rich people learn to read, write and recite the Koran by heart.

Two languages are spoken in Bokhara, the Persian and the Turkish, the former by the Tadjiks, the inhabitants of the towns, and the better instructed and richer portion of the Uzbecks. This language differs very little from that which is spoken in Persia, and the Turkish language is general, generally in the form of a parallellogram, two stories high, and enclosed a spacious court-yard. In each story are two rows of chambers, one having its windows and doors to the court-yard, and the other to the street. These chambers are divided into apartments, which are not only for living, but generally are repaired and sold, to a certain yearly maintenance from the college.

The number of public baths is eighteen. Several vaulted chambers are built about a large basin filled with warm water. The fuel is brought from the desert, and consists of small shrubs. Some of them are of large dimensions; generally between one and two, and some are square buildings of two stories, a court-yard in the middle, and two rows of chambers enclosing a court-yard. The rooms round the court-yard are used as warehouses, and let to the merchants. The bazaars are numerous and extensive, some of them being upwards of a quarter of a mile in length. In the shops with which they are lined on both sides, every sort of merchandise is exposed to sale, with the exception of woven goods, which are sold in large edifices built for that purpose. Several of them, consisting of some hundreds of small shops, contain goods of the same kind, and are usual about in the town, and others the cottons, linens, and brocades of India, Persia, England, and Russia.

The number of shops on the great square, or Segistan, is likewise considerable. Tents of different colours are filled with the more common manufactures of the country; but the greater part of the place is a market, in which the fruits of the country, consisting of grapes, melons of an extraordinary size, apricots, apples, peaches, pears, and melons, are sold; here likewise are exposed to sale the grain of the country, as rice, wheat, barley, barley, cotton, and so., in short all the necessaries of life. The active commerce which Bokhara carries on with all the neighbouring countries brings to this town the merchants of nearly all the nations of Asia. The town has a very considerable intercourse with Persians, Jews, Turks, Russians, Kirghiz, Chinese, Torkmangols, Mongols, Cosacks, Hindoos, and Afghans, besides the Tadjiks and the Uzbecks, the inhabitants of the town.
The Tadjiks compose by far the greater part of the inhabitants, amounting to three-fourths of the whole. They are merchants, manufacturers, and artists. The number of Jews and Hindoos settled at Bokhara is considerable, and there are a large number of stalls in the bazaar where they are employed to live happily. Though they are not permitted to build temples, to set up idols, or walk in procession, they live unmolested; and in all trials they have equal justice with the Mohammedans.

Taxes are levied on the commodities which are exported, and only a small duty on those which are imported, and these are only paid when the articles are sold. A Mohammedan merchant has only to swear by the name of the prophet and to declare himself poor, to be relieved from all duties. Justice is strictly administered according to the Koran.

Bokhara has for many centuries been a place of extensive commerce, and its geographical position must always ensure it considerable advantages in this respect. It is probable that the countries north of the Caspian Sea and the sea of Aral would be entirely debarr’d from any commercial intercourse by land with those of southern Asia by the great deserts that lie between them, were it not for the fertile oasis in which Bokhara is situated. The same deserts, and in addition to them impassable mountains, would prevent all immediate commerce between the table-land of Central Asia and that of Persia or Iran, had not the merchants of Bokhara devised means for traversing both with safety. Consequently we find that Bokhara is a centre of export and import between the large magnificient towns towards the north lead to Russia and the table-land of Central Asia, and three towards the south connect it with Persia, Afghanistan, and India.

The road which leads to the high table-land of Central Asia is from Charab to Ghurab, and from Ghurab to the Zarafshan to Samarcando, here passes the river, and then extends in a north-east direction through the desert to Oorturas, beyond which place it traverses the mountain-range which divides Bokhara from Khokand, and afterwards descends to the banks of the river. Along this road passes the town of Khoend and Khokand to Marghilan, and then in a south-eastern direction to Oush, from which place it leads over the mountain-pass of Terek to Koskoo and Khassaghar. The Bokharans talk to Khassaghar woolen cloth, coral, pearl, coccochineal, brocade, velvet, fur, especially of otters and martins, leather, sugar, large looking-glasses, copper, tin, needles, glass, and some iron utensils. They bring back in exchange a great quantity of inferior tea, china, sponges, knives, rubarb, and silver. This branch of commerce from 700 to 800 camels are employed.

Two roads lead to Russia, one on the east of the sea of Aral, and the other between it and the Caspian. The latter is shorter, and passes along the Amoo Deria to Khiva, and this road is the less crowded and less expensive. But this road can only be used when the Bokharans are at peace with the Khan of Khiva, and the Russians exercise a severe authority over the little horde of the Khirghiss, which inhabits the desert between the northern extremity of the sea of Aral and that of the Caspian. When the Bokharans fear being pilagged either by the inhabitants of Khiva or the Khirghiss, they take the other and longer road, which passes through the desert of the Great Horde of the Khirghiss, and afterwards runs to Orenbourg or Troisk. From these towns and others on the road to Khiva, cotton goods are exported to the fair of Nishnii Novgorod, where nine-tenths are sold. The Bokharans bring to Russia chiefly rubarb, raw cotton, cotton goods, skins of martins, lamb-skins, fox-skins, dry fruits, silken goods, especially for morning-dresses, carpets, and household goods of Cashmere and of Persia, and tea; they also take in exchange coccochineal, spices, sugar, tin, sandal-wood, woolen-loth, leather, wax, iron, copper, steel, small looking-glasses, otters, skins, pearls, Russian nankins, utensils of cast-iron, needles, coral, cotton-velvet, cotton-handkerchiefs, sponges, brocade, glass, and linen cloth, and small quantities of Indian muslins. They employ 3000 camels in this trade.

Three roads lead from Bokhara to Persia and Afghanistan, one to Meshed, the second to Herat, and the third to Cabool. The first passes in a southerly direction from Bokhara to the Amoo Deria, traverses in the same direction the Desht Kowon to Merve and Surah, and then passes off westward to Meshed. The road to Herat passes west of Kurseh to Kirkee on the Amoo Deria, and hence through the eastern and southern portion of the Desht Kowon to Andkhoo. At this place it turns west to Meimeona, passes the Moorgbaugh river, and traverses a mountain-range enters Herat. The Bokharans bring a variety of goods imported from Russia, and besides raw cotton, silk, gold, damasks of their own manufacture, woolens, spices, and rubarb; they take back the common shawls of Persia, used in Bokhara as turbans, girdles of a yellow colour, wooden combs, carpets, and taffetas. About 300 camels are employed annually in this branch of commerce.

The road to Cabool passes from Bokhara to Kurseh, and thence through a desert to the Amoo Deria, which it passes at Kiojusal. Hence it turns eastward, and passes through Khalkh and Khooloom, from which place it runs southward along the river Khooloom, till it enters the nether towns which extend to the neighbourhood of the town of Cabool. Before it reaches that town it traverses the valley of Ba-meene. This road and its continuation through Peshawur, Attock, and Lahore, connects Central Asia with India, but it is less frequented than the others on account of the unsettled state of Afghanistan, and the small authority which the sovereign of Cabool possesses among the mountaineers of this country. This commerce is entirely in the hands of the merchants of Cabool, and of the Hindoes of the Koochong and Shikarpore. They import shawls of Cashmere and Cabool, silkens brocade, fine muslins, pearls, and precious stones, and a great quantity of indigo; and export raw cotton, paper, iron, copper, glass, coccochineal, and some of the other cotton goods manufactured in the country. (Meyendorff and Burnes.)

BOLBEC, a town in France in the department of Seine Inferieure (Lower Seine) on the road between Le Hâvre and Rouen, 17 miles from the former, and 34 from the latter. It is 149’ 39’’ N. lat., 0’ 28’’ E. long.

Bolbec was not a place of any note in the early or middle ages. It was a dependency of the county of Eu, and was in the district of Caux. Expilly, in his Dictionnaire des villes, etc., &c., gives the population as 1,250 in 1770, and adds it is now 1,800. The town is an important mart in the trade, especially in leather and lace; he says there were also some manufacturers of woollen stuffs, and one of knives, which were in good repute on account of having been well tempered. In 1765 the town was almost entirely destroyed by fire; it was rebuilt and has since greatly improved, the improvement of the cotton manufacturing having been the great cause of its prosperity. "A few years since and Bolbec was only a poor little country town (‘una fabile bourgade’); it is now one of the most important manufactories in France. There is a poorhouse, and, so to speak, no poor at Bolbec, a town of 9000 inhabitants. 'This town,' says M. Carrier (and his observation deserves attention because he is sub-prefect), 'has no local tax on commodities (‘octroi’), yet it secures daily embellishment, because the population are not manufacturers, and the family regulates the municipal expenditure." (Dupin, Forces Productives et Commerciales de la France, Paris, 1827.)

Bolbec and the neighbouring town of Lillebonne were the first places in which machinery was applied to the spinning and weaving of cotton yarn. From near the commencement of the present century the inhabitants have been much engaged in this branch of business, and in weaving cheap and substantial fabrics of middling degrees of fineness, as well as in printing cottons. The following table, taken from M. Dupin, will show the activity of the district of which Bolbec is the centre:—

<table>
<thead>
<tr>
<th>Workmen</th>
<th>886</th>
<th>2,481,600 francs. £106,749</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot; preparing for spinning</td>
<td>3,650</td>
<td>9,949,800</td>
</tr>
<tr>
<td>&quot; weaving</td>
<td>11,226</td>
<td>2,047,500</td>
</tr>
<tr>
<td>&quot; manufacture of printed calicoes</td>
<td>2,410</td>
<td>10,612,500</td>
</tr>
<tr>
<td>&quot; tanning</td>
<td>34</td>
<td>220,340</td>
</tr>
</tbody>
</table>

18,200 £10,088,882 valuing the pound sterling, according to M. Balbi’s table, at 23.247 francs. To the productions of the industry of Bolbec there are added the cotton goods which are sent to Rouen to be decorated with red or blue, blue violet and white, and hands and ribbons. We know not whether its cutlery maintains its reputation for goodness.

The town is situated in a very picturesque valley, watered...
by the little river Bolbec, which flows into the Seine. It is a
handsome place, with a well-built parish church, said to
have been erected while the English were in possession of
Normandy. The situation is excellent, and its market
features draw their supplies of cotton (the raw material for
their manufactures) from Havre, their coal from the districts
of Fecamp and Harfleur. They find a market for their
productions in Rouen, the great mart for cotton goods;
while the port of Havre enables them to export all kinds of
admiralty goods, and to the wants of the colonies.
(Dupin; Robert; Dictionnaire Geographique; Reichard,

Descriptive Road Book, &c.) There is a considerable market
for horses. The population by the census of 1832 was 7063
for the town itself, or 963 for the city.

BOLBOLLA (Entomology), a genus of coleopterous
insects of the family Geotrupidae, Scarabeus of Linnaeus.
The species of this genus are remarkable for their short
compact form, above appearing almost spherical; the male
is armed with an erect horn springing from the head, the
female horn on the other side of the head. It has four
small horns, or tooth-like processes, arranged in a transverse
line on the anterior part; the antennae are eleven jointed,
the terminal joint of each is furnished with two teeth, the other is simple; the posterior portion of
the mentum is entire; the elytra are striated.

These insects live upon dung, and excavate cylindrical
cavities in the ground under the mass, in which they deposit
their eggs enclosed in a ball of the excrement.

There are about sixteen species known: their most common
colour is brown or yellowish, and sometimes black. In
this country two species have occurred, B. mohorica
and B. testacens. B. mohorica is of a pitch-black colour
and has the form of a cone; B. testacens is found in
the male sex has a recurved horn; antennae with the club
red; thorax punctured, and furnished with four tooth-like
projections on the fore part; elytra striated; legs and body
inclining to a red colour.

Silica

63.13
Alumina

22.67
Loss

11.00
Iron

3.20

The Lemnian bole, called also Lemnian earth, was an-
tiently an article of materia medica, and kept by apothecaries
in small pieces under the name of terrae sigillatae: these
were impressed on one side with the figure of a goat, &c.
According to Pliny it is to be employed as an astrigent.
Klaproth found the composition of this bole to be

Silica

66
Alumina

14.5
Oxide of iron

6
Soda

3.5
Water

8.5
A trace of lime and magnesia

98.5

The only bole at present used is as a coarse red pigment,
for which purpose it is calcined and levigated, and vended
in Germany under the name of Berlin and English red.
(Akin's Dictionary of Chemistry.)

These earths were formerly employed as an astrigent,
absorbent, and tonic medicines. They might be slightly
serviceable as absorbents, in the same way as putty powder
is used in the potter's art; when sprinkled over excoriations
of the skin. Any tonic power which they possessed was due
to the oxide of iron, which is now administered in a purer
state. These once celebrated articles have fallen into
merited disuse: they are still however employed in the East,
and occasionally as veterinary medicines in Europe, where
of a kind are found abundantly among vol-
canic, basaltic, and the older calcarious rocks, and are
called after the different countries in which they are found.
Those which have less colour are called Bolus albus, are
procured in Bohemia, Salzburg, &c., and consist of lithi-
arge, which is formed of silica and alumina with water,
and a little oxide of iron. The bole Lemnian must not
be confounded with the lapis Armenius, which is a native
carbonate of copper. The terra Lemnia is sometimes em-
ployed to dignify the paws of the fruit of the Brandono
pomaria, the toad's or monkey-bread, which is used as an
astrigent for the cure of dysentery by the inhabitants of
Senegal.

BOLETIC ACID was first procured by Braconnot from
the boletus pseudo-ignarius by the following process: the
expressed juice was evaporated, and the wash of the
consistency of a syrup, and then treated with alcohol, which leaves a white
matter; this is to be washed with alcohol, then dissolved in
water, and precipitated with a solution of nitrate of lead; the
precipitate diffused through water is to be decomposed
by sulphuric acid and water gas; by evaporating the remain-
ing solution there are obtained impure crystals of boletic
acid, and a very acid mother-water, composed of fungic and
phosphoric acids. The crystals of boletic acid are redissolved
in alcohol, which leaves a calcaeous salt, and by evap-
orking the solution purer crystals of boletic acid are procured.

Boletic acid is colourless, crystallizes in four-sided prisms;
taste is acid, like that of bitartrate of potash; it reddens
litmus, does not alter by exposure to the air; it is gritty, like
sand, and is transparent to sight. It is soluble in water
at 68°, and in 45 parts of alcohol. By heat the greatest
part of it is sublimed either in prismatous crystals or in fine
powder; but towards the end of the operation some empy-
reumatic oil is formed, and there is a strong smell of acetic
acid. It has the power of forming, by the agency of the
peroxide of iron from solutions, but not the proteoxide.

This acid forms salts with the alkalies, earths, and with
metallic oxides; they are called boletates. They are not
important compounds, none of them being applied to
any use. (Berzelius, Travail de Chimie, tom. 5, p. 192.)
BOLETUS (Entomology), a genus of coleopterous insects of the section Brachylitra (Macleay), and family Tachyporide, Staphylinus of older authors. Generic characters: head long, and pointed anteriorly; antennae with the basal joint rather long and slender; the three next joints slender, and nearly of equal length, the remaining joints gradually increasing in width to the last, inclusive; palpi rather long and slender; thorax narrower before than behind, the hinder angles rounded; elytra smooth, or indistinctly striated; body long, widest at the base, and tapering to a point at the apex; legs moderate, tibiae spinose, the four posterior with long spines at their apices.

The species of this genus reside in boleti and fungini; in the latter they occur in the greatest abundance, particularly when in a state of decay. They are all exceedingly active, and their smooth slender bodies and pointed heads render it an easy task for them to thread their way with rapidity through the putrescent fungi.

B. lanatus (Linnæus) is one of the most beautiful and largest species of the genus, and is not uncommon; it is about a quarter of an inch long. The head is black; the antennae have the three basal joints yellow, the remaining black, with the exception of the terminal joint, which is yellow; the thorax and legs are yellow; the wing-cases are of a blue-black colour, with an oblique yellow spot on the shoulders; the body is yellow, with the apex black.

About eighteen species of this genus have been found in this country, almost all of which are variegated with yellow and black. Many have the wing-cases yellow, with two black spots, one on each side at the apex; some have also the region of the scutellum black. (Stephens's Illustrations of British Entomology.)

BOLETUS, an extensive genus of fungi, consisting, according to the old botanists, of leathery masses, which are sometimes of considerable thickness, and having the spores lodged in tubes which occupy the same situation as the plates in the gills (or hymenium) of the common mushroom. Fries, the great modern describer of fungi, defines the genus thus: hymenium formed of a peculiar substance, altogether distinct from the cap, entirely composed of tubes united into a porous layer; these tubes are unliod, separable from each other, long, cylindrical, or angular, open from end to end, and bear asci (spore-cases) on their inside; ascii cylindrical, with small roundish spores; the stipe is central, and often netted; the cap is fleshy, soft, spread out into a hemispherical form; veil present in many of them. It includes within its definition but a small number of the old Boleti, referring the principal part to Polyporus, which is specially characterized by having the tubes of its hymenium inseparable from the cap, which is more leathery, and usually without a stalk.

The true Boleti are generally found growing on the ground in woods and meadows, especially in pine woods; the Polypori are commonly met with on trees, birch, and poplars. Of the former several species are eatable, as B. edulis, subomentonius, and grandulatus; others are acrid and dangerous. Of the Polyporus, subsubcameraus, ovatus, and other similar others are inedible, etc., the upper part of the stalk called tuberaster, which has a great reputation at Naples and Genoa. S. Cinnabarinus, supposed to have been the agarkon of Dioscorides, is an old-fashioned medicine remarkable for the extreme acridity of its powder; it acts as a powerful purgative, but never employed as such in the present day. B. igniarius when dried and sliced furnishes the German tinner, or enameller, a leathery substance sold in the tobacconists' shops. B. destructor is one of the many species of fungi the ravages of which are too well known under the name of dry rot; their destructive influence is not however caused by the decomposition, or the part which we commonly consider the fungus itself, but by the ramifications, through the substance of the wood, of what botanists call the thallos and gardeners the sapum of such plants, which is in effect their stem and root in a mixed state. The most dangerous of the dry rots is Merulius lacrymans.

BOLETUS, MEDICAL USES OF. Several different species, all confounded under the name B. igniarius, furnished the means of staniching the flow of blood from wounds. The dried and powdered fungus possessed astringency, and, being erroneously referred to the genus Agaricus, were termed agaric, which word is often used as synonymous with styptic. Boletus possesses however no peculiar power of arresting the flow of blood, but acts mechanically like the sponge, absorbing the blood, and moreover being now almost entirely disused by British surgeons, but in some cases it merits a preference over other means of closing a bleeding vessel. When it is to be used, it must be rubbed firmly between the hands, doubled, and applied over the orifice with a gauze, and bound down by a compress. It should not be removed till after twenty-four hours, and the clot should be softened with cold, not warm water. Though the German tinner seems to offer a convenient substitute for the prepared agaric in case of an emergency, its brownish or blackish tincture in nitric acid is not however caused by the addition of nitric acid or salt petrificum in which it is steeped would irritate and influence the edges of the wound. (Amadou, vol. i. p. 410.) The German tinner however forms a very excellent moxa. The different kinds of boleti used as styptics were formerly dispersed over Europe.

It is less on account of their uses than of their peculiar habitations that the boleti merit our notice. In chemical composition, odour, and habitations, they resemble animals more than vegetables. When cut into, some of them exhibit almost a musk-like structure (B. hepaticus, or P. hepaticus), hence called by the French le musc de bœuf. The boletus igniarius, when divided, has been stated by Professor Eaton to heal like a flesh-wound by the first intention, or complete re-union of its divided edges, scarcely exhibiting a matrix in which to be the important for Jewish (Shahinian's Journal, vol. vi. p. 177).) Nitrogen enters into their composition; and in regard to their relations with the atmosphere, they inhale oxygen, and exhale carbonic acid gas. The boletus luridus has been ascertained to abstract twelve per cent. of oxygen from the air of the atmosphere in twelve hours. (Inqury into the Changes which the Atmosphere undergoes when in Contact with certain Vegetables which are destitute of Green Leaves, by M. F. Marcot; Jameson's Edin. New Phil. Journal, vol. vii. 1833.)

Boleti consist largely of fungus, with some boletic acid. Unlike most fungi, which grow rapidly and perish quickly, most of the boleti grow very slowly, acquire a firm texture, and last perhaps 100 years if not exposed to much moisture. According to Dr. C. D. Cameron, Igniarius is found in India, and used in nearly the same manner as in Europe. (Ainslie's Materia Medica India, vol. i. p. 6.)

BOLEYN, ANNE, or, more properly, BULLEN, or BULLEYNE, was the daughter of Sir Thomas Bollen, afterwards created Viscount Rochford and Heathfield. He was the representative of an ancient line in Norfolk, which had in three descents been allied to the noblest families in England; and he had himself filled important offices in the state. Anne's mother was Lady Elizabeth Howard, daughter of the Duke of Norfolk. Anne Boleyn was born in the year 1507, and in her childhood accompanied Mary, the sister of Henry VIII., to L 2
France, where she remained in the court of that queen and of her successor, the wife of Francis I, for many years. She was afterwards attached to the household of the Duchess of Alençon. The time of her return from France is doubtful, but it is believed to have been in 1528, when her husband was sent in an embassy to France. At that time she became a maid of honour to Queen Katharine, the wife of Henry VIII., and was receiving the addresses of Lord Percy, the eldest son of the Duke of Northumberland. Henry VIII. is to be credited, he had long entertained scruples concerning the lawfulness of his marriage with his brother's widow; and had attributed to this violation of God's law the premature death of all his children by Katharine, excepting the Duke of Mary. The most of these stories however cannot abstain from remarking that the moment of his proceeding openly to annul the marriage was identical with the commencement of his addresses to Anne Boleyn, and that a similar coincidence marks the catastrophe of the unlucky woman. A letter from the king to her in 1528 alludes to his having been one whole year stricken with the dart of love; and her engagement with Lord Percy was at this time broken off by the intervention of Wolsey, in whose household that nobleman was brought up. Anne retired into the country during the early part of Henry's process for the divorce, but she kept up a correspondence by letters with him. Some of the king's letters to her are still extant in the Library of the Vatican; they are in bad French, and were copied by the direction of Bishop Burnet, and afterwards printed. But Dr. Rowland Lee, afterwards bishop of Litchfield, performed the ceremony 'much about St. Paul's day,' which is probably the 25th of January, the feast of the conversion of St. Paul, or perhaps the 4th of January, another St. Paul's day. This date is established by a letter from Cranmer in the British Museum, quoted by Burnet, and printed in Ellis's Letters, first series, p. 34, and Cranmer's assurance is corroborated by that of Stow; although Hall, and after him Holinshed and Speed, mention St. Paul's. But the death of Henry's process was not until the 23rd of May following that the nullity of the king's previous marriage was declared by Cranmer, who five days afterwards confirmed that of Anne Boleyn; and on the 1st of June Queen Anne was crowned with great magnificence in the Tower. But the following September the Princess Elizabeth was born.

Of the events of the queen's life during the two subsequent years little is known, except that she favoured the Reformation, and promoted the translation of the Bible. In January, 1535, she brought forth a dead child, and it was at that time and during her previous pregnancy that the affections of her husband were alienated from her, and fixed upon Jane Seymour, daughter of Sir John Seymour, and one of the maids of honour to the queen. Whether it was by the wish of Henry, his, had he been in law, spreading concern Anne it is needless to inquire; nor is it very important to know by what device a despotic monarch, who could count upon corrupt judges and a parliament of incredible servility, clothed with the forms of law to carry out his wishes, and to house the queen in likewise criminal intercourse with her brother, Viscount Rochford; the evidence to support the charge proved that he had beant on her bed. She was accused also of grossly criminal intercourse with Henry Norris, grooms of the stool; Sir Francis Dereham, a gentleman of the bed-chamber; and Mark Smeaton, a groom of the chamber. To support these charges something said by Lady Wingfield before her death was adduced, which amounted only to this, that the queen had told each of these persons that she loved them better than her royal husband. She was sent into high treason, under the act of the 26th of Henry VIII., which made those who slandered the issue begotten between the king and Queen Anne guilty of that crime. The other evidence against her was Mark Smeaton, who was never confronted with her, but who was said to have confessed that he had three times known the queen. Two days after she was condemned to death Cranmer pronounced the nullity of the marriage in consequence of certain lawful impediments ostensibles by the king. Of her conduct in the Tower an exact account may be derived from the letters of Sir William Kingston, the lieutenant, of which five, together with one from Edward Seymour, Earl of Hertford, are printed in the originals in the British Museum. From the day of her committal she seems to have been certain of her fate; and she displayed by fits the anguish of despair and the levity which often accompanies it. 'For won owre,' says Kingston in a letter to Secretary Cromwell, 'she ys determined day to dy, and the next owre will contrary to that.' To her aunt the Lady Boleyn, she confessed that she had allowed somewhat too familiar approaches by her courtiers, but she never varied in her denial of any criminal act. On the 15th of May she was arraigned, together with her brother, in a special commission of which her uncle, the Duke of Norfolk, was president. The sitting of this commission was secret, and the record of its proceedings must have been immediately destroyed; it is certain however that none of the ladies of her household were examined. The tradition of all contemporary writers agrees that the queen, unassisted by legal advisers, defended herself firmly and skillfully, notwithstanding the indecent impatience of the president; but, according to the practice of that and the three subsequent reigns, she was of course convicted. After her conviction the feast of the queen's imprisonment is mentioned in baseness of her persecutors, and anxiety for her own posthumous fame. There is in the British Museum the copy of a letter, unquestionably authentic, addressed by her to the king, which is written in such a strain of consciousness of an imminent execution but without a winking of the eye, it sets her immesurably above her oppressor. She tells him, 'Neither did I at any time so forget myself in my exaltation, or received queenship, but that I always looked for such an alteration as I now find, for the ground of my predicament is not one or two princes, or any fancy, the least alteration was fit and sufficient I know to draw that fancy to some other subject. . . . Try me, good king, but let me have a lawful trial; and let not my sworn enemies sit as my accusers and judges; yea let me receive an open trial, for my truth shall fear no open shame.'

Sir William Kingston, with the aid of his wife, and of the Lady Boleyn (the queen's aunt and known enemy), acted as a constant spy on her; reporting to Secretary Cromwell, and through him in the king's interest to the prisonar's lips. On the 16th of May, Kingston writes impatiently to 'know the king's pleasure as shortly as may be, that we here may prepare for the same which is necessary for to do execution.' On the 18th he writes: 'And in the receiving of letters from Queen Anne there is no manner of question, for the queen comes to her own pleasure.' "Mr. Kingston, I hear say I shall not die afore noon, and I am very sorry therefore, for I thought to be dead by this time and past my pain." I told her it should be no pain, it was so suble. And then she said, 'I heard say the executioner was very good, and I have a little neck,' and put her hands about it, laughing heartily.' On the 19th of May she was executed on the green before the Tower, denying her guilt, but speaking charitably of the king, no doubt with a view to protect her daughter from his vengeance. 'Her body was burnt within in the Tower, not being used to put arrows in.' Lord Rochford, Norris, Weston, Brereton, and Smeaton were also put to death.

A living historian sees something mysterious in the hatred exhibited by Henry to his queen. The mystery is sufficiently solved when we learn that the murder of the queen's execution Henry married Jane Seymour; and he afterwards procured an act of parliament (28 Hen. VIII. c. 7) declaring his marriage with Anne void, and the issue of it and of his former marriage illegitimate.
VIII. could only obtain her hand by annulling his previous marriage; and the refusal of the pope to do this led to the secession of England from the Romish communion. Thus it is that the character of Anne Boleyn (a matter utterly beside the questions agitated between the Catholic and Protestant churches) has become a subject of fierce controversy which three centuries of unceasing strife have heightened. Catholic writers strive elaborate to prove that, after a courtship of more than five years, her charity did not repel the advances of Henry up to the very day of her marriage; while Protestants indignantly deny the charge, and appeal in their vindication to the dates of the principal events of her life.

Burnet, who has taken great pains with the subject, is the writer on whom we have principally relied. Stow, Hall, and the other historians who wrote in the time of Henry VIII. and of Queen Elizabeth, are cautiously meagre in their details.

BOLINGBROKE, HENRY ST. JOHN, VISCOUNT, was the son of Sir Henry St. John, Bart., afterwards Viscount St. John of Battersea, who was born October 1st, 1675. His mother was Mary, daughter of Robert Rich, Earl of Warwick. He was sent to school at Eton, from which he proceeded to Christ Church, Oxford; and on leaving the university he appears to have gone to travel on the Continent. He is supposed to have been abroad during the greater part of his post, and it is clear from the date that he visited Milan. In 1700, soon after his return, he married Frances, daughter and one of the co-heiresses of Sir Henry Winchcomb, by which alliance he came into the possession of considerable property. His wife and he bore the name of Rich, his father-in-law.

He had before this produced a few short poetical pieces of little merit; but he was chiefly known as one of the most dissipated among the young men of fashion of the day. He now however entered upon a new scene. He was returned to the parliament which met in February, 1701, for Watton Basset, a family borough, from which his father retired to make room for him. At this time the Tories, with Rochester and Godolphin at their head, were in power; and to this party, which was also dominant in the new House of Commons, of which he was a member, he at first appeared to be attached; indeed, even in this his first session, to have distinguished himself on various occasions as one of the most active and efficient members of their body. Their leader Harley, whom they had placed in the chair, and St. John were already intimate friends.

He sat also in the next parliament, which met in December of the same year, the last called by King William, and in the first held by Queen Anne, which assembled in October, 1702. On Harley being made secretary of state in 1706, and becoming first lord of the treasury, St. John was appointed his secretary, and thus came into power. However, after nearly four years, till February, 1708, when, upon the formation of a Whig administration under Marlborough and Godolphin (who had by this time changed their politics) he and Harley were cut out, the Whigs were in power.

He did not seek a place in the next parliament, which met in November, 1708; but, retiring to the country, withdrew altogether from politics, and gave himself up for two years to study. By the end of this period another composition revolution had taken place, and the dismissal of Godolphin in the beginning of August, 1710, had again elevated the Tories to power, with Harley at their head. In this new arrangement St. John was made one of the secretaries of state, and the most important office of the direction of elections. He was returned both for his old borough of Watton Basset and for the county of Berks, for which latter he elected to sit.

The biography of St. John for the next four years forms a principal part of the memorable administration of which he was one of the leading members. That administration remained at the head of affairs till it was suddenly upset by the death of the queen in the beginning of August, 1714. During its tenure of power it had terminated the peace of Utrecht (signed 11th April, 1713) the war with France, which had lasted since 1702; and this forms the great public act by which it has left the mark of its existence behind it upon the history both of these kingdoms and of Europe. In the negotiations by which this event was brought about, St. John bore not only an eminent but the chief part. There is much reason for doubting however if the restoration of peace was the ultimate or principal object of his zealous exertions. There is indeed strong ground for believing not only that both he and Harley, almost from their first entrance upon office, contemplated the restoration of the Stuart family to the throne, if circumstances should prove favourable for such an attempt, or if their own interests should appear to demand the measure, but that they had at least acted with a view to the perpetuation of the Pretender. He had been called to the House of Lords by the title of Viscount Bolingbroke in July, 1712; and soon after this, from various causes, an estrangement and rivalry arose between him and his old friend Harley (now Earl of Oxford and lord treasurer), which broke out at last in an open contest for ascendency. Principally, as it is understood, through the aid of Lady Masham, by whose influence with her royal mistress Harley had been placed in his present situation, but who in the end deserted herself and Bolingbroke, the latter was the more likely to effect the removal of his competitor on the 27th of July, 1714.

The death of the queen, however, which followed within a week, and the prompt and decisive measures taken at the instant by the friends of the House of Hanover, made Bolingbroke's triumph only that of a moment. After having been treated by the Lords Justices in a manner which sufficiently showed what he had to expect, he was on the 8th of August by the king's order dismissed from the council and in the House of Lords. After this, and even appeared in parliament, and took an active part in debate, as if he had nothing to fear; but alarmed at length by the temper shown by the new House of Commons, which had commenced its sittings on the 4th of March, 1715, on the 26th of the same month he suddenly left London in disguise, and succeeded in making his escape to France. On the 9th of August following, by order of the Commons, he was impeached by Walpole at the bar of the House of Lords of high treason and other charges; but he made use of every facility the French government afforded him to render himself to take his trial, he was attainted by act of parliament on the 10th of September. In the meantime he had entered into the service of the Pretender, who appointed him his secretary of state, or prime minister, and in June of the following year, did in fact take up his residence in the aid of the French government to the expedition then preparation with the object of effecting a rising in favour of the exiled family in Great Britain. When the prince set out in person for Scotland at the end of the year, Bolingbroke was left in charge of the troops which had occupied the town of St. James's, and a negotiation was opened with him by Lord Stair, the English ambassador in Paris, with the view of making arrangements for his pardon and restoration to his court connexion; but it seems he might now be able to render against the party and the court by which he had just been flung off. It is probably however that more was expected of him in this way than he was disposed to engage for; at any rate the ministry eventually declined granting the pardon for the prince.

He remained in exile for the next seven years, during which he kept up a correspondence with Swift, Pope, and other literary friends in England, and also drew around him a circle of new acquaintances comprising some of the most brilliant and noble minds of the age. He was principally on a small property called La Source, near Orleans, which he had purchased in 1719, in which he had taken great delight in laying out and decorating. His wife having died in November, 1718, in May, 1720, he privately married his former secretary, the lady who had been his wife for some time previously. She was a niece of Madame de Maintenon, and brought him a considerable fortune. It was to this lady's exertions and management that he was eventually indebted for liberty to return to his own country, which he obtained in May, 1723, principally it is understood through the intervention of the king's mistress, the Duchess of Kendal, whom Lady Bolingbroke bribed with a sum of eleven thousand pounds. Bolingbroke however, although he came over for a short time in June of the same year, did not take up his residence in England till September, 1724. He now petitioned for the restoration of his property, and that also was granted to
him by an act of parliament, which received the royal assent on the 31st of May, 1725. The complete reversal of his attitude, and also the exclusion of the House of Lords, was steadily refused to all his solicitation. Upon finding the doors of parliament thus shut against him, he engaged in a course of active opposition to the ministry through the medium of the press; and his political writings, prefixed to the title of "Letters upon the History of England," and afterwords in the "Craufurman," excited for some years much attention. It was in the "Craufurman" that the series of papers from his pen originally appeared which were afterwards collected and published separately under the title of "Letters upon the History of England," by Humphrey Oldcastle, and also the subsequent series of letters forming his "Dissertation upon Parties." 

While thus employed he resided at the villa of Dawley, near the place, which he had purchased on his return. Here he occupied himself not only in carrying on this political war, but, as it afterwards appeared, in writing various treatises upon moral and metaphysical subjects which he did not send to the press. In January, 1735, however, he suddenly left England, and returned to France, with the resolution of spending the remainder of his life in that country. This step is supposed to have been connected with some political reasons, but what they were has never been satisfactorily explained. In this year, as appears from the "History of England," the 4th Edition of which was published in London an octavo pamphlet containing a correspondence of some length which had taken place between Bolingbroke and the secretary of the Pretender's service in 1716. The sender apparently quitted England with a letter at large; and their contents are such as it certainly could not have been agreeable to Bolingbroke to see laid before the public. He remained in France, residing at a seat called Chanteloup, with the exception of a short visit which he paid to England to dispose of Dawley, till the death of his father in 1742. He now returned to take possession of the family estate at Battersea; where he resided for the most part till his death on the 15th of December, 1771. He left behind him, by whom he had no family, terminated a union which seems to the last to have been one of great happiness and strong affection on both sides. Most of his old friends also, both literary and political, among the number Pope, Swift, Gay, and Atterbury, were now gone. In politics he had almost ceased to take any active part for some years before his death; the fall of Walpole, in 1742, the event to which he had looked for so many years for his full restoration to the rights of citizenship, and probably his readmission to public life, when it came, brought no advantage either to himself or his party. Bolingbroke bequeathed all his manuscripts, with liberty to print them, to David Mallet, the poet and Scotchman, who had gained distinction by consequence of his recently deceased friend Pope, who, shortly before his death, had, without the knowledge of the author, got an impression of the work thrown off from the manuscript which had been lent to him. Mallet published the several treatises which had thus been left to him, along with all Bolingbroke's correspondence preserved in 4to in 1754. The first volume of this collection contains the "Letter to Sir William Windham" (which had been first published in 1732 along with some other pieces); a short tract, entitled "Reflections upon Exile" (dated 1716, and first published in 1724); the "Dissertation upon the Study and Use of History," though part of it had, it is stated, been shortly before printed in French in a "Monthly Mercury;" several short political papers, some originally published under the title of the "Occasional Writer," and others which had appeared in the "Craufurman;" and the "Remarks on the History of England," in twenty-four letters (originally published in the "Craufurman," and afterwards published separately under the name of Humphrey Oldcastle, with a dedication to Sir Robert Walpole, and a preface, which are here omitted, as having been "written by another and a very inferior hand.") The contents of the second volume are "A Dissertation upon Parties" (in nineteen letters, originally published in the "Craufurman," and also in the "Correspondence of Bolingbroke and Madame de Stael," dated 1735, and first published in 1732, in 2 vols. 8vo, although a portion of the work had been privately printed in the lifetime of the author; a "Plan for a General History of Europe," and a "Letter on the Pretender," prefixed to the "History of England," and called the "Dissertation upon the Study and Use of History." Volume third consists of "A Letter on the Spirit of Patriotism" (dated 1736); "The Idea of a Patriot King" (dated 1738); "A Letter on the State of Parties at the Accession of George I.;" "Some Reflections on the Present State of the Nation" (published in 1745, and first published in 1759 along with the Letter to Windham); the "Substance of some Letters (on moral and metaphysical subjects) written originally in French, about 1720, to M. de Pouilly;" and "A Letter concerning the Nature, Extent, and Influence of Roman Knaveism," also written originally in French, and published along with the Letter to Windham, being the introduction to the series of letters or essays addressed to Alexander Pope, Esq. The fourth volume contains the second of these essays, entitled "On the Folly and Presumption of Philosophers;" the third, "On the Rise and Progress of Monotheism;" and the fourth, "Concerning Authority in Matters of Religion." The fifth volume is made up of fragments and minutes of essays, in continuation of the above. In 1798 there appeared in 2 vols. 4to, sometimes designated State of the Nation; and in 1798, also, in 4 vols. 8vo, a "Collection of the Letters and Correspondence of Bolingbroke. Public and Private," during the time he was Secretary of State to Queen Anne, with Explanatory Notes, &c., by Gilbert Parke, of Wadham College, Oxford. The ninth volume, "Selections from the Letters," when Bolingbroke took flight for France, by his under-secretary, Thomas Hare, Esq. afterwards Sir Thomas Hare, Bart. of Stow Hall, in Norfolk, where they had ever since been preserved, their existence having been little noticed or known. They appeared as a collection of letters by Bolingbroke, in French, edited by General Grimard, who has prefixed an historical essay on the life of the writer. This collection consists for the most part of letters written in French by Bolingbroke to Madame Stael, from 1712 to 1726. These letters, besides being valuable between 1718 and 1726. An octavo volume of letters, addressed by Bolingbroke to the Right Hon. William Pitt (the first Lord Chatham), is said to have been printed at Dublin in 1758, but we have not seen it. Lord Bolingbroke's writings are now little read, and indeed, in matter at least, they contain very little for which they are worth reading. He had no accurate or profound knowledge of any kind, and his reasonings and reflections, though they may have often a certain speciousness, have rarely much solidity. A violent man by nature, we believe, he was, when he was young, a considerate one, he even has in what he has written on the transactions of his own time, and on those in which he was himself concerned, only perplexed and obscure history; and this seems to have been his career. His most important performances of this kind, though they somewhat contain what he was parried immediately after the events to which they relate, and although in one or two instances a very few copies of them may have been privately printed and confided to certain intimate friends, a few years after have been actually composed by their author from the public or by himself lived to be called to account for what they contained, or any of the persons who could best have either refuted or confirmed them. As a mere rhetorician, however, Lord Bolingbroke was a very great master. There is, in that style, even if he be ever allowed, though he added little if anything of much value to the general intelligence from his own stores, to have for the first time familiarized some important truths to the public mind. His style was a happy medium between the love of the man of society—or rather it was a happy combination of the best qualities of both, heightening the ease, freedom, fluency, and liveliness of elegant conversation with many of the deeper and richer tones of the eloquence of formal orations and of books. The example he thus set has probably produced a considerable effect in moulding the style of popular writing since his time. The opposition of Bolingbroke's philosophical sentiments, as disclosed in those writings which appeared after his death, to revealed religion, is generally known, as well as the severe remark which the manner of their publication drew from Johnson—"Having loaded a blunderous
and pointed it against Christianity, he had not the courage
to discharge it himself, but left half-a-crown to a hungry
Sorbonne student, to the great rejoicing of all. We, as we
believe, admitted on all hands that Christianity has not
found a very formidable opponent in Bolingbroke, and
that his objections for the most part only betray his own half-
learning. His objections, and the system which he would sub-
stitute for them, have been very minutely examined by one of
the third of his 'Letters on the Study of History,' and in his
's Essais' addressed to Pope.

BOLITTO/PHAGUS, Fabricius (Entomology) Eldedona
of Latreille, Leach, and Millard, and Opiparum of some
other authors; a globular insect of the section
Heteromezia and family Tenebrionidae. The principal
generic characters are as follows: head short, partially
hid en by the thorax, in the males sometimes armed with
a horn or tubercle; antenna very short and thick, the
third segment having the usual form of a club; maxillary
palp rather large and distinct, the terminal joint
truncated, its length equaling that of the two preceding
joints; labial palp small; thorax coarsely punctured or
rugose, the lateral margins more or less toothed; elytra
deply striated; legs short and thick, the anterior tibiae
compressed.

There are about six species of this genus known: they
live in boleti, and are of a small size, a short ovate form, and
their prevailing colours are brown-black. In this century
both Bolivar and O'Donovan collected this genus, and their
discussions under the name Agaricicola. It is of a brown colour, and about one-twelfth
of an inch long. It is rather local, but where it does occur
it is found in tolerable abundance.

BOLIVAR, SIMON. In giving a sketch of the life of
this great man of the 19th century, it is necessary to select facts
that have most probability can be appreciated only by those who
have examined and collated the conflicting accounts of
different partisans, which exhibit, on the one hand, the
extravagant praises of friends, and on the other, the violence
of partisans and pan-hispanism in its extreme form. The pre-
cent article is derived from several works which, as they
will occasionally be referred to, it will be convenient in
the first place to name. The most important are, The Annual
Register; The American Annual Register; The North
American Register; the report of the Comité de la
Revolución de la República de Colombia, by José Manuel
Restrepo, Paris, 1827: this work is dedicated to Bolivar,
as the intimate friend of the author, who was secretary
of the Colombian republic. Outline of the Revolution
in Spanish America, by a South American; Mémoires of
General Miller, in the Service of the Republic of Peru, 2 vols.,
London, 1829; Journeys in Colombia, by Captain Cochran,
2 vols., London, 1828; A Memoir of Colonel Bolivar in El Menaz-
gro, by the Rev. Jos. Blanco White, Londres, 1823; Me-
moires de Simon Bolivar were published in Paris in 2 vols.,
1829, a sight of which we have not been able to obtain.
The discrepancy of the various accounts in these works
is occasionally very perplexing. Indeed Bolivar himself, as
General Miller asserts, declared in 1824 that all the nume-
rous stories about him were false. In this eulogy, it is
necessary to premise, that, in some of the following partic-
ulars, especially the dates, it is not unlikely that inaccuracy
may be discovered by persons whose information has been
acquired on better authority than that of the inconsistent
narratives hitherto published. It is much to be regretted
that no impartial history of the South American war of
independence has yet appeared.

Simon Bolivar was born in the city of Caracas, on
the 24th of, or, according to General Miller, the 25th of July,
1783; a date established by his own biographers. As a
colonel in the militia of the vale of Aragua, his mother
Doña Maria Concepcion Palacios y Sojo; both of very
populous families in Venezuela, of the rank of nobility called
Los Montufulas. He was sent, when about fourteen, to
Mexico, where he made an excellent education. Some
of his biographers it is said that in his voyage he visited
Mexico and Havanna, places lying certainly somewhat out
of the way of a ship's passage from Venezuela to Spain.
After remaining several years in Madrid, and paying some
attention to the study of jurisprudence, he made the tour of
Italy, Switzerland, Germany, England, and France; and
after a long residence at Paris, devoting his time, as some
writers believe, to the study of jurisprudence, in 1807, he
entered the diplomatic service of Spain, and was despatched to
others, reveling in all the licentiousness of the Palais
Royal—he returned in 1808 to Madrid, and there married
the daughter of Don Torro, uncle of the Marquis of Tore
of Caracas, or, in other words, the Marquis of the Marquis
of Ustor de Oro, his age being then only under sixteen
and that of his wife, who is described as being remark-
ably beautiful and accomplished. In 1809 he returned to
his native country, where, in company with the new captain-
general, Don Emilian, he arrived March 24th at the port of La
Guaya, and retired with his wife to domestic seclusion on one of his large patrimonial estates
in the beautiful vale of Aragua near Caracas. The yellow
fever, so prevalent in that climate, soon terminated his
peaceful domestic happiness. He and his wife were both
sick and died. The natural intensity of his affection
threw him into a state of frantic grief, which he sought to
alleviate by returning to Europe. From Europe he pro-
ceeded to the United States, where he gathered some useful
political knowledge, and about the beginning of 1810 again
landed in Venezuela, in company with General Miranda,
and retired to his estate of San Mateo.

It may be useful here to say a few words in explanation of
the state of things immediately previous to the entrance of
Bolivar upon the scene. It will be recollected that the
colonies of South America appear to have remained during
a period of about 300 years in quiet submission to the
arbitrary government of the mother country; that is, from
the time of Columbus to the commencement of the pres-
etional history of the South American revolution. The
political conditions of South America from the first
by the revolution of the Anglo-American colonies, and
afterwards by that of France, began to be earnestly dis-
cussed by the patriots of the southern continent, who, in
aggravated circumstances of oppression, far exceeded the
south of the Iberian peninsula, the political condition of
their respective countries. It was from among the indisci-

date official clerks, were sent from Madrid, and without
being, in reality, under any responsibility, revelled in every
kind of tyranny and venality. Justice was bought and
sold: the most important legal decisions were made in
favour of the highest bidder. The mercantile policy of the
parent country was equally despotic and rapacious; to
preserve her monopoly of the wine trade, the culture of
the vine in America, though very appropriate to the climate,
was strictly prohibited; the establishment of manufactur-
nges became objects of speculation. All corn and other
products of Spanish city shops, were forced, in barter for bullion,
upon a half-civilized people who neither wanted nor could
possibly use them; foreign commerce was interdicted
on pain of death; all social improvement was suppressed; and
prevented them from knowing the great and beneficent
invention, all intercourse whatever was strictly forbidden with
any country or people besides Spain and Spaniards, and
allowed even with them only under many restrictions. In
short every species of wrong appears to have been inficted,
with the exception, above all, at what has been called the
mediation of the United States. The North American and
their ranks were reinforced by recruits from the lowest and worst
description of monks in the monasteries of Spain. By them
supersition and ignorance were upheld as the surest support
of the policy of the Spanish colonial system; so that before
1810, throughout the whole continent, between Lima and
Monte Video, there was but one crazy old printing-press, and
that in the hands of the monks, who consigned to the
dungeons of the Inquisition every possessor of a disallowed
book. (Quarterly Review, vol. vii., and North American Re-
view. vol. x.) It is impossible to state anything more
than briefly of the first revolutionary movement in Venezuela a spirit of
inquiry was aroused by a secret importation of the works of
the French writers on religious toleration and democracy, the 'Rights of Man,' and similar productions; and that
was the greater danger of which they were jealous. The
slanderous and pernicious denunciations of the priesthood, so strongly stimulated the
desire to read them, that many individuals retired to seclu-
sion in the country for that purpose. However, before 1810,
the disposition to shake off the tyranny of Spain had already
become sufficiently strong to occasion a few desperate
B O L
80

attempts; but terror soon quelled these partial efforts, after
those concerns were destroyed by the cruellest kinds of
death. The first decisive movement of the revolutionists
was made on a solemn Catholic festival, on the day preceding
the Feast of the Assumption, August Thursday, 1810, when the
commander-in-chief of Caracas was arrested and deposed, and
a supreme junta or congress assembled to organize a new
government for the state of Venezuela. (See in Outline of
the Revolution, the Declaration of Independence, on the
28th of the following month, July or August, the same was done
at Bogota, the capital of New Granada, which formed for
itself a separate republican government; but it does not
appear at all certain that Bolivar had any share in these
first insurrections, though it is possible he may have induced
in others his own determination. On the contrary it seems to be evident
that he at first regarded the project as impracticable; or, as
some assert, he disapproved of the plans then adopted by the revolutionists,
who still partially retained a reliance on the unfortunate Ferdinand,
for, after the establishment of the independent legis-
lature at Caracas, he does not appear to have held any ap-
pointment, though imported to do so by some of its mem-
bers, especially by his cousin, Don Felix Ribas.

He accepted, however, soon after the proposition to proceed to
England, for the purpose of soliciting the English government to aid the cause of the independent party, and,
with Don Luis Mendez, arrived in London in June, 1810.
Finding that the English government professed to maintain a strict neutrality, Bolivar himself paid an
official visit, after a short stay in England, left his com-
panion, and returned in disgust to Caracas. Upon
the appearance of Miranda as commander-in-chief of the
patriot army in 1811, the declaration of independence was
boldly maintained by the military forces which were
in the city of Caracas, La Guayra, and Merida, about 20,000
persons; and it happened on the very day and hour in
which the revolution had broken out two years before, the
clergy seized upon the accident to benefit by a powerful
excuse. The clergy of Caracas, the priests, monks, and friars were
stationed in the streets, vociferating in the midst of credu-
lous multitudes trembling with fear, while the royalist troops under Monteverde were getting possession of the provinces. In 1809 there were 7000 royalist
prisoners of war, who were confined in the fortress of Puerto
Cabello, having shortly after broken loose, murdered some
garrison, and by the treachery of the officer on guard,
taken possession of the citadel, Bolivar, being unable to
regain his prison by destroying the gateway, had to
destroy the bridge by fire and treachery, and the night
on the 1st of July, 1812, returned by sea to his estate near Caracas.

General Miranda, on learning at Vitoria that this very important place, with all its stores of ammuni-
tion and provisions, was deserted, capitulated in despair to Monteverde the royalist general, and prepared to
leave the country, when he was unexpectedly arrested by
a party of patriot leaders, of whom one was Bolivar himself;
by him Miranda was accused of being a traitor and secretly
allied with the British, and being delivered with
nightmares, his soldiers were put in irons to Spain, where he
died in a dungeon. For this conduct Bolivar and his compatriots have been severely repro-
ached with treachery and ingratitude. There were how-
ever many circumstances which appear to justify a suspicion
of Miranda’s collusion with the English Cabinet. He had
been long resident in London, was in constant intercourse with the English
officers stationed at the neighbouring islands, and was
about to depart in the vessel of an English captain. He had
denied, indeed, any attempt of intrigue, but the defect of
natives and preference of foreigners. Bolivar received from
Monteverde, as an especial favour, a passport to Caracas,
where, with his cousin Ribas, he remained during the
autumn of 1812. Venezuela was now again entirely in the
hands of the royalists, and death and plunder reduced the whole country to a frightful state of misery:
by pretexts the most trivial, old men, women, and
children were arrested, maimed, and massacred as rebels. According to General Holstein, friars and military butchers
reigned triumphant; and one of Monteverde’s officers, Co-
lonelSusostes, cut off the ears of a great number of patriots,
and had them in his soldiers’ caps for cockades. It
is, therefore, not strange that at this time Bolivar became
a more enthusiastic adherent to the patriot side; and,
with his cousin Ribas, proceeded from the island of
Curacao to Cartagena, in order to raise a liberating army.
There, by the influence of Manuel Torrices, the republican
candidate, he was appointed, in December, to the
chair of the Junta at Cartagena, which he held until
the 8th of January, 1813, when Bolivar, as commander-in-chief,
and Ribas as major-general, undertook to drive the Spanish
royalists from Tenefer, on the river Magdelana. Having
arrived at Tenerife, on December 27th, and defended
the attack of the Spanish, Bolivar suffered a loss of
depth; in January, 1813, to Ocaña, and in February to Cu-
ciu, whence he expelled the Spanish commander Correa,
and attracted great notice by surrounding every difficulty,
dispersing the enemy, and gaining several hundred volun-
teers, provosts, and money. With this encouragement he
planned an expedition for the relief of Venezuela, after
proceeding to Bogota, where the congress of New Granada
received him well, and added largely to his means. By con-
tinual recruits from the towns through which he passed, his
army increased to more than 2000, whom he marched along
the Andes by Tunja and Pamplona, entered Venezuela,
defeated the royalists at Grita, Merida, and various other
places, and took possession of the whole province of
Varinas. Castillo, who in slow and cautious formality was
destiny in Cartagena, denounced as rashness and madness
his precipitate decision to engage in the danger of
and daring expedients. He therefore separated and led away
his troops to Tunja near Bogota: but the whole country
rising and joining the ranks of Bolivar he was enabled
to drive the royalists to warm. Ribas led one division, himself the
other, and both, by forced marches, advanced rapidly on
La Guayra. The revolutionary spirit was, previous to this time, confined to very few:
but the most incredible cruelties of the officers of Monteverde
and driven thousands to desperations and revenge; and
hence arose, on the part of the people, the cry of
guerra de muerte, war to death. In justice to Bolivar, it
is requisite to relate the circumstances which occasioned this
dreadful expedition. A detachment under Colonel Brema
was master of prisoners; Don Tucar, the governor of
Varinas, caused the Colonel, with sixteen of his com-
pagnions and several patriot citizens, to be deliberately
shot. This, in addition to numerous similar instances, and
report that the patriots showed mercy to prisoners and
suffered vengeance, by which the wavering and
timid were induced to proceed. The only solution determined him to proclaim that ‘the executioners who en-
title themselves our enemies, have beheaded thousands of
our brethren: our fathers, children, friends they have buried
in the dungeons and vales of our country: they have
immolated the unoffending commanding Popayan, with all their captive companions:
they have perpetrated in Varinas a horrid butchery of our
fellowsoldiers made prisoners of war, and of many peaceful
citizens: these victims shall be avenged—the executioners shall
be exterminated—our country compels us to a mortal
struggle—they shall disappear from America—the war
shall be unto death!’ The date of this manifesto is Me-
rida, June 8th, 1913. It is said by General Holstein, that
the liberation of the city of Caracas, the capital of Venezuela. The joy
of the people exceeded all bounds: it was certainly the most
gratifying event in Bolivar’s military career. Greeted by
shouting thousands, artillery, bells rang, and music, they
drew into the city in a triumphal car by twelve beau-
tiful young ladies of the first families of Caracas, dressed
in white, and adorned with the patriot colours; while
others offered flowers on their way with flowers.
All the prisons were thrown open, and hundreds held
as pale and emaciated to thank them for their liberation.
The royalists throughout the province capitulated, and the triumph
was complete. Even General Holstein, the bitter enemy of
Bolivar, acknowledged the fact, ‘he deserves great
pardon for his perseverance, and for the high
conception he entertained, in which he sacrificed a considerable part of his
fortunes to furnish the troops with the means of following him.’
Marino, who had recently raised an army in Cumanas, and
from whom the royalist general escaped only by being caught in the armed and carried off upon the horse of a brawny Capuchin who was fighting at his side, had assumed the name of Ribas and was going to furnish the Eastern provinces of Venezuela. The same title was adopted by Bolivar for those of the West. At this time he was in possession of unlimited power; but he did not prevent the prevalence of popular dissatisfaction, which the conduct of his officers had excited, and of discontent among the combatants. He suspected that no royalist should in any way be injured, still, an arbitrary and burdensome military government, necessary perhaps to correct the effects of previous anarchy, induced many to emigrate to the neighbouring islands for the sake of greater security. The legislative, executive, and judicial powers being united in the person of the dictator, occasioned great offence to the democratic party, and suspicions arose that the primary object of the liberator was his own aggrandisement. A consciousness of this opinion induced him, in the congress assembled at Caracas, Jan. 1, 1814, to declare, 'I have consented to accept and keep the supreme power to save you from anarchy; citizens, I am not the sovereign; your representatives will give you laws; the revenues of the government are not the property of those who govern. Judge now yourselves if I have sought to elevate myself; if I have not sacrificed my life to constitute you a nation: I desire that you will permit me to resign the office I hold: my only request is that you will leave me the honour of combating your enemies.' His retention of the office was occasioned by his science, as well as for a genuine enthusiasm still prevalent in his favour, in consequence of the nobilities beginning again to rally their forces and arm the negro slaves: a desperate expedient by which they were much assisted in raising a numerous army.

At Anzoategui and other places the patriots were surprised, and all put to the sword. The royalist generals Boves, Rosette, and Morales, in committing the greatest cruelties, and destroying even women and children, appeared to emulate the ferocity of the first invaders. The first two, throughout a march of 400 miles, from the Orinoco to Ocumare, killed and murdered every individual who refused to join them; and General Puy, a negro assassin and robber, having on two occasions arrested and murdered hundreds of the patriot inhabitants of Varinas, Bolivar, in revenge, and for the sake, it is said, of freeing the enemy from the repetition of such atrocities, ordered about 800 Spaniards in La Guaya and Caracas, to be arrested and shot, which accordingly, on the 14th February, 1814, was done, and immediately retaliated by the royalists, who shot several hundreds of patriot prisoners, whom they had taken in the field. It was the recorded instance of the patriot army's resorting to the savage expedient so continually practised by the royalist commanders; and afterwards, at Ocumare, in July, 1816, it was formally proclaimed by Bolivar that 'no Spaniard shall ever pass through my country, a distance of 60 miles, unless he shall cease.' After several sanguinary conflicts, in which the patriots were victorious, Bolivar was beaten on the 14th of June, 1814, at La Puerta, between Cura and S. Juan Los Morros, where he lost 1500 men, in consequence of over-confidence, and the audaciousness of his army: again, on the 17th of August, at his estate of San Mateo, where 'the infernal division' of Boves, a legion of negro cavalry with black crepe on their lances, rushing with hideous shouts from an ambush, scattered his remaining forces, and, but for the timely intervention of Buendia, the royalist general, his cousin Ribas was seized and shot, and his head was stuck on the wall of Caracas. Bolivar's beautiful family mansion was burnt to the ground, and he was ultimately compelled, in September, to leave the Spanish generals and the liberating army, in possession of all the provinces of Venezuela; when thousands of the patriot army deserted to their ranks. The two dictators, Bolivar and Marino, repaired as fugitives to Carthagena. They were received with great respect by the republican congress of New Granada, then assembled at Tunja. They fixed their capital in a small town about sixty miles north of Bogota. Bolivar was commissioned to compel the revolted province of Cundinamarca to join that republic. With 2000 men he marched, in December, 1814, upon the city of Bogota, which after a short siege, and an attempt at a surprise, was stmulated, and became the seat of congress. He was then employed to attack the fortified town of Santa Martha, which, in consequence of the imbecility of Labuta, the governor, had fallen into the hands of the royalists. But the governor of Carthagena, Colonel Castillo, who had formerly withdrawn from Bolivar's command, having renewed his attachment and been placed at his head, with the determination, manifested, of poisoning the neighbouring valley, and keeping the troops of Bolivar, in respectment of this conduct, were engaged in reducing Carthagena; when, in April, 1815, in the midst of this unfortunate civil strife, which occasioned the total wreck of the hopes of the revolutionists, and the undisguised announcement of General Morillo from Spain, with an army of 12,000 Spaniards. The peace of 1814 with France had enabled the Spanish government to make a vigorous effort to regain the revolted colonies. Bolivar, disgusted with the civil war and persecution of his friends, retired in May, 1815, to Jamaica, leaving Morillo to over-run the whole country. It appears that, being in despair of his country's ability at that moment to make any successful resistance, he determined to wait for a time more favourable. During his absence Morillo continued to ravage the two republics with fire and sword: at Bogota 500 inhabitants, and at Zinuiti, a town sixty miles south of that city, 1500 were shot and hanged. While at Kingston in Jamaica, Bolivar employed himself in writing a defence of his conduct in the civil war of New Granada, and issued several spirited exhortations to the patriots, for which his absence was at first supposed to be a result. He was feted by the royalist party; and the Spaniard who undertook it for the reward of 50,000 dollars and perfect absolution, employed a negro who stabbed to the back of the author, and thereby caused his assassination. Bolivar's assassin was shot in a hut, and in the amok in which he usually slept. The island of Hayti became his next asylum. By the president Petion he was supplied with four negro battalions, in addition to a body of several hundred patriot emigrants; and in May, 1816, was enabled, in conjunction with the British, to execute the same number of the republican naval forces, to land in the island of Maraga, where General Arismendi had again assembled the independent forces. With these various recruits, in July, he appeared in Cumaná, where he was suddenly surrounded by five thousand royalists, and defeated with great slaughter. At Caracas, after he had taken and burnt the town, he delivered the treasurers to death, and that no one should be injured for having deserted to the royalist ranks. He now took ship to the Dutch island of Buen Ayre, and thence proceeded to Hayti. In the following December he reappeared in Margarita, whence, having issued a proclamation convoking the patriots of Venezuela to a general congress, he sailed to Barcelona and collected a force sufficient to repel Morillo, then advancing upon him with a powerful army. A battle of three days ended in the defeat and disorderly flight of the Spanish army. The royalist general defeated by the ferocious Llaneros of General Paz. Bolivar, being now again recognized as supreme chief and captain-general, fixed his headquarters, in 1817, at Angostura, on the Orinoco. With an army of 5000, half infantry, he marched thence to the westward with great success, and took possession of the province of Calabozo, where Morillo was collecting his forces. After numerous and obstinate battles, which are individually too important to be named in the present outline, the republican party obtained a decided superiority; being greatly assisted by some foreign mercenary volunteers, of whom there were at this time in Venezuela about 3000 from Holland, Ireland, and England. On the 16th February, 1819, a solemn installation of the congress of the Venezuelan Republic was made at Angostura, which has also the name of Boqueron. It was translated and published at the time in London, and may be found reprinted in the appendix to the memoirs of Gen. Miller; it is an excellent specimen of that impassioned and lofty eloquence in which his ardent temperament and peroration kindled up. The language is fully adapted by the stately phraseology of the Spanish language is so well adapted: indeed, much of the turgid extravagance of Bolivar's style, for which he is censured, is attributable to the idiom of his mother tongue, which abounds in hyperbole. But, however, he was not altogether unreservedly penetrated by the philanthropy and good sense of most of his moral and political opinions; for instance, 'popular education ought to be the first concern of the congress; morals and knowledge are the cardinal points of republican prosperity.' The devoted earnestness in which, at all times, Bolivar urged the importance of moral and mental reform, can be appreciated only by reflecting upon the profligacy and barbarous
ignorance of his countrymen. The strange combination of democratic and monarchical principles must astonish every one who follows the progress of Bolivar's government, which on the one hand asserts the social equality and universal brotherhood of man, and on the other so solemnly and fervently advises the adoption of a government system, in which the sovereign power is centralised in a single person. This principle has created much distrust of Bolivar's republican principles; but the moral condition of his countrymen, and the state of exploded factions, may well be allowed to account for the recommendation of a strong government, without resorting to the uncharitable term of tyranny designates for those that inexorable necessity alone could have imposed upon me the terrible and dangerous charge of supreme chief: I feel to breathe again in returning to you this authority, which I have endeavoured to maintain in the midst of distracting confusions, and amidst the trials of society. His authority as supreme chief, though resigned into the hands of the congress, was continued to him under the title of President, until the more violent commotions of society should subside, and the enemy be utterly expelled. In the same year he marched to the assistance of General Santander, in New Granada, and in July arrived at Tunja, which, after a daring and well-planned engagement on the neighbouring heights of the Andes, he took from the royalists; and, on the 7th of August, a decisive victory at Bogotá, in addition to several other victories, drove himself, and the New Granada. Sananano, the viceroy reinstated by Morillo, precipitately fled; and Bolivar entered Bogota in triumph, amid the most joyful acclamations of the inhabitants, who hailed him as their liberator; the congress appointed him president, in general of the army, and supplied him with money, men, and munitions, sufficient to ensure the complete expulsion of the Spanish troops. At Angostura, during his absence, the popularity of General Arismendi had gained him many adherents, and occasioned, in his encampment at Caracas, the formation of a party in encouraged suspicions of Bolivar's ultimate object. Intelligence of this dissension had no sooner reached Bogota, than Bolivar, apprehensive of the ruinous consequence of disunion, hurried away with 3000 chosen soldiers, and by his presence in that encampment, the threatened insurrection was stopped. His entry into the city, a magnificent triumph, and Arismendi was sent into exile. A general congress from the provinces of Caracas, in New Granada, summoned, and December 17, 1819, the decree was passed by which these two republics were united under the name of Colombia: the province of Quito, which was liberated by the great victory of General Sucre on the 24th of May, 1822, at Pichincha, on the borders of the Andes, received the title of Republic of Quito. It was still deemed expedient, for the sake of security to the southern frontier of New Granada, to deprive the Spaniards of their possessions in Peru, and General San Martin, the founder of Peruvian independence, having solicited the aid of Bolivar, and engaged him, at the instance of the administration of government to the vice-president, General Santander, and putting himself at the head of the Colombian army at Popayan, marched to Pasto, thence to Guayquil, where, on the 25th of July, 1822, he had an interview with San Martin, and, after the conclusion of a treaty, was authorised to take the head of the conquest. On the 13th of November, 1823, by a congress from the provinces of Northern, or Lower Peru, of which Lima is the capital. Bolivar, in the following December, marched from Lima with 5000 Colombians, to Pativilca and Huaura.

The congress, unable to govern, in February, 1824, dissolved itself, and appointed him dictator; 'an act,' says Gen. Miller, 'of unquestionable wisdom, when the country could be saved from party insurrection and the national enemy only by the energy and promptitude of military dictation.' An army of 10,000 men was despatched to the province of Callao in sending her army into Peru, had designs of territorial aggrandisement, and that Bolivar was actuated solely by sinister views of ambition. San Martin had been similarly treated, and having said in his address of September 20th, 1819, 'If the truth be known, I am but a scion of my own family, and not the son of a sovereign,' retired to Europe. The reply of Bolivar was, 'Your chiefs, your internal enemies, have calumniated Colombia, her brave men, and myself. The congress has confided to me the odious office of dictator; but I declare that the army must be governed by its own laws, and my own will shall cease—that you shall be governed by your own laws, and your own magistrates, and that, in returning with my fellow-soldiers to Colombia, I will leave to you perfect liberty, and not take away from Peru even a grain of her sand. His army, consisting now of 5000 Colombians under Gen. Sucre, and 4000 Peruvians under Gen. Miller, landed on July from Huara to Paseo. In a tedious passage of the Andes, the greatest hardships and dangers were endured, and by no one with greater fortitude than Bolivar: the cavalry having sometimes to stand throughout the night upon the snow-covered precipices and mountains, and at other times up to their saddles. After this victory the main army was left under Sucre and Miller; and Bolivar with a detachment proceeded to Lima; where, on the 22nd of December, he summoned a congress which re-organised the government. He next proceeded to Pichincha, and, by the acknowledgment of his services, urged the acceptance of a million of dollars, which he refused, with the assurance that the honour of receiving their confidence was the only reward he desired. Before the senate, on the opening of this session of congress, he declared, 'I was told that all Europe and America knew the horror I feel at irresponsible power, under what name soever it is exercised.' In the mean time the Generals Sucre and Miller, on the 9th of December, won the great victory of Ayacucho, when the royalists were completely defeated. In the following May ended the revolutionary war of the Spanish American colonies, in which, for the possession of national independence, at least 100,000 lives were sacrificed. On 10th February, 1825, the congress was again convoked by Bolivar, who resigned his power, and the Constitution of 1823 was adopted. As far as being delivered from that which, of all things on earth, is most dreadful—war, by the victory of Ayacucho—and despotism, by this new revolution.' He set out in company with Generals Sucre and Miller, on the 10th of the following
April, to visit the provinces of Southern, or Upper Peru; drew his headquarters at Arequipa, Cuero, La Paz, and Potoi. The whole expedition was in a state of excitement and extravagant exultation; of dinners, balls, bull-fights, illuminations, triumphal arches, and processions. A sumptuous banquet was given on the top of the far-famed Cerro de Potosi, and the liberator, in the enthusiasm excited, approached the tribune and said on that occasion, 'The value of all the riches that are buried in the Andes beneath my feet is nothing compared to the glory of having borne the standard of independence from the sultry banks of the Orinoco, to fix it on the vast expanse of the ocean, where tiene and his companions have excited the envy and astonishment of the world.'

After a month of festivity at Potosi (see vol. ii. of Miller), Bolivar, with his military retinue, moved to Chuquisaca, the capital of these provinces, which had recently become dependent on his name. His personal protection of the convention of representatives here visited with each other in rhetorical resolutions of gratitude to Bolivar and Sucre, whom they designated 'Grand Prince and Valiant Duke,' and having assumed for their country the name of Bolivia, they appointed Bolivar perpetual protector, and requested him to prepare for them a plan of government. A million of dollars were offered to him, which he accepted, on the condition that they should be appropriated to the purchase and liberation of 1,000 negro slaves in Bolivia. In January, 1827, Bolivar addressed the following letter in May, the famous Bolivian code was presented to the congress of Bolivia. A transcript of the whole is given in the appendix of the Memoirs of General Miller, and various structures upon it may be found in the American and English press. In the year 1822, the Bolivian code was '32nd of June, the great congress of deputies from Colombia, Peru, Bolivia, Mexico, and Guatemala convened at Panama. The idea of this 'Grand Amphictyonic Council' arose first in the mind of Bolivar, which often concerned public questions as a matter of policy. The line of code in view was the annual assemblage of state representatives to discuss diplomatic affairs, and decide international disputes; promote liberal principles, and ensure an union of strength in repelling any foreign attack. In the first and only instance of its kind, the code was of little importance, in the philanthropic commendation of political liberality, religious toleration, and the abolition of slavery. The code of Bolivar was adopted in Bolivia, though without partial dissatisfaction, on the 9th of December, 1826, the anniversary of the battle of Ayacucho, and General Sucre was appointed president. It was soon afterwards adopted by the congress of Lima, where Bolivar himself was made the president. The prominent principle of this constitution is the appointment of a president for life. In the first instance, no law was passed by the Bolivian congress. In the case of Bolivar, he was considered that the society over which he was to preside, was breaking loose from a despotism of 300 years; and that the excessive ignorance of the great mass of the people required at first, in order to be restrained from anarchy and civil war, a government in which all power was vested in the president. He should also not be overlooked, that a clause of the code provided for its future alteration, when the progress of events should require it. But the suspicion of a people just liberated from anarchy and civil war, a government in which all power was vested in the president, and that unworthy designs of usurpation. Universal alarm was excited, especially as the large bodies of Colombian troops, though unemployed, were still retained in Peru, of which Bolivar now was absolute governor for life, in virtue of his own act, and in consequence, as it was said, of intrigue and intimidation.

In Colombia, his long absence had occasioned the prevalence of much dissatisfaction and party strife. General Paez, who, with his numerous cavalry of wild Llaneros, had done much for the patriot cause, had excited in Venezuela an insurrection in favour of a federal instead of the existing central government. Another portion of the republic was on the point of breaking up into separate states, each of which had in formation of a state of rebellion, that was daily increasing, and blood was beginning to flow. The presence of the liberator being thus demanded in the north, he departed from Lima, still leaving in Peru his Colombian protectorate, and to Bolivar it was necessary to give the extraordinary powers which are authorized by the constitution in cases of rebellion; but, at the same time, he proposed to reduce the army from 40,000 to 6000; to diminish the number of civil officers; to reduce the annual expenditure from 14,000,000 to 3,000,000, and to turn the ships of war. In a very impassioned address, he exclaimed, 'Colombians! I am among you—let the scandal of your violence, and the crime of your disunion cease at once. There is but one to blame—I am he—have too long delayed; but I have not done so to the appearance of Bolivar. There was still a charm in his name, and he was thought to be the only man who could save the republic from ruin. Paez himself issued a proclamation from Valencia, calling upon the people to receive him as the thrity earth receives the fertilizing dew of heaven.' In the end of December, the liberator arrived at Puerto Cabello, where he met General Paez; but instead of imposing any punishment for his rebellion, he confirmed him in his command in Venezuela, and issued a proclamation calling on the army to submit to the authority of the government, and that was readily taken to be a proof of his having himself instigated the insurrection, in order to furnish a pretext for assuming the power of dictator. An elaborate discussion of the particulars of this affair may be found in the 16th year of the North American Review. In his address, Bolivar said that Paez, in exciting insurrectionary tumults, was in deep collision with Bolivar; that the introduction of a monarchy was anxiously intended, and that the lenity and even rewards of Bolivar constitute proof of the plot; but it is actually pursuing the course of its last valiant general. The project was a prudent one, to conciliate the good rather than to irritate the ferocity of a man whose great authority over hordes of savage Llaneros enabled him, as an enemy, to produce the greatest mischief. However this may be, on the 25th of January, 1827, General Bolivar died, and the code was soon passed. In February, 1827, he addressed to the senate a letter, in which he states that 'suspensions of tyrannous usurpation rest upon my name, and disturb the hearts of Colombians. Republicans, jealous of their liberties, regard me with a secret dread. I desire to free my fellow-countrymen from all inquietude, and therefore I renounce, again and again, the presidency of the republic, and entreat the congress to make me only a private citizen.' The discussion of this matter was prolonged by the collision of party groups in the congress; in one of these, which was a conflict of faction, and ended in the exclusion of members not to accept the resignation, and Bolivar was consequently induced to retain his office. Still a very great mistrust of his assurances continued to prevail; and twenty-four members of the congress had voted for the acceptance of his resignation. In the meantime the Colombian troops in Peru being informed that Bolivar was making arrangements for the adoption of his code in Colombia, promoted a violent insurrection; for though it appears they were satisfied that Peru should adopt it, they would not permit its adoption in Colombia. Bolivar considered the remarks of his government, and that the insurrection was being equally dissatisfied with their new institutions, on the 26th of January, 1827, a complete revolution ensued in the governments of Lima and Bolivia; so that the code of Bolivar was rejected only six weeks after its adoption. Another congress that the conduct of Bolivar, which had been so justly praised, was in fact an unworthy design of usurpation. Universal alarm was excited, especially as the large bodies of Colombian troops, though unemployed, were still retained in Peru, of which Bolivar now was absolute governor for life, in virtue of his own act, and in consequence, as it was said, of intrigue and intimidation.
This extraordinary man, it would now appear, was a disinterested patriot, and had consequently been basely requited. In the course of his life, he had heard of many deaths, which occurred under circumstances very affecting, his merits as usual have been discovered by the riddle whom he served; and honours are paid to his memory, which, to his living person, were ungratefully denied.

In reviewing the career of Bolivar, the ever-creasing apprehension of the dangers of anarchy will serve to account for much of his inclination to recommend the exercise of absolute power as a means to an end, which even his enemies allow to have been good. The question is, what was the object for which he desired the possession of power? It appears to have been the reduction of conflicting parties to a unity of purpose in establishing republican government. His denunciation of slavery, the liberation of all his patrimonial slaves, nearly a thousand in number, the sacrifice of the whole of his large fortune in this cause of independence, and the generous rewards he bestowed upon its defenders, as well as his liberal views on popular education, cannot leave a doubt of his ultimate object having been the political freedom and moral reformation of his country. It is common to make comparison between Bolivar and Washington; but, in justice to Bolivar, the great difference of circumstances ought to be regarded in forming an estimate of their comparative merits. The liberator of Colombia and Peru had almost every possible disadvantage: he received neither the powerful aid of Frenchmen, nor the territorial assistance of France; every thing depended upon his own vigour in the suggestion of means. Further, it is impossible to imagine two nations more completely dissimilar in physical and moral character than the Spanish and English colonies at the time of their respective independence; the one freebooters and pirates, half-starved, half-starved, frugal and industrious, with a general equality of property and education; but the countries of Bolivar, one-half Spanish Creoles more or less mixed with the aboriginal race, the other half Indians, Africans, and intermediate colours, separated and conflicting masses, equally destitute of education, in their ignorance and indolent habits—a few in possession of immense wealth, even 100,000l. a year, and thousands in a state of mendicity and hunger. The army of Washington, independent of his foreign allies, was composed of local appraisers, each individual having a small estate, or less to return to: that of Bolivar often consisted chiefly of destitute adventurers, eager only for pay and plunder; ragged creoles, Indians, naked negroes, and cavalry of Llaneros and Guerrillas mounted on wild horses. The desertions were whole regiments at a time; while the other, according to the momentary chance of success, sufficiently shows their degraded moral condition. The generals, too, with whom his command was divided, were practically the most uncivilized description: Ariosto was as headstrong as a bull-hunter, nor readers of the Llaneros out of the deserts; and General Bermuda always took the field in a dirty blanket, with a hole in the centre for his head: while envoys and fierce ambition were common to them all. The character and habits of such a people and of such an army greatly enhanced the merit of the individual who conducts them from an abject state of oppression to independence and social improvement. The task undertaken and completed by Bolivar was the expulsion of Spanish authority, and the secure establishment of republican institutions; but the duty of a man as a military commander rather than as a statesman that his excellence consists. In enterprising promptitude and enthusiasm he differed greatly from Washington, and that he was qualified to succeed under circumstances essentially different from those which the North American general was placed. His invincible perseverance in spite of every discouragement and disaster, his ingenuity in devising expedients and raising resources, his command of the sword, being upon wavering minds, a domination in the final result; the manner in which he controlled the spirit of faction, and kept together conflicting interests until the termination of the struggle, entitle him to the reputation of a great man. His passive virtues were remarkably great in the endurances of fatigue, in marching often of more than a thousand miles, in the torrid heat and desert wilds of the Llanos, and over the frozen summits of the Andes, in hardships and dangers of every description, his fortitude for nearly twenty years is worthy of the highest admiration. Of the sincerity of his pa-
triotsim it is impossible to doubt. His generosity to the
benefactors of his country was unbounded. An instance may
be quoted from the report of the extraordinary educator
Joseph Lanzeri, who visited Colombia for the
purpose of introducing his system of elementary instruction.
It is preserved in the 26th volume of the Revue Encyclopé-
dique, dated Lima, March, 1855, and addressed to the
teacher, in which he wrote: "A million dollars, and promising
to procure the appropriation of a million more, besides a large contribution of his own for the
purpose of establishing schools, the liberator concludes with
"Receive the expression of my admiration, respect, and
gratitude, in the name of my countrymen and fellow citizens, for your good example and
your immense liberality." The text is written in Spanish and
translated to English.

The 10th volume of the same work is consulted for an
exposition of the progress of social and mental improvement in Colombia during the first five years of the republican government. It is written by the General
González, the Secretary of Education. The text is written in Spanish and
translated to English.

For those who desire to read the history of Bolivar's
campaigns, the map of Colombia in the work of Captain
Cochrane may be named as useful for reference, being
constructed on a comprehensive scale. A fine portrait of Bolivar, painted by a Tochima artist, requires only five
minutes for a glance. There is also an excellent one in the 'The Gallery of Portraits' of the Society for the Diffusion of Useful
Knowledge.

The expression of Bolivar's features was that of anxiety
and care. In the extreme gravity of his face, the
expression of his labours had given
him, at the age of forty-five, the appearance of sixty. In
height he was five feet five inches; his complexion dark,
and approaching to olive; his hair black and stiff, like that of
the American Indians, but inclined to curl; and his eye,
when he was in conversation, remained clear and bright.
He was capable of enduring great fatigue, was a
remarkably bold horseman, and excessively fond of dancing
in his boots and spurs. He entertained in the most munific
ent style, but was himself extremely abstemious. He
participated in the festivities on the occasion of the
fiftieth anniversary of the independence of Peru, and generous
and appropriate extempore replies. On one occasion he
delivered seventeen unpremeditated answers in suc-
eccession, each of which if printed off as he spoke it would have
been admired for its peculiar adaptation to the occa-
sion. In proposing a toast, in returning thanks, or in
speaking impromptu upon any given subject, General Bolivar was probably never surprised.

BOLIVIA is the name adopted by one of the new
republces which have lately been formed in South America. It
embraces the greater part of the territory which the vicerey of the
vicerey of Buenos Ayres or de la Plata; but being separated from the more populous parts of Buenos Ayres by the desert of Chaco, and a very rugged and dreary mountain-region, it was not likely that it could remain
 united to that State after the subversion of the Spanish
authority. The republic of Bolivia dates from the battle of
Ayacucho, Dec. 9, 1824, in which the republicans under
Sucre completely defeated the royalists. The patriots
adopted for their new republic the name of Bolivia, in honor of
Bolivar.

The northern angle of Bolivia is the peninsula
formed by the confluence of the rivers Beni and Mamore,
in about 9° S. lat., from which point the united river is
called Madera. The most southern point is on the shores
of the Pacific, at the Bahía de Nuestra Sehora, between
Punta del Norte and Punta del Sur, about 25° S. lat.
It consequently extends over 16° of lat., or upwards of
a thousand miles, from north to south. The most eastern
part is contiguous to the river Paraguay, where after leaving the Vicerey of Peru it separates the boundary between Bolivia and Paraguay, and extends to 57° 30' W. long.
The western portion of the republic borders on the
Pacific at Punta del Norte, about 70° 30' W. long. Under
the parallel of 22° the extent of the country from east to west
is about 4000 miles, having a breadth of 1600 miles, but
the mean length 700, which gives a surface of 350,000 square
miles, or about three times the extent of the British Islands.
Bolivia is bounded on the west for about 260 miles by the
Pacific Ocean; the remainder of its western and north-
western frontier is formed by the republic of Peru. It
borders on the north-east and east on the empire of Brazil,
and on the south and south-west on the republic of the
Aragon to the south of it extends the republic of Buenos
Arenes, and where it approaches the Pacific, that of Chili.
As nearly the whole of this country is situated within
the tropics, it might be expected that its climate and pro-
taminations were warm and healthy; but perhaps not more than one-half of its surface has a
tropical climate. The other half is occupied by high
mountain-ranges, table-lands of great elevation, high val-
leys, and widely extending slopes. This mountainous
portion of B. m. m., with great ranges of east and
west, and 1000 or 2000 feet in altitude, extend from the
Rio Bermejo from those of the Pilco-

When the Andes running from south to north enter Bolivia they send off at about 24° N. lat. a lateral branch
to the east, which extends to a great distance, and separates
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The principal channel of the Andes here runs nearly south
and north, and is likewise little known, but contains some
peaks which rise above the snow line. The Nevado del
Chiquillo (21° 30' S. lat.) is said to rise to 16,548 feet,
but is probably higher. Up this mountain the Andes seem
to make a sudden dip, leaving the Andean Cordillera to the
extremity of Chili; but to the north of it at about 20° there is
an extensive mountain-knot, called the Cordillera de los
Lipiz (19° 30' S. lat.); the mountains divide into two great
longitudinal ridges, which run parallel to one another and
form an immense mountain-scale, forming a central gap in the valley of Desaguadero, which includes the great lake of
Titicaca. The western ridge, called the Western Cordillera,
continues, as far as it lies within the boundaries of Bolivia, a
due northishore, and contains near the boundary-lin
certain passes, as the Caran Tirma, the Tarma, and the
Gualati, rises to 22,000 feet. To the north of these peaks,
but within the limits of Peru, the range declines some de-
grees to the west, running parallel to the coast, and here
other snow mountains occur. [Peru.]
at 13,000 feet, runs in its southern portion nearly parallel to the meridian, but north of lat. 17° it forms an angle of almost 35° with that line, running very nearly north-west-by-north, and south-east-by-south. Not having any outlet to the sea, the rivers which bring the second unit of water are either lost in the sandy soil, or empty themselves into the lake of Titicaca at its northern extremity. This lake, the largest in the South American continent, occupies an area of about 4,000 square miles, and its surface is 12,705 feet above that of the Pacific. It is one of the deepest lakes in the world; its bottom is lost in 6,290 fathoms, but many parts are probably much deeper. This lake receives numerous streams at its northern extremity, but not all the waters which descend from the sides of the mountain-ranges. It is remarkable that the watershed on the eastern part of the valley extends to 18° 30' S. latitude, whilst on the western, it is not formed by the high ranges, but by too few lateral ridges distant from twenty to thirty miles from the lake, and generally rising from 500 to 1,000 feet above its level. The waters collected between these lateral ridges and the high mountain-ranges descend eastward to the plains traversed by the river Madeira and its upper branches; and westward towards the sea. The only outlet of the lake of Titicaca is the river Desagüadero, which issues from its south-western extremity in lat. 16° 38' 10", and is a small stream when compared with the immense extent of the lake. Its depth however is considerable, but its velocity is scarcely two miles an hour. It runs southward, and forms near 19° a lake, called Lago del Desagüadero, in which it is lost. Its course between both lakes may be 180 miles.

The climate of the valley of the Desagüadero offers many peculiarities. Being in its lowest part upon the surface of the sea, it may be 180 feet above the level of the sea, the heat is never great, nor is the cold very sensible, except during the night from May to November. This season, which is the winter, is extremely dry; the sky is cloudless, and neither rain nor snow is known to fall. But snow precedes and follows the rainy season, which in this valley begins at the end of November, and continues through the summer months to the beginning of April. During these months it rains nearly every day, more or less; but during the night the sky is clear, and no clouds are generally seen in November and April.

The vegetation of this valley has also a very peculiar character. There are no trees, but the lower districts, especially near the great lake, are covered with the most beautiful green turf where the land is not cultivated. The cultivated plains and fields, with a few thorn trees, and small size, are indeed sown, but they do not ripen, and are cut green as fodder for the llamas. The plantations of quinoa (Chenopodium quinoa, Linn.) are extensive, and also of potatoes, which are found growing wild in some more elevated places; these plantations extend across a considerable distance on the upper slopes of the adjacent hills. There are no peculiar seasons for sowing or harvest, and the natives are continually occupied either in performing the one or the other operation. The country which extends between the ridges of hills and the valleys, is covered for the most part with vast plains, covered with a coarse grass, on which numerous herds of llamas are fed. Here also the guanacos, alpacas, and vicuñas feed in a wild state. Besides these, no wild animals have been observed in the valley of the Desagüadero, except a peculiar kind of hare, described by Mr. Benten under the name of Lagotis Cuvieri in the first volume of the 'Transactions of the Zoological Society'; and a small animal of the family Rodentia, which in some places has so burdened the soil as to render travelling on horseback unsafe. The numerous islands in the lake have not yet been described, nor even enumerated. The condor is frequently met with on the mountains. Among the spontaneous plants the rushes which grow along the banks of the lake deserve to be noticed, as the entire want of the water having caused them to nearly dry up, they serve as many uses as the bamboo is employed in India. With these rushes the natives build their huts, and make the boats and sails with which they navigate the lake; made of them are the bed of the poor, and serve in the houses of the rich as carpets.

From this valley six mountain-passes traverse to the western Cordillera to the Andes, and lead to the higher plateau nearly 15,000 feet above the sea, and consequently they are not inferior to the mountain-passes of the Himalayas in elevation. The ascent to these passes from the valley is only 2,000 feet, and the slope is gentle; but the descent from the sea level is extremely rapid, and the great range being close on the maritime declivity of the Cordillera, and consequently at an inconsiderable distance, not exceeding sixty miles, from the sea, the descent must be extremely precipitate and abrupt. A traveller coming from the coast finds himself transported in a few hours from the lowlands of the Cordillera, to an elevation exceeding 15,000 feet.

That portion of Bolivia which extends between the Andes and the Pacific, in length upward of 250 miles between the Bahía de Nuestra Señora and the small river Loa, does not differ much from the coast which extends northward to Guayaquil in Columbia, and southward to Coquimbo in Chile. All this coast, which is nearly 1,800 miles in length, with a breadth varying from thirty to sixty miles, may be considered as a line of sandy deserts. It presents great undulations of surface, and where the top of the back-ground is not for the stupendous and back-ground, which reduces every other object to a comparatively diminutive size, the sand-hills might sometimes be called mountains. This long line of deserts is intersected by rivers and streams, which are seldom less than a hundred feet wide, and sometimes many miles wide. On these are the only places which are inhabited; and the narrow strips on each bank of every stream are peoples in proportion to the supply of water. During the rainy season in the interior the rivers swell prodigiously, and can hardly be crossed on foot, and a raft of frameworks, that are fastened upon four bull-hides sewed up, made air-tight, and filled with wind. A few of the larger rivers reach the sea, but most of those of the second order are consumed in irrigating the cultivated patches, or are absorbed by the desert where water cannot be obtained. In the north of the country, where a blade of vegetation never grows. Sometimes the banks of the rivers are too steep and rugged to admit of the water being applied to the purposes of irrigation, and consequently the surrounding country cannot be cultivated. No traveller can go from valley to valley without a guide, for where there are no marks to guide his steps. The sand is frequently raised into immense clouds by the wind, to the great annoyance of the traveller, who generally rides with his face muffled up.

That portion of this coast called Atacama, which belongs to Bolivia, is by far the worst. But the greatest part of Bolivia is situated to the east of the Andes, and this portion may be divided into the mountainous district and the plains. The mountainous district extends along the eastern coast to the extremity of Chile, and is composed entirely of the Cordillera, between the latitudes of 17° 20' S. and 17° 40', because the slope of the Eastern Cordilleras towards the plains is nearly as rapid as that of the Western towards the sea, and the branches which this chain sends off extend to no great distance from the principal range. But at about 17° 10' S. lat., a considerable distance from the mountainous portion of Eastern Bolivia. Its western boundary may be fixed at about 63° W. longitude. This country is traversed by many lateral ridges, which are offsets from the great chain of the Andes, and form extensive valleys. Most of the valleys sink slowly, and are maintained by themselves for a considerable distance by the water in the bed of the river. This circumstance, as well as the width of the valleys, renders them particularly fit for agriculture, and for the cultivation of tropical as well as extra-tropical productions. The climate in this country has considered the most salubrious, the most fertile, and the most beautiful parts of South America. Here the slopes of the mountains are generally covered with fine
trees to a great height. This description however applies only to the northern part, between 17° 30' and 20°. Further south the valleys are narrower, and the ranges which enclose them without wood, and nearly without vegetation; with the exception of a few valleys, the only pasture for llamas and guanacos.

No part of America has a greater abundance of water than this region. The rivers which descend from the eastern ddleities are very numerous and contain a volume of water which cannot be exhausted by irrigation. These rivers may be likened to the streams of the Amazon and La Plata rivers, being at a greater distance from the mouths of these rivers than any other streams. This is certainly true, as far as regards the Amazon; for the Cordillera Real contains the sources of the greatest of its tributaries, the Rio de la Plata, which falls into the Adriatic, and the two considerable streams, the Rio Beni and the Rio Mamore, both of which descend from the Cordillera Real and unite their waters between 10° and 11° S. lat. The upper branches of the Rio Beni are the Rio Coca, the Rio Chuqueapo, and the Rio Queto. The Rio Queto, the most southern of them, rises where the Sierra Santa Cruz detaches itself from the eastern Cordillera, and taking a N.E. and N. course enters the plain, where it soon meets the Chuqueapo, which has its origin in the valley of the Desaguadero, on the north- west of the plateau of Bolivia. The Rio Coca, which is only prevented by a low ridge from entering that river, after having passed the town of La Paz, traverses the great chain (16° 55') through an enoious chasm. It then runs for nearly a hundred miles through a fine valley and joins the Coca at La Paz. The junction of these two rivers continues its northern course, dividing the mountainous country from the eastern plains till it meets the Rio Coca. The Coca, under the name of Mapiri, rises likewise in the valley of the Desaguadero, but not quite so near the N.W. angle of the South American continent, and running first north and then east, traverses by a deep chasm, the Cordillera Real north of the Nevalo de Yani, a high snow-capped peak. During a very tortuous course the Mapiri is joined by a great number of streams which descend from the eastern Cordillera Real, and by their union the Rio Coca is formed. This stream joins the united rivers Queto and Chuqueapo about 13° 30', and the river formed by their junction is called Beni, which name it preserves in its northern and north-north-eastern course to its junction with the Mamore. Thus the Beni brings to the Mamore all the waters from the eastern and from a portion of the western ddleities of the Cordillera Real, as well as a portion of those from the Sierra de Santa Cruz.

The other great branch of the Madeira, the Mamore, rises under the name of Cochabamba in the western extremity of the valley which bears the same name, and is distinguished by its cultivation and its numerous products. It first runs E. by S. and afterwards due E., when being swelled by many small rivers, it assumes the name of Rio Grande. It afterwards makes a very large semicircular sweep, by which it arrives at the town of Santa Cruz de la Sierra, whence it runs N.W., and after uniting with the Chaparé at about 16° 30' receives the name of Mamore, and by degrees changes its N.W. course into a N. one. The Chaparé is formed by four or five streams descending from the northern ddleity of the Sierra de Santa Cruz. Before the Mamore unites with the Itané, a large river which rises in the western parts of Brazil, it receives the waters of the Yasuma, whose source is at no great distance from the mouth of the river Queto in the high coast, and for an extremely flat country. The Itané [Brazil] is increased before its junction with the Mamore by the river Uaby, which rises in a lake called Laguana Grande, in the country of the Chiquitos, and is therefore also called Rio de Chiquitos. It finishes its course, which is of a considerable distance from it; but as this part of Bolivia is very little known, we have no certain information about it. After the junction of the Mamore with the Itané, the river continues its northern course till it meets the Beni at the head of the Montes de Guayazu, where the river has the name of Madeira.

The waters which descend from the eastern ddleity of the Andes south of 18° S. lat. go to the Pilcomayo, one of the principal branches of the La Plata river. The Pilcomayo rises at nearly the same distance from the Pacific as the Parana, the other great branch of the La Plata from the Atlantic Ocean; this distance yearly exceeds sixty or seventy miles. Both these great rivers also rise nearly in the same parallel between 20° and 21°; their sources are 20° of longitude distant from each other, or upwards of 1000 miles.

The Pilcomayo rises on the southern ddleity of the mountain-knot called Cordillera de los Lípez, and running generally due east, is soon increased by numerous other streams, some of which are considerable, as the S. Juan, which rises about 200 miles, and falls into the Pilcomayo from the south; the Paspeya, which rises in the neighbourhood of Potosí on the southern ddleity of the eastern Cordillera and soon becomes navigable; and the Cachaymuyo, which rises not far from the source of the Cochabamba, and traverses the southern part of the land of the same name. Soon after the junction with the Cachaymuyo, the Pilcomayo, continuing its eastern course, forms for about 100 miles the boundary-line between Bolivia and Buenos Ayres, when turning suddenly to the south it enters the desert called Grande Chaco, and leaves the territories of Bolivia.

The whole eastern portion of Bolivia, from the banks of the Pilcomayo and the frontier of Buenos Ayres to the junction of the Mamore and Beni, is one extensive plain, which from east to west extends about 200 miles, and from north to south about 200 miles. The surface is quite level, and ranges of hills rise in some parts, but neither their place nor their height has been determined with any degree of accuracy. In the southern part of this plain lies the watershed between the affluents of the Amazon river and those of the La Plata, and in the middle part of it, where the hills appear to rise to any great height above the sea. This plain is principally watered by the Beni, the Mamore, and the Ushary, which in the rainy season, from October to April, inundate the country along their banks to a considerable extent. In many places their lakes are so large that they are very large, the exhalations, united with those from the inundations, render the climate excessively humid. This humidity, added to the heat which prevails all the year round, gives rise to many dangerous diseases, and renders the surface very pestilential. This part of the republic has consequently been almost abandoned by the Creoles, though its great fertility would better repay the labour of the cultivator than any other district of the country. Immense forests of high trees cover nearly the whole of these plains, but the useful productions of them are entirely neglected, except that a considerable quantity of coca is gathered by the natives and brought to the towns of San Lorenzo de la Frontera, La Paz, and Cochabamba. The plantations consist commonly of maranducas and maize, those cotton and rice being rare; all the other tropical productions which might be cultivated with the greatest advantage are almost entirely neglected.

Where the borders of Bolivia, Brazil, and Paraguay meet, the Lake of Xaragas extends along both banks of the river Paraguay, and their lake has repeatedly disappeared and reappeared on our maps. As far as it is known, there seems to be in this part of South America an extensive depression of the surface, which being traversed by a large river subject to a considerable annual increase of water, is by turns inundated and drained; but how far this depression of the surface extends is not determined, this quantity of water is gathered by the natives and brought to the towns of San Lorenzo de la Frontera, La Paz, and Cochabamba. The plantations consist commonly of maranducas and maize, those cotton and rice being rare; all the other tropical products which might be cultivated with the greatest advantage are almost entirely neglected.

Rain never falls on the coast along the Pacific. In the valley of the Desaguadero, in the mountain-region, and in the plains, the summer is the rainy season; but the rain is so scanty that the water is detained in the mountains, which are subject to tremendous hail-storms, during which the traveller is obliged to halt, and the parts of the body which are exposed are so severely bruised and cut by the hailstones as to bleed copiously. Thunder-storms are also peculiarly severe in this elevated country. It is not uncommon to see the clouds pass by to a temporary blindness called cursumpi, which is caused by the rays of the sun being reflected from the snow, and rendering it impossible to open the eyelids for a single moment; the smallest ray of light becomes absolutely insupportable. The complaint resulting from this is called congelagia, which is very common along the coast of the Pacific, less so in the valley of the Desaguadero and the mountain-region, but in the plains they have not been observed.

The scanty productions of the Valley of the Desaguadero have been noted. The few places on the coast which are
cultivated produce no grain but maize - excellent fruits however grow, especially figs, olives, and melons, besides pomegranates, plantains, and algarrobas (Prosopis dulcis), a kind of pulse, which grows to the length of a Hamb.

The other portions of the republic, especially the beautiful vales watered by the Cochabamba and Carora Rivers, are more fertile. As the streams which occur along their banks are at different elevations above the sea, they abound in all the fruits, grains, and other agricultural productions common to Europe and to tropical countries. Among the spontaneous products are cocoa, sarsaparilla, and several species of the cinchona family. Of domestic animals, there are horses, asses, and mules, but for sheep the climate is too warm. Great herds of horned cattle find abundant pastures on the banks of the rivers in the plains.

The inhabitants seem to be unknown to the naturalist. There have however been noticed different kinds of parrots, several species of turkeys, and a multitude of beautiful singing birds, as the thrush, the whistler, and the maltico, remarkable for its plumage and the sweetness of its note.

The inhabitants, besides those of the plains, abound in fish; but the names given to them by travellers render it difficult to determine if any of them resemble those of Europe.

Gold is found in abundance in many places, but especially in the mountains of the eastern Cordilleras, where it is washed down by rivers which run between slate-mountain banks of narrow ravines. All the waters descending from this range, which fall into the Beni or its branches, carry down gold sand, but more particularly the small river Titipuan, which falls into the Mapi. The mines of Potosí have long been considered as the richest in the world for their produce of silver, but they are now little worked, which is also the case with other silver mines. Copper is likewise abundant: at Coroecuro, a small place about seven leagues from Potosí, copper mines of good quality are worked. Pure copper is found crystallized in the form of perfect cubes. Though, according to some experiments, this ore contains seven-eighths of pure copper, it cannot be turned to any use, being found in very high mountains and at a great distance from the coast. Besides these metals there are ores of lead and tin; and saltpetre, brimstone, and salt.

The inhabitants of Bolivia are composed of aborigines, and of people of foreign extraction. The aborigines form by far the greater portion of the population, probably more than three-fourths. They may be divided into those who speak the Quechua language, and those who speak different dialects. The Quechua language prevails among all the inhabitants of the coast and of the valley of the Desaguadero. Agriculturally, it had been adopted by them before the arrival of the Spaniards, and they still hold to their way of life, though their soil still consists partly of fish and game. Some of them make excellent cotton cloth, and in general they have a taste for mechanical arts, and are good carpenters. They show also some talent for music and painting, in which they excel the natives of the coast. But the Indians who inhabit the Lower Beni below Reyes, and those on both sides of the Uaby, as well as the Chiquitos, who occupy the country bordering on Brazil and Paraguay, still lead a roving life, live mostly on wild roots and fruits, and on game, and are as they say Mayo. The inhabitants of foreign extraction are either the descendants of Spaniards, or of Africans and the mixed races.

The descendants of the Spaniards are most numerous in the mining districts, and in the valleys of the Cochabamba and Cañar Rivers, where they may be seen in immense numbers. In the great basin of the Uaby, they are less numerous in the coastal districts, and in the valley of the Desaguadero, and their number in the plains is very small. The people of pure African blood are few in number, but the mixed races, which owe their origin to a mixture with negroes, are numerous on the coast; much less so in the mining districts, and in other parts very few of them are found. The population of Bolivia has been differently stated. At first it was asserted that it amounted to 1,200,000 souls; but this is evidently an exaggeration. Immense tracts of land are not cultivated, and nearly uninhabited, and the bulk of the population is concentrated in two larger and several smaller valleys. More recent information has reduced the population to 630,000. As however no recent census has been made, it is necessary, in order to estimate the extent of the Indian population, not even visited by Europeans, the population cannot be ascertained with any degree of certainty.

The republic of Bolivia is politically divided into five departments and each department into provinces.

I. The department of Potosí comprehends the most southern portion of Bolivia; namely, the whole of the coast along the Pacific, the south-western part of the valley of the Desaguadero, and the southern part of the mountain-region of the Cochabamba. The climate is very dry, and the population is not cultivated, and nearly uninhabited, and the bulk of the population is concentrated in two larger and several smaller valleys. Nearly the whole of its surface is covered with sand or barren mountains, but as it contains numerous mines of silver at Potosí, Porco, and other places in the northern range, which have been long worked with considerable success, the country is populous than any part of the republic, except the valleys of the Cachay Mayo and Cochabamba. It is divided into five provinces, Atuncama, Lipez, Porco, Chayanta, and Chicas.

II. The department of Charcas or Chuquisaca extends over the mountainous country between the rivers Paspaeya and Rio Grande de la Paz, which the valley of the Cachay Mayo is comprehended in all its extent, and a great portion of that of Cochabamba. A small part of the valley of the Desaguadero is also included within its limits. It contains some considerable mines, and is, with the following department, the most populous portion of Bolivia, on account of its fertile soil, and the good harbours, and through the communication between the other parts of the country is rendered exceedingly difficult and expensive on account of the high mountains and the sandy desert along the coast, one of them, Colca, at present exists, are called, the political seat from which the province is governed. It is divided into six provinces, Potosí, Yampará, Tomina, Páira, Oruro, and Carangas. Chuquisaca is the capital of Bolivia. Oruro in the valley of the Desaguadero, nearly 13,000 feet above the sea, contains upwards of 5000 inhabitants, in whose neighbourhood considerable silver mines are worked. A road leading from Oruro to Potosí traverses the southern part of the eastern Cordillera, and rises in the mountain-pass of Tolapalia to 14,075 feet.

III. The department of Cochabamba lies to the north of the Moxos,[ch], and contains a considerable part of the rich and well-cultivated valley of Cochabamba or Guapí, the Serría de Santa Cruz, and the fine valleys which lie on the northern declivity of this chain. Every kind of agricultural produce is here grown in abundance, and some of the rivers which fall into the Chaparé gold is col
lected. This department is divided into six provinces, Sa-
cába, Tapacari, Arque, Palia, Chissu, Misque.

The capital of this department, Oropesa, contains about
16,000 inhabitants, and is the most industrious of the
towns of the department, and through the whole of the
year is glutted with the staple product of the department,
which is carried on to some extent. It is situated at
the western extremity of the department in a fine valley,
traversed by the Cordorillo, a branch of the Cochabamba.
The small town Cochabamba, from which the department has
received its name, lies on the banks of the river Guapui or
Cochabamba.

IV. The department of La Paz extends over more than
half of that part of the valley of the Desaguadero which
belongs to Bolivia, and more particularly over the northern
part of the great plain of the plains of the Pampa del
the Nevado de Illimani northward, the numerous valleys
which lie on the eastern declivity of that range, and
that portion of the plain to the west of the Rio Beni.
The lower part of the valleys and the plain are very fertile,
but only a few are cultivated. The river brings down
a great quantity of gold sand. It is divided into six pro-
vinces, Pacayes, Sicá-sica, Chulumani, Omasuyos, Lare-
caja, and Apolobamba. It contains only one town of
importance, the capital La Paz.

The department of Santa Cruz de la Sierra is by far
the largest and extends over nearly the whole plain which
constitutes the eastern part of Bolivia. The greater part
of it is still occupied by independent tribes of Indians;
and other districts, where the Creoles had formerly settled,
have been abandoned on account of their unhealthiness. It is
divided into the provinces of Pampas, Guarama, Pampa,
and Baures. Some time ago it was reported that the
inhabitants of this department were not inclined to join
the republic, but intended to form a separate state under
the name of Santa Cruz de la Sierra, but no certain infor-
mation has reached us on this subject. The capital of
the department is San Lorenzo de la Frondosa, not far from the old
town of Santa Cruz de la Sierra, on the banks of the Rio Grande
de la Plata, with about 10,000 inhabitants.

The localities are very little known of the pre-cast political
condition of this part of the country. Ayres had re-

The road connecting Taca on La Paz traverses
one of the two passes called Las Guallillas, of which the
upper (17° 43') rises to 14,200, and the southern (17°
50') to 14,530 feet, and though foreign commodities pass
their passes in a time of 3 hours, and the service is
a matter of 3 per cent, this road is preferred for the trans-
port of merchandise. Few foreign commodities are imported
into Bolivia. They are chiefly iron and hardware, with
a few articles of finery, as silk, &c. The exports are nearly
exclusive of precious metals, of which, and kind of wool, made of the wool of the llamas and
alpacas, and to hats made of the wool of the vicuñas. The
agricultural products of this country will never be exported,
till commerce has made its way up the Amazon and Ma-
duara rivers. Being as it were excluded from foreign commerce, the Bolivians are obliged to satisfy their wants by their own in-
dustry. The manufactures of cotton are the most extensive.
The better kinds are made in Oropesa; but in many dis-
tricts the Indians make great quantities, which are coarse
though strong. Next to these are the woolens, made of the
hair of the llamas and alpacas. The coarser kind, called
hansacas, is used by the lower classes for dress, and
likewise for blankets; the finer sorts, called cambis, are em-
brodered with great care, and used as coverlets by the
rich. The best are made at La Paz, and a very good one
is made of the wool of the vicuña at At San Francisco de Atacama. Very fine hats are made of the wool
of the vicuña, and at Oropesa very good glass is made.
In some towns in the neighbourhood of the silver-mines
they make the best silver-wires, which are not without
benefit, but Meyen thinks that those made of silver wire are
superior in taste and much cheaper. In some districts
the Indians dye the plumes of the American ostrich with brilliant colours, and make of them fans and a kind of paro
cula. (Pen and Parish in Geogr. Journ. 5; Meyen's Reisen um die Welt; Memoirs of General Miller;
Capt. Basil Hall; Temple: Azara.)

BOLLANDUS, JOHN, a learned Jesuit, was born at
Thieten (Tirlemont) in the Netherlands, August 13th,
1596. He entered the Society of Jesus at the early though
unusual age of sixteen, and became, after seventeen years,
teacher both in the Netherlands and other countries. The
share which he took in the Acta Sanctorum, or ' Lives of
the Saints,' entitles him to especial notice.

The history of this work is not uninteresting, although
the work itself is otherwise than for occasional consultation,
defies time and patience. It consists of fifty-one volumes
in folio, of the larger size and bulk. The design of this
vast collection was first projected by Père Herbert Ro-
weide, a Jesuit then of the age of 50, and consequently
determined that his book of the place shall extend no further than six volumes folio, with two
volumes of illustrations: a trifle in those days, had he
begun earlier. In 1607 he had begun by printing an octavo
volume, entitled Fasti Sanctorum, consisting of the manu-
script lives of a few saints, which was sold at Amsterdam.
In 1613 he was sent to the Netherlands; but he died Oct. 5th 1629, before he
could accomplish what he had undertaken. The exe-
cution of his project was then entrusted to Bollandus,
who was about this time thirty-four years of age, and
who removed from Mechlin to Antwerp for the purpose.
After examining Rossweide's collections, he established a
general correspondence all over Europe, instructing his
friends to search every library, register, or repository of
any kind, in which information might be found, and he
paid the weight of his undertaking he called in the assistance of another Jesuit, Godfrey Henschen
goedlander, younger than himself, more healthy, and
equally qualified in other respects. With this aid he was
enabled to publish the first two volumes of this work, Antwerp,
1624, which contain the lives of the saints of the month
of January, the order of the Calendar having been preferred.
In 1658 he published those of February in three volumes;
and two years after, his labours still increasing, he engaged in
another task, that of new editor, and in 1644 he was
about thirty-two years old, whom he sent with Henschen to
Italy and France, to collect manuscripts, but he died before the
publication of another volume, Sept. 12th, 1665. After
his death the work was continued by various hands, who
were called Bollandists, and who have published the lives of the saints of the month of March in three volumes, Antw. 1668; those of April in three volumes, 1675. The saints of the month of May occupy

No. 289.

THE PENNY CYCLOPEDIA.] Vol. V. N.
BOLOGNA (Lat. BONONIA), a city in the Papal State, next to Rome in population and importance. It is situated in 44° 30' N. lat. and 11° 20' E. long, in a plain north of the Apennine ridge and between the rivers Reno and Savena. A canal, called Naviglio, navigable for large boats, connects Bologna with Ferrara, from whence, by the navigable canals of the Po, the produce of Lombardy is sent down to the water-communication extending to Venice. The population of Bologna is about 70,000, but with its surrounding territory or commune about 74,300. (Calandr. Saggio Statistico dello Stato Pontificio, 1830.) Towards the end of the last century, when Benedict the 11th Annalisi Bolognesi was established, the population of Bologna was then reckoned at 70,000.

Bologna is a thriving city, with an industrious population: the higher classes, who consist chiefly of landed proprietors, are wealthy. Many noble families reside at Bologna, and the most remarkable are the Grassi, holders of the office of the Prince of which the palaces Fava, Magnani, Bentivoglio, Zambellari, Marescalchi, Bevilacqua, Lambertini, Bacciochi, whose owner is Napoleon's brother-in-law, Ercolani, Malvezzi, Sampieri, have valuable galleries and fresco paintings by the great masters. The palace of the Podesta, in which Hentzius, son of the Emperor Frederico II., and nominal king of Sardinia, spent in confinement twenty-two years of his life, and in which he died in 1272, contains the archives of the city. The Palazzo del Pubblico, a large structure, is the residence of the cardinal, and the offices of the archbishop.

In the square before it is a handsome fountain with the colossal statue of Neptune by Giovanni da Bologna.

Bologna abounds with churches, most of which are rich in painting. The principal are San Petronio, a magnificent church, the church of San Domenico, where the body of Bolognino was traced on its pavement by the astronomer Cassini; the cathedral: and the church of San Domenico, with the tombs of Hentzius, of Taddeo Pepoli, the best magistrate of Bologna in the time of the republic; of Guido and his pupil Bisanzio; the church of San Petronio, and the church of San Domenico, all containing works of art of the first rank. The adjoining convent is the residence of the Tribunal del San't Uffizio or Inquisition, which still exists in the Roman States, where however its power is little felt, and it has none of the terrors of the Inquisition such as it existed in the thirteenth and fourteenth centuries.

Bologna is surrounded by walls and has twelve gates; the streets are tolerably wide, and most of them have low arcades on each side to shelter pedestrians from the rain. In the centre of the city are two lofty towers, the highest of which called Asinelli, from the name of its founder, is 320 feet high; the other, Garisenda, is only about one-half of the height of its neighbour, but inclines on one side about nine feet. This inclination, it is said, like that of the tower of Pisa, was the result of a depression of the ground surrounding it, and the fear of its effect produces on the beholders is finely alluded to by Dante in canto 31 of the 'Inferno.' The Asinelli is also a little out of the perpendicular, though in a much slighter degree. Both towers date from the twelfth century. It has been observed that Bologna, seen from the neighbouring hills, has in its outline the appearance of a vessel with one mast, represented by the Asinelli, while the inclined Garisenda represents the chains.

The University of Bologna is the oldest and still one of the first in Europe. Its origin is stated to have been under Theodosius II., and it is said to have been restored by Charlemagne. We find it enjoying great celebrity early in the twelfth century. It has the following classes,—theology, medicine, law, philosophy and mathematics, and belles lettres. The students are divided into different faculties, with chairs and filled chairs. For the distribution of the various courses, and other details concerning the method of instruction, we refer to an article in No. XVI. of the Quarterly Journal of Education on the Statistics of Education in Italy. Anatomical and chemical laboratories are numerous. There is an anatomical cabinet, and a library containing 80,000 volumes and 4000 MSS. Among the actual or late professors of the University of Bologna the following names deserve mention,—Galvani, Zannotti, Monti, Orioli, Tommasini, Rizzoli, Agostini, and Procopio, who was one of the last professors of Greek, who died in 1817. Bologna boasts of other female professors, especially Novella d'Andrea, who taught canon law in the fourteenth century; and Laura Bassi, professor of physics, in the eighteenth century.

Besides the library of the university, the city of Bologna...
has a public library, the legacy of a clergyman named Magnani, which occupies three rooms of the convent of San Donato in Bologna. The library contains 17,000 volumes, collected by Father Martini, and is one of the Bolognese school. The Instituto delle Scienze, founded by Count Marsigli, has an observatory. The Philharmonic Lyceum, in which 100 pupils are maintained at the expense of the city, also possesses one of the most splendid galleries of paintings, chiefly of the Bolognese school. The College Venturoli, founded in 1825, is devoted to students of architecture.

There is also a college for Spanish students, founded by Cardinal Albors; and another for Flemish students, who are sent here for the golden youth. The College of the English was founded by John Jacobs, a Flemish goldsmith, and a friend of Guido. The public school for the children of the poorer classes is a fine building by the Bolognese architect Terribili; the children are taught, gratuitously, Latin, arithmetic, and drawing. (Valley, Voyage Littéraire en Italie, 1835.)

Bologna is an archbishop's see, and the series of its bishops ascends far back to the fourth century. St. Petronius, who lived about 436, was the tenth bishop of Bologna. The city as well as its province, called Legaziano, are administered by a cardinal legate appointed by the pope. The court of appeal for the four provinces of Bologna, Ferrara, Ravenna, and Forlì, sits at Bologna, and consists of six judges.

There are several manufactures of silks, paper, and pottery. The large sausages of Bologna, called mortadella, have a long established reputation, as well as its liqueurs and confitures. The people of Bologna are frank, spirited, and fond of gaiety; they are the most independent in mind and action in any of the Papal States, owing probably to the long enjoyment of their municipal liberties; the lower classes are noisy, and their dialect is the most unco and rough sounding in all Italy. The women are generally good looking. Among the educated classes there is much information, and Bologna is still one of the most learned towns of Italy. There is a casino, or assembly-rooms for the nobility, besides reading-rooms and private conversazioni. There are several theatres, at which some of the best performers of Italy are generally engaged.

The air of Bologna is pure, but the sudden changes of its temperature, owing to the proximity of the Apennines, occasion frequent inflammatory diseases. Cutaneous diseases were formerly common among the people, but the increase of cleanliness, and a better diet, have given considerable relief. Bologna is one of the Italian cities in which there are most foundlings; about one-seventh of the births are illegitimate.

Bologna has produced many distinguished individuals. No less than eight popes have been natives of this city, among the most famous of whom is the naturalist Aldrovandi, the anatomist Mondino, who was the reviver of anatomy in Europe at the beginning of the fourteenth century, the physician and naturalist Malpighi, the mathematician and engineer Eustachio Manfredi, the brothers Zannotti, Galvani and his nephew Aldini, Zamberti, and many more scientific and literary men were natives of Bologna. Fantuzzi has devoted no less than 9 vols. to the biographies of Bolognese writers: Notizie degli Scrittori Bolognesi, 1788.

Outside of the walls, the Campo Santo, or cemetery, contains many handsome monuments, which have been illustrated in a recent work: 'Collezione scelta di Cento Monumenti Sepolcri del Cimitero di Bologna.' On the hill called Della Guardia, about three miles from Bologna, is the handsome church of La Madonna di San Luca, which is joined to the town by a long arcade consisting of 636 arches. The once splendid monastery of S. Michele in Bosco was sadly dilapidated during the French wars, and its frescoes by the Caracci and others were nearly effaced by the hands of the soldiery.

The origin of Bologna is lost in obscurity. It was the principal city of the Etruscans north of the Apennines, and was then called Felsina. When the Gauls invaded Lombardy, the Boi, one of their tribes, crossed the Po, and established themselves in the old Etruscan city. Afterwards the Boi became involved in wars with Rome, and they were favourable to Hannibal in his invasion of Italy. After the end of that war the Boi, with the other Cisalpine Gauls, were conquered by the Consul Scipio Nasica, and Felsina became a Roman colony B.C. 191. The Romans took the name of Bologna from the Via Flaminia, which was carried from Ariminum through Bononia. In the civil war between Antony and the senate, Bononia was attached to the party of the former, and it was here that the Consul Pansa, defeated by Antony in the battle of Issus, died of his wounds 20. 10. 47.

In the autumn of the same year the famous meeting took place between Antony and Octavius in a small island formed by the river Rhenus (Reno) between Bononia and Mutina. The precise site of that island has been a matter of dispute. There are documents as late as the thirteenth century in which the appellation In Lago Bononienses occurs as best in the district of Borgo Panigale, which is a village about four or five miles north-west of Bologna, and two or three miles north of the point on which the road from Bologna to Modena crosses the Reno. It appears also that the little river Lavinus, a Naviglio, led to Bologna, which flowed northwards into the Samoggia, whence the united streams run to join the Reno above Cento, formerly on descending from the Apennines into the plain of Bologna took a short cut to the eastward into the Reno, not far from the town, and somewhere about the spot where the island is supposed to have been, and this junction would serve to explain the words ad confluences used by some historians in speaking of the place of meeting. The Reno, like all Apennine streams, is subject to overflows, and consequent alterations in its bed, and it forms even now several little islands near Bologna.

A fire consumed great part of Bononia under Claudius (Tacit. xii. 59), when 10,000,000 sestertii were granted from the public treasury for rebuilding the town. On this occasion Cajus, who was then proconsul of Italy, and Metellus, the proconsul of Africa, were both compared to the fire of Bologna. (Sueton. Nero, vii.) In the third century the first Christian church was built in Bononia, and dedicated to St. Felix, which was afterwards destroyed in the persecution under Diocletian, when Priscus, Agnello, Vitalis, and other Christians of Bononia, suffered martyrdom. Bononia escaped with comparatively little damage the invasions of the northern barbarians. Alaric besieged but did not take the city. It also seems to have escaped the ravages of Attila. In the time of the Longobards Bononia formed part of the exarchate of Ravenna under the eastern empire, until Liutprand occupied it with the rest of that province. Bononia was one of the towns given by Pepin to the see of St. Peter, after his defeat of the Longobards. Under the church, Bononia was administered by bishops and archbishops, princeps comitatus. Under the Other of Saxony, Bononia, as well as the other cities of North Italy, obtained privileges and franchises as imperial towns governed by their own municipal laws. Under Conrad the Salic we find counts of Bononia, who administered justice together with the Missi of the emperor.

In the wars of the investitures between the church and the empire, the towns became de facto independent of the latter. The municipal independence of Bononia or Bologna was acknowledged by the Emperor Henry V. in 1109. The city held the right of coining money. The citizens assembled in general comitia, and appointed the magistrates, at the head of whom were the consuls, who were chosen from among the class of merites or nobles only. The judges and notaries were appointed by the emperor, in whose name the judges administered justice. The town was divided into four wards, the militia of which were commanded by their respective vexilliferi. The country districts were subject to the town, the territory of which was at first extremely limited, being surrounded on one side by the river Reno, and on the other by the hilly ground of the Apennines which enclosed all the towns and monasteries, which were independent of the jurisdiction of the town. By degrees however several of the surrounding nobles applied for the citizenship, and being admitted came to reside in the town. Others lost their privileges, and the country districts gradually came to rule over a great part of Emilia, the country now generally called Romagna, which extends from Bologna to Rimini.

In the war between Frederic I. and the Lombard League.
Bologna joined the latter. It likewise fought against Federico II., on which occasion the Bolognese took prisoner Hentzius, the natural son of the emperor, whom they detained in captivity till the time of his death. The war of the Bolognese against the Modenesi, who were of the imperial family, lasted for a long time, and was called, from a burlesque poem ‘La Secchia Rapita.’ The factions of the Guelphs and Guideline proved the ruin of the liberties and independence of Bologna, as well as of the other North Italian cities. Ambitious and rival families sided under each faction, and the former great city, being worsted in the city by the Geremee, the chief family of the Guelphs, were, after much bloodshed, driven away in 1274 with 15,000 of their partizans and dependents, men, women, and children. They however rallied in the towns of the plains and reached Tassoni. Georgio Cattaneo, lord of Urbino, and made incursions to the very gates of Bologna. The Geremee applied to the pope for assistance, offering to acknowledge him as liege lord of Bologna. Pope Nicholas III. accordingly sent a legate to Romagna to restore peace to that province, and through his mediation the Guelfine exiles were recalled. The pope was now acknowledged protector and suzerain of Bologna.

In 1334 the pope's legate, Cardinal Bertrand du Poit, having rendered himself odious to the people by his tyranny, was deposed and sent to prison by the people of Bologna, which declared itself a republic, under the head of a wealthy citizen, Jake Lord. He used his authority with temperance and justice and for the good of the community for more than three years. He extended the activities of his predecessor in the papal legates, now a prey to popular anarchy, and now subject to some of its own principal families, among which that of Bentivoglio, made itself very high in the city, through Giovanni Bentivoglio, the son of Prince della Signoria, or first magistrate of Bologna, in 1462, and he retained the chief authority over the state for forty-four years, under the nominal high dominion of the papal see. [BENTIVOGLIO.] Giovanni however incurred the displeasure of the haughty pontiff, Julius II., and he was compelled to retire from the city, where he established the direct domination of the church. In 1511 the sons of the late Giovanni Bentivoglio, supported by the French, regained possession of Bologna, where they remained until the following year, when, after the battle of Ravenna and the retreat of the French armies, the town surrendered again to Pope Julius, who built a castle to keep the citizens in awe. From that time till the end of the eighteenth century Bologna remained subject to the papal see, retaining however its senate, the municipal officers, the city gates, and the market towns and market-towns: the principal arc, St. Agata, 3000; St. Agostino, 5000; Argetata, 3000; Argile, 2600; Barcella, 5000; Bazzano, 2200; Borgo Panigale, 3400; Budro, 10,000; Calderara, 3000; Castelfranco, 5500; Castello Guelfo, 2400; Castelmaggioro, 3400; Castel S. Pietro, 6000; Castiglione, 2800; Creppellano, 3400; Crevacore, 6500; Galliera, 3200; S. Giorgio di Piano, 3300; S. Giovanni in Persiceto, 6700; Granaglione, 2700; Loji, 3000; Malabergo, 4700; Medicina, 9000; Mollinella, 7000; Minierbo, 6500; S. Pietro in Cariano, 3600; S. Gregorio Magno, 3000; S. Maria in Organo, 4500; S. Pietro in Cariano, 3600; S. Gregorio Magno, 3000; S. Maria in Organo, 4500. These numbers include the whole population of the respective territory or commune, of which, generally speaking, about one-half may be reckoned as the resident population of the town, the rest living in detached farm-houses, cottages, or in the Via, VICO, being all parishes and market-places, and many of them are surrounded by walls. They have each a municipal council composed of twenty-four or eighteen members, taken one-half among the nobles or chief proprietors, and the other half among the tenants or farmers. Seats in the municipal councils are determined according to the qualification of holding possessions or domicile within the commune, being past twenty-four years of age, and having a good moral character. Two relatives in the first degree cannot sit in the same council. Vacancies in the councils are filled by the councilors themselves, and the people elect the magistrates, i.e. the gonfalonierie, and four elders, and all the other communal officers and servants. The gonfalonierie is renewed yearly, the elders are renewed by halves every year. The councils vote every year the municipal expenditure, as well as the taxes and other means to provide for it. This budget must be approved by the legate, after which it is printed and published. The council administer the communal property, subject likewise to the inspection and approbation of the legate. The government of the city is shared by the commune and the guilds.

The peasants of the province of Bologna are seldom proprietors, few have even leases, but they hold their farms from father to son by tacit agreement, giving one-half of the produce to the landlord and paying half the taxes. Several classes of the people of the country, by the practices of their ancestors, are nearly poor, and working together on the same farm. They are sober, peaceable, and industrious, and generally superior in morality to the lower classes of the cities. The farms are not so large as in Lombardy, but the peasantry live better on the produce of the field. This explains why there so few rich and poorly paid labourers of the latter country. This metayer system prevails over most of the northern papal provinces, and also in Tuscany.

Upon the whole the province of Bologna is one of the finest and richest in the papal state. The mineral waters of the province are very numerous and the Bobbinese, in the Apennines are much frequented by invalids.

BOLOGNESE SCHOOL OF PAINTING. The historians of the fine arts employ the word school, as it is often used in reference to other pursuits, only to denote a similarity of opinion, aim, or practice among many individual persons; but the term is so far true to its literal import, that the similarity of taste alluded to does not so much arise from the accidental coincidence of independent modes of thinking, as from some common influence, and generally from the example of one powerful hand. For if we always involve a defect of originality; in the complicated art of painting the advances to perfection were of necessity very gradual; the greatest masters were largely indebted to the labours of their predecessors, and each of them may thus be said to have sprung from a school as certain as that he founded one. But when excellence was one ap
proximated, originality seemed only compatible with a difference in the mode, since a difference of degree appeared to be all that was required of the Renaissance. Vasari found it sometimes degenerated to caprice, and imitation ended in insipidity, the most plausible ambition seemed to be that which aimed at combining excellences not hitherto united in any one school. This was at the least the professed object of the Florentine painters, and produced some of the most distinguished masters. It happens that this new effort took place in a school which had not before distinguished itself so greatly as the rest. The most brilliant epochs of art, south of the Alps, continue; the greatest masters having been contemporary with the Bolognese school of the sixteenth century. To this rule, which applies to Venice, Parma, Florence, and Rome, the Bolognese school is an exception, since it attained its comparative perfection nearly a century after the production of the finest works of Italian art.

As to the distinguishing marks of the later masters of the Bolognese school have been done ample justice to by many historians and biographers, but it must be confessed that the Florentine Vasari, who was naturally anxious to extol the genius of the Tuscan artists, sometimes betrays a disposition to undervalue or to vilify the earlier Bolognese painters whom he notices in his work, and he did not live to see the revolution which the Caracci produced. The chief historian of the Bolognese school, Malvasia (Felsina Pittrice), on the other hand, in his eagerness to defend his countrymen, has often, if not unfrequently exaggerated their merits, and the two should be read with care. The opinions of recent writers, among whom Lanzi, though again perhaps disposed to exalt his own Florence, will be found the most rational.

The arts of design were kept alive during the middle ages by manuscripts and illuminated manuscripts; the former were commoner at Rome and Ravenna, than in the other Italian cities, but the art of missal-painting, which was practised wherever there was a monastery, seems to have attained some perfection at Bologna at an early period. This is shown by the masterpiece of the monastery of San Domenico (Ranato 11) as superior in this to his master, Oderigo di Agubbio, it appears sometimes painted in larger dimensions, and the recorded dates of still earlier painters might enable Bologna to contend for the palm of antiquity not only with Florence but with Senigallia and Pisa. Franco, who has been called the Giotto of his school, is the supposed founder of the style of the Bolognese painters of the 14th century. Many of their now fading works exist in the church of Mezzaratta, a gallery, as it were, of ancient specimens, which, as Lanzi remarks, is to this era of the Bolognese school what the Campo Santo at Pisa is to that of the early Florentines. In order, however, that this comparison should be just, it would be necessary to select corresponding dates; some of the works in the Campo Santo, as by Gherardo and Benozzo, were executed after the middle of the 15th century.

About 1400 the most prominent name is Lippo Dalmasio, called, from the subjects to which he almost confined himself, Lippo delle Madonne: some of his works remain, and Malvasia relates, with reference to one in the church of S. Procolo, that he had made them pure and grandeur of expression, and assert that, notwithstanding the subsequent advancement of the art, no modern painter could infuse so holy a feeling into similar subjects. In this early epoch of the school the predilection for the style of the Grandezza is not so deeply rooted as to have been more decided, and to have lasted longer than any other. It may be here observed that the modes of representation to which the Byzantine painters and their Italian followers adhered were in many cases conformed by reason of the very nature of their art, the same rude as they were, often exhibited a solemnity of treatment which may in some degree account for the veneration in which they were held. The Florentines who visited Bologna and painted there left no permanent impression; a native artist might very easily have had the advantage of his visitors, but the rival of Mantegna and afterwards at Venice, introduced the arrangement of the Venetian altar-pieces in some works subsequently done by him in Bologna; but the early simplicity or severity was preferred perhaps as fitter for the subjects; it was certainly the earliest cultivated by the greatest painter of the first epoch, Francesco Francia. This artist, who was contemporary with Raphael, and survived him some years according to Malvasia, was celebrated as a goldsmith and engraver of medals before he betook himself to the pencil as a comparatively advanced art. Vasari says that the first picture was dated 1490. He is celebrated as a painter who succeeded beyond most others in giving an expression of sanctity and purity to his Madonnas, and a letter of Raphael's is extant in which this merit is particularly praised; in these, the eulogists of Francia have in vain endeavoured to exalt him to a level with the painters of the first rank with whom he happens nearly to coincide in date. Vasari relates that when the St. Cecilia of Raphael made its appearance in Bologna, according to the principal critics there, Francesco Francia was consigned by the great painter himself, was so amazed at its vast superiority to his own efforts that he soon after died of mortification. It has been satisfactorily proved, by the date of some pictures of Francia, that he lived some years after this, but the story has been recently repeated by Quadr想起来 du Quincly in his life of Raphael, and by Tieck (Phantasiien über die Kunst). But Francia presents no distinguished names. The summit of the art had already reached elsewhere, and his followers, who were inferior to him, were eclipsed by the disciples of Raphael.

It is by no means to be inferred that the Bolognese painters were not anxious to imitate the style of their great model into Bologna; the best were Ramenghi called Bagnacavallo, and Innocenzo da Imola. It is in the account of Bagnacavallo (which includes a notice of Innocenzo, Aspertini, and Girolamo da Cotignola) that Vasari speaks so contemptuously of the Bolognese school. Bagnacavallo was however occasionally original, and some of his productions were considered worthy of the particular attention and study of succeeding masters. Three distinguished names precede the epoch of the Caracci, Niccolò dell Abate, Girolamo da Bagnacavallo, and Niccolò dell Abate belongs strictly to the school of Modena, but he is associated with the Bolognese painters by some works at Bologna, by his joint labours with Prima ticco at Fontainebleau, and by the extravagant compliment paid to him in a sonnet by Agostino Chiesa, in which the author appears to unite all the excellences of all the great masters. Prima ticco and Tibaldi began their studies, though at very different times, under Bagnacavallo; the first, who was the elder by many years, assisted Giulio Romano at Mantua, and under his influence, although in a different style, it may be supposed which he afterwards displayed in a series of designs for the ceilings of Fontainebleau, where he was employed by Francis I. and his successors. The frescoes painted from these designs, and which are no longer in existence, are chiefly attributed to him. It was not till 1565, however, that Tibaldi soon left Ramenghi for Rome and Michael Angelo, to whose style he devoted himself; his successful imitation of the great Florentine master, whose powerful design he sometimes blended with the excellences of other schools, placed him in a relation to his prototype similar to that which Bagnacavallo holds to Raphael, and the Caracci honoured him with the appellation of ' the Reformed Michael Angelo.' Tibaldi was employed in Milan and afterwards in Spain, and thus the three greatest masters of this intermediate period were absent from Bologna a great part of their lives.

The name of Prospero Fontana stands at the head of those who, living from the earlier to the latter part of the sixteenth century, and inheriting but little of the genius of the great masters, survived their own slender reputation to the present day. As Prospero Fontana is a member of the same class as may be mentioned Passerotti, as the latest Bolognese painter alluded to by Vasari. The others may be passed over, with the exception of Denis Calvart, a native of Antwerp, who, after settling in Bologna, where he opened a school, not only instructed his pupils in the art of design, but introduced the style of landscape-painting which afterwards added a new lustre to the school in the hands of the Caracci, Domenichino, Grimaldi, and others.

Thus the schools of Bolognese and Roman masters lasted with no other change than that of increasing mannerism or insipidity, till beyond the middle of the sixteenth century, about which time the followers of
the elder Zucaro in Rome and those of Bronzino in Florence may be ranked with the Fontanas and the Passerottis of Bologna. The characteristic excellence of the Venetian school had been occasionally blended with the other styles, but the Venetian discipline and the Roman exuberance were exclusive; meanwhile, owing to the ascendancy of the two first, the imitation of Correggio can hardly be said to have extended uninterruptedly beyond his own date, since Parmigianino, who indeed rather holds the rank of an original muse, survived him but a very few years. Barocci may therefore be considered to have led the way, about 1565, not only in including Correggio among the great models proposed for imitation, but even in preferring him to the rest. The example thus set to the Roman school was followed soon after by Seghers, and however, Correggio which immediately precedes the dawning influence and fame of the Caracci, They too, from whatever cause, partook of the new admiration, and in their attempt to unite the excellence of the different schools, it was natural that a style, which had been hitherto in a great measure overlooked, should form a chief element of that eclectic perfection which was proposed as the object of attainment. Accordingly, the imitation of Correggio preponderates in the first works of these masters; and Annibale Caracci's letters from Parma prove that another painter was early furnished to the Caracci, who devoted himself to painting in order to aid him in effecting his purpose. He sent them, after well-grounded elementary studies, to Parma and Venice, from the latter of which schools it may be observed the Bolognese painters have been borrowed. The first work of importance done after their return to Bologna was a series of compositions, representing the story of Jason, in an apartment of the Palazzo Fava: Lodovico himself assisted, but the greater part was the work of Annibale. The severe criticisms and opposition which this performance excited occasioned the masters to study in the famous school which was shortly adopted almost generally by the rising painters who were studying with Denis Calvart, Cesn, and Fontana:—ample details as to the modes of study in the school of the Caracci may be found in Malvasia. The fame of these masters was soon after firmly established by their works; and Agostino, as an engraver as well as a painter, contributed to spread and sustain their name: but the eminence of the abettors of the old style was not completely silenced till the frescoes in the Palazzo Magnani have been mentioned. This Caracci had some connection with the general approbation; and it appears from Malvasia that his chief objection to the new mode of study was the constant reference to nature which was now deemed indispensable: from this objection the previous state of the school and the manner of the painters of Bologna may be inferred.

Annibale Caracci repaired to Rome shortly before 1600, and painted in various churches; but his great work, the monument of his powers, and the specimen of the school most frequently quoted, although not perhaps the most characteristic, is the series of frescoes in the Farnese palace. In this work Agostino among others assisted: the Cephalus and the Galatea, according to Bellori, were painted entirely by him. The admirers of the antique and of the Roman school are, however, confirmed in their opinion by the paintings of St. Andrea della Valle in the same city, the best specimen of his powers, and it is here that as a maestro (the term applied by the Italians to painters of large compositions on ceilings and in galleries) he aimed at the grandeur of manner and breadth of form remaining to those who had long studied in the works of Correggio at Parma.

Of the remaining disciples of the Caracci it may be sufficient to mention the names of Tiarini, Lionello Spada, and Cavedone. All the more noted scholars before mentioned had numerous followers, and perhaps none more than Guercino. In these the true character of the teaching is soon perceived. It was the Caracci; it was the Caracci that was sought in the works of Domenichino and Annibale Caracci.
About the year 1700 the greatest name was Carlo Cignani, a painter of considerable repute in his day, and who so far as we can judge was the first to divide the study of the human body with difficulty opposed by the united efforts of the Caracci, and appear to have been the chief causes of the neglect of Domenichino. This empty facility, no longer contrasted with such distinguished talents, was naturally considered the highest proof of ability, and by degrees almost extinguished the taste for well-studied imitation. A Bolognese writer and painter, Zanotti, who was long professor of the Clementine Academy, was one of the first to raise his voice against this destructive mannerism, and to recommend a more frequent reference to nature. He has been considered to have led the way to opinions far more decided as his own as to the necessity of returning to the first principles of imitation, and indeed to the methods of the earliest masters. These notions have been openly expressed in Germany in this sense, and yet art teachers in France, who by their neglect of their education in their works, have had the merit of directing the attention of the world of taste to the simple but impressive productions of the older Italian painters, from whom Raphael caught the feeling which aided him in his study of nature.

To recapitulate, the school of the Caracci has been often described as merely imitative, but perhaps this has arisen rather from the well-known and professed object of its institution than from any particular evidence of that object in their productions. If a certain resemblance of manner, whatever it be derived from, characterizes the masters, it may be admitted that no school presents so much variety as to be met with in the works of its disciples. This, it must be confessed, cannot be said of the followers of Raphael, who are of different schools, and even of a biographer of the last, who, if he sincerely suppose, had they endeavoured to follow up the feeling of Francia (not to return to Lippo Dalmasio or to Giottto), they might have succeeded in connecting the highest effort of the school with that earlier, national, or local style, which, as we have seen, is the true source of all Italian art. It is not fully developed, partly perhaps because Francia devoted himself so late in life to the art, and thus still adhered to the incomplete and, as it were, preparatory mode of imitation when the perfect one had already been introduced. The merit of this painter, as one of the characteristic Italian masters, should not however be forgotten, and his style is not the less interesting from being connected with that original school of Umbria, distinct from the Florentine, which was remarkable for purity of expression, and which had much influence on the education and genius of Raphael.

BOLOGNIAN PHOSPHORUS. [PHOSPHORUS.]

BOLOGNIAN STONE, a variety of sulphate of barytes. [BARIUM.]

BOLGH, or BELUR TAGH, a name on all our maps, down to the latest, given to the extensive mountain-range which encloses the high table-land of eastern Asia on the west, and separates it from the deep depression which surrounds the sea of Aral on all sides and the Caspian on three. This name, we believe, is first found on some Russian maps, and is supposed to have been afterwards adopted by D'Anville in his Atlas of the Chinese empire, since which time it has been continued. But as this name is not known in the countries contiguous to the range, at least not in those of which we have obtained any information, it may be considered when the above statement is found to rest on the authority of Marco Polo, the Venetian traveller, and on that of the Arabian geographer Nasir Eddin. But on examining the passages in which these authors speak of Bolor, it is evident that the name is not properly applied to this range, and it is uncertain whether it formed the source of the aforesaid. After leaving Badakhshan, or Balashee, and traversing a country called Vaccum, arrives at the highest mountains in the world, and having passed them, to the table-land of Famer. Travelling from it in a north-eastern direction, for several days, on the mountainous range, in an immense imagination, he adds that this country was called Belor. Afterwards he arrives at Khashagar. But Nasir Eddin evidently gives the name of Belor to a place which, according to his determination, lies 36° 36' E., and 10° S. of the town of Badakshan.

Mr. Erskine, in his letter to the history of the Emperor Baber (xxxv. note), was the first who observed that there was a variance between Marco Polo and Nasir Eddin, and a still greater between them and our maps. Julius Klaproth, at a later date, compared the passages of Marco Polo with the great Chinese map, and found the name of Belor inserted on it not far south of the position which Nasir Eddin has assigned to Belor. To reconcile the passage of Marco Polo with the position of Nasir Eddin and the Chinese map, Klaproth reasonably supposed that the first part of Marco Polo's route had been towards the east, and that consequently Belor and Bolor mean the same place. The opinion of Klaproth has been adopted by Ritter, and the respective positions of the places have been inserted on Grimm's 'Atlas von Asien.' As we think that this determination is well founded, and that consequently the name of Bolor will disappear from the map of Asia to which we refer, we do not describe that mountain-range which lies between 40° and 35° N. lat. on both sides of the meridian 72° E. of Greenwich under this name of Bolor, but under that of Tartash Tagh, the name by which it is known among the natives. The Chinese map gives it the name of Tartash-liing.

BOLSENA, a town in the papal state, in the province of Viterbo, situated on the slope of a hill near the northern bank of the lake of Bolsena. It is an old decayed-looking town, rather unhealthy in summer, with about 1000 inhabitants. Bolsena is near the site of the ancient Volisini, one of the principal cities of the Etruscans, which sustained several wars against Rome, and, owing to its strong position, maintained its independence after the rest of Etruria had been subdued by Rome. The civil war for the possession of the town, the property of two families, one belonging to a merchant of Perugia, and the other to the count of Cerreto, who was of the Barbadori family, was appeased by the former giving to the latter the town, which he sold to pope Benedict XII., who gave it to the commune of Bolsena, and in 1345, the pope, on the request of the commune, gave it to Robert of Florencia, count of Toscana, and turbulent of the name of Volisini, and defeated the revolted liberti, but the consul was killed in the engagement. A new consul, M. Fulvius Flaccus, was sent from Rome, who after a siege took Volisini, e.c. 265. Most of the revolted liberti were put to death, but at the same time Fulvius Flaccus razed the city which had so long withheld the power of Rome. He carried away the spoils, among which it was said there were 2000 statues, a number evidently exaggerated. (See Livy's narrative of this event, with Niebuhr's remarks on it, Rossbach's chronicles, and the history of Tuscany.) Bolsena has been on the Adriatic, but has built themselves a new town in the neighbourhood. This new Volisini is little noticed in subsequent history. Selinus, the favourite of Tiberius, was a native of it. The Via Cassia passed through Volisini. Among the few remarks of antiquity, at or near Bolsena, is the spot of a temple, said to have been dedicated to the Etruscan goddess Nusria. Two ancient urns are in the vestry of the church of Santa Cristina, and in the place before the church is another urn with curious baso-relievi, representing satyrs and bacchantes, and near it is a large and grand monument. It is in the church of Santa Cristina that the miracle of the bleeding host is reported in the old legends to have occurred, which furnished Raphael with the subject of one of his finest paintings in the Vatican. Bolsena is 56 miles N.N.W. of Rome, on the road to Florence.

BOLSENA, THE LAKE OF, is in shape nearly oval and covers about seventy square miles. It is almost wholly surrounded by hills, which are covered with trees,
vines, and gardens. To the south-east the town of Monte-
fiacccone rises on a conical hill a short distance from
the lake, from which is obtained a fine view of the
surrounding country. To the eastward, behind the town
of Bolsena, is the calcareous ridge of Bagnoarea and
Orvieto, which divides the basin of the lake from the
valley of the Tiber. [Bagnoarea.] South-west of the lake, the country opens into many buildings are situated, including the
sea. At this point, the river Marta (Lartus flumen)
issues out of the lake, and after a course of about forty
miles enters the sea near Corneto. The lake is subject to
overflows: it is in many places shallow near its borders,
where it is covered by large parts of the outer shores
of water-fowl. The air around the lake is unhealthy in
summer, though not so deleterious as that of the plains
approaching the sea. The lake of Bolsena abounds with fish
and large eels, which were celebrated in the time of
Dante. ([Purg.] v. 199.) Two small islands extend from the
lake, Isola Bisentina and Isola Martana. It was in one of
these islands, some say the Martana, and others the Bisen-
tina, that Queen Amalasunta, daughter of Theodoric, the
Gothic king of Italy, was confined, and died a violent death.
After her father's death she became regent of the kingdom,
deriving her authority from the council of the clergy and
the majority of her son Athalaric, who dying pre-
maturely, Amalasunta took for her colleague in the care
of the kingdom her cousin Theodatus, who soon after con-
fined her in the island on the lake of Bolsena, where she
was murdered by order of the king, and the island was
put to death by Vitigis. The hills that surround the lake
of Bolsena are basaltic; but the rock in most places has a
covering of rich mould, though in others it is bare and
shows hexagonal prisms ranged in all lines of
directions, very common in this place. The wine is very
good wine, both red and white, especially of the muscat
kind.

BOLSOVER, a parish and formerly a market-town in
the hundred of Seconde, county of Derby, 23 miles N.N.E.
from London, and 9 miles N. by W. from Alport. At the
time of the Domesday Survey the manor of Bolsover (Bele-
sover) belonged to William Peveril, who is supposed to have
built Bolsover Castle. Not long after the forfeiture of this
property by William Peveril the younger for poisoning Peveril, in 1187, the castle was
occupied as having been given with the manor by Richard I.
in 1189, to his brother John on his marriage. The castle was
in the possession of the barons in 1215, but was taken from
them by assault for the king (John) by William de Ferrers,
Earl of Derby. The manor and castle continued some-
times a direct property of the crown, and at other times it
was in the possession of various nobles under grants from
the crown. The Earl of Richmond (father of Henry VII.) did
possess of it in 1456, together with the Castle of Harelost,
but it was granted in 1482 in the marriage of the Duke of
Norfolk, on the attainer of whose son it again reverted to the
crown. Edward VI. granted it to Talbot Earl of Shrewsbury,
in whose family the manor of Bolsover continued until the
time of James I., when Earl Gilbert sold it to Sir Charles Cavendish. The old castle was in ruins
long before. Leland mentions it as in ruins in his time,
and no vestige of it now remains. That which is now
called the castle is nothing more than an ill-contrived and incon-
venient domestic residence with a portico and apsidal
approach in front of a castellated and apsidal tower, the
building standing on the brow of a steep hill overlooking a
large extent of country. A flight of steps on the east side
leads through a passage to the hall (the roof of which is
supported by stone pillars), and thence to the only room
decorated with a ceiling of plaster. This room is
the "pillar parlour," is 21 feet square, and has an arched
ceiling which is supported in the centre by a circular pillar,
around which the dining-table is placed. Above stairs
there is a large room, about 45 feet by 50, called the "star
chamber," formerly used as a lodging-room and now a
lodging-rooms on this floor and eight on the attic story,
which are all very small: the floor of every room is of plaster.
The residence of the family of Cavendish was probably in
the magnificent range of ruined apartments which extend to the west of the structure we have men-
tioned, and of which only the outside walls are now stand-
ing. In front of this mansion there was a fine terrace,
drawn which was a frequent feature of such houses.
The gallery in this fine range of apartments was 200 feet
in length by 22 in width; the dining-room 78 feet by 32;
the two drawing-rooms 39 feet, the other 36 feet by 33. Dr.
Pege, Horace Walpole, and others, thought these these
edifices the best in England. [Blainville.] William
Cavendish, Duke of Newcastle, son of the Sir Charles, who
built what is called the castle. Dienneck's view of Bol-
sover (1632) however decides the point of their previous
existence, and that they were built before the civil wars
is more likely than otherwise. The gatehouse at the north
of the room at Bolsover for the splendid entertainment which
the Earl of Newcastle (such was then his rank) gave to King
Charles, with the queen, the court, and all the gentry of
the county. The castle had previously entertained the king
at Bolsover, and the queen was there entertained after her
wedding. The dinner on this occasion cost 4000L.; and
Clarendon speaks of it as 'such an excess of feasting as had
scarce ever been known in England before.' In the early
part of the civil war the castle was garrisoned for the
king, but was taken in 1644 by Major-General Crawford,
who is said to have found it well manned and fortified with
great guns and strong works. During the sequestration of
the Marquis of Newcastle's estates, Bolsover Castle suffered
much both in its buildings and furniture, and was to have
been demolished, as it was of the shape and size of the
restoration. It is now in the hands of the Earl of Newcastle,
purchased for the earl by his brother, Sir Charles Cavendish.
The noble owner repaired the buildings after the Restoration,
and occasionally made the place his residence. It now
belongs to the Duke of Portland, whose family derived it
in the following way. It was purchased by a person in
1668, who shortly after died. The mansion was not still inhabited, the mansion has long ceased to be even occasion-
ally occupied by its owners.
The small town or village of Bolsover is pleasantly sit-
uated, together with the castle, upon a point projecting
into the valley which runs north and south, and is not far
east, where the separation has been made by a deep cut.
The number of houses in the parish, which includes part
of the township of Gapwell, amounted to 320 in 1831, and
the population to 1429, of whom 695 were females. The inha-
bitants are of farmer, laborer, and yeoman class. The
church, dedicated to St. Mary, is of a mixed architecture,
having portions of the Norman style intermixed with later
English architecture and with some modern additions.
The living is a discharged vicarage in the diocese of Lich-
field and Coventry, with the annual net income of 110L.
There is a small charity school, endowed with 6L. per
annum, said to have been given by the Countess of Oxford;
the school-house was erected in 1756. The interest of
nearly 3000L. do not amount, have not been devoted to the
Use of the poor. In 1623, the church was presented to the
discretion of the minister, churchwardens, and four trustees.
(Ppegge's Sketch of the History of Bolsover and Peak
Castles; Bray's Tour into Derbyshire; Peltington's Pre-
sent State of Derbyshire; Lyson's Magna Britannia.)
always be resorted to when we wish to understand the character of the Tunicata, whether simple or compound; and adds, that the naturalist who contents himself with describing the external appearance of an Ascidia may remain even more ignorant of the nature of the enclosed animal than that person is of Mollusca who knows no more of them than the shells they inhabit. The following is the generic character of Boltenia (Savigny) as reformed by MacLeay for satisfactory anatomical reasons, detailed in his memoir, every word of which is worthy of the deepest attention of the comparative anatomist.

**External character.**—Body with a conic testa, supported from the summit by a long pedicle, and having both orifices lateral and chief from four rays. **Anatomical character.**—Branchial pouch divided into longitudinal folds, surmounted by a circle of compound tentacula, and having the reticulation of its respiratory tissue simple; abdomen lateral; ovary multiple.

There are three species recorded, viz. Boltenia oncfera, Boltenia funiformis, and Boltenia reniformis. We select the latter, Ascidia globularis of Captain Sabine, *Ascidia cllata* of Otho Fabricius, as an example of the subgenus. The following is MacLeay’s character and description.

**Specific character.**—Obese, roughish; body subreniform; the orifices being somewhat prominent; peduncle terminal.

**Description.**—Envelope sub-pellucid, whitish; mantle or tunic very thin, provided with transverse, circular, narrow muscles, which cut each other very obliquely.

**Tentacula** about ten or twelve in number, very unequal, clavate, with the clava plumiform or beautifully divided into a number of regular laciniæ.

**Branchial pouch** marked with about fifteen or sixteen large folds, and having the net-work simple and regular as in the *Cynthia* monstros of Savigny. [CYNTHIA.]

**Dorsal sulcus** having the two lateral laminae winged and the intermediate simple.

**Oesophagus** descending vertically to the lower end of the body, as suspended, and there meeting an ascending ovoidal stomach without any apparent internal folioli.

**Intestine** with an oblong, longitudinal, open loop, which is prolonged to the pedicle; rectum narrow and sub-conical, and ascending nearly parallel to the oesophagus, only higher; anus having a scoloped margin.

**Liver** coating the stomach behind the right ovary, and running from the lower end of the body, as suspended, about half way up. It is divided into several granulated globes, some of which are separated from the others, particularly towards the pyraxis.

**Ovary** two, elongate, lobate, situated on each side of the body, and directed towards the anal orifice; **right ovary** straight, claviform, lying close within the loop of the intestine; **left ovary** larger and less lobate, but undulated and extending downwards behind the branchial vein.

MacLeay, after quoting Captain Sabine (Appendix to Parry’s Voyage to Melville Island) and Fabricius (Fauna Groenlandica), gives the northern seas of America as the locality of the animal. Captain J. C. Ross (Appendix to Sir John Ross’s Log. of *Voyage* of *Erebus* and *Terror*) states that the species was dredged up from a depth of seventy fathoms near Elizabeth Harbour. He observes that he can add nothing to Mr. MacLeay’s admirable description, except that the colour of the body is a very light brown; that of the pedicle darker.

The sphere wherein this Ascidian moves must necessarily be very contracted. Anchored by its pedicle, the length of its moorings fixes the limit of its motions, which are most probably confined to the oscillations arising from the agitation of the waves. Both the body and pedicle, as MacLeay observes, are scrobiculate or covered with a rough surface, which is formed by exceedingly short coarse hairs. The original colour he could not ascertain; but in spirits it was cinereous or dirty white, which, he adds, may possibly be the true colour of the animal, as it is not unfrequently that of the other ascidians. MacLeay’s specimen was brought home from Winter Island by William Nelson Grifiths, Esq., while under the orders of Captain (now Sir Edward) Parry.

**BOLTEDHEAD** a chemical vessel, usually of green glass, and of a globular form, with a narrow neck. It is chiefly employed in the process of sublimation.

**BOLTON-LE-MOORS**, a borough town in the populous parish to which it gives name, in the hundred of Saltford, county palatine of Lancaster, comprising the township of Great Bolton, and the chapel of St. John; 11 miles N.W. of Manchester, 6 miles W.S.W. of burn, 12 miles S. of Blackburn, 11 miles S.E. of Chorley, 43 miles S.S.E. of Lancaster, and 197 miles N.W. by N. of London. It is in 33° 33' N. lat., and 3° 34' W. long.

The parish of Bolton contains twelve townships and six chapelties, of which the following is a list, with the estimated annual rental of the lands, &c., of each:

- Anglezarke, township 168
- Blackrod, chapelry 2,591
- Bolton, Great, township 28,299
- Bolton, Little, township 12,896
- Bradshaw, chapelry 773
- Breightmet, township 1,936
- Edgworth, township 2,168
- Entwistle, township 701
- Harwood, township 2,011
- Lever, Darcy, chapelry 1,119
- Lever, Little township 2,231
- Longworth, township 179
- Lostock, hamlet 606
- Marriott, township 376
- Rivington, chapelry 537
- Sharples, township 2,018
- Tonge with Haughton, township 2,201
- Turton, chapelry 2,563

**Total** 63,034 £77,997

### Notes
- The increase in the population of the town of Bolton has been very rapid since the year 1773, when there were only 5,339 inhabitants in the two townships. In 1801 they amounted to 17,416, in 1811 to 24,149, in 1821 to 31,295, and in the census of 1831 they are returned at 41,195, showing an increase in 38 years of 35,856 persons. The returns for the whole parish during 50 years preceding the year 1831 exhibit a proportionate increase. In 1801 the parish contained 23,826 inhabitants; in 1811 this number was raised to 39,701, in 1821 to 50,197, and in 1831 to 63,031. The tables drawn up at the last census exhibit the following particulars connected with the population of this borough:
The boundaries of the borough, as laid down in the Boundary Act, 3 and 5 Will. IV. cap. 64, are not the boundaries of the town: a portion of Little Bolton lying to the north of Astley Bridge, and extending as far as Horrocks' Fold, is excluded from the early importance of the place, which joining township of Tonge and Haugh is included in it. The borough returns two members to parliament.

The name of Bolton is involved in obscurity, though its suffix of le Moors evidently points to a Norman origin, and an exclusion from the early importance of the place, which required to be thus distinguished from other towns of the same name. If, as it has been supposed, Bolton is a corruption of Bedolan or Bothebon, a town which is mentioned in the Calendarium Rotulorum Charterum preserved in the Tower of London, the manor belonged at the time of the Conquest to Roger de Mersheya, by whom it was sold, along with his other lands between the Ribble and the Mersey, to Ranulf de Blundeliver, Earl of Chester, from whom it came into the possession of the Earl of Ferrers, and afterwards into the possession of the family of the name of Pilkington. In the possession of this family the manor remained for nearly a century, until Sir Roger Pilkington, then high sheriff of the county, was attainted and beheaded at the commencement of the reign of Henry VII., for adhering to the cause of Richard III. at the battle of Bosworth field. His estates were confiscated and given to Sir Thomas Stanley, then created Earl of Derby. In this way the Earl of Derby became possessed of nearly all the land in the town of Bolton, which held until part of it was again confiscated by the Crown during the reign of Elizabeth. The act of the conduct of the Earl of Derby in the civil commotions of those times. By a series of mutations, not easily traced, the manorial rights became divided among several individuals, and a body of burgesses who held the town. The earls of Derby and Bradford have each one-third part, and the corporation which have each one-twelfth, and a fifth party holds the sixtieth. The manor of Little Bolton is in the possession of Thomas Tipping, Esq.

The political disensions in the reign of Charles, Bolton began to rise into notice, owing to the ardent spirit manifested by the inhabitants in favour of the Commonwealth. During the long strife between the royalists and the parliamentarians the town was garrisoned by the latter, in the year 1643. After Prince Rupert's successful attack upon the parliamentary troops who besieged Lathom House, the then residence of the Stanley family, finding that they took refuge in Bolton, he followed them with his army, where, being joined by the courageous inhabitants, he was enabled to hold the town. After several assaults the royalists, being repulsed, suffered great loss, retired, until the earl of Derby, having collected his tenantry and levied new troops, returned to the attack, and succeeded in demolishing the parliamentary forces, and obtaining possession of the town. Within the walls of this town the inhabitants remain in their hands, for by one of the singular vicissitudes of fortune, those eventful times it was again surrendered to the parliament; and after the battle of Worcester the unfortunate earl, who had signalized himself in the attack upon Bolton, being taken prisoner, was executed by a military tribunal at Chester, and sent under an escort to Bolton, where he was beheaded October 15th, 1651.

Several centuries prior to this date the town was famous for its manufactures. Leland speaks of its being a market for salt and coal; and the measure of the salt (Blithe), who wrote somewhat later, describes it as 'a fair well-built town, with broad streets, with a market on Mondays, which is very good for clothing and provisions; and it is a place of great trade for fustians.' There seems to be little doubt that the making of woolens was imported by some French clothiers, who came over in the fourteenth century; that other branches of trade were introduced by the French refugee manufacturers, who were attracted by the prosperity of the neighbourhood; and that the manufacture of cotton cloth and flax was soon followed by many of its kinds, introduced, by some emigrant weavers, who came from the cantonies of the Rhine.

Bolton made no great advances in population until the improvements in the machinery for spinning cotton gave a new impulse to the trade, which has been gradually increasing ever since. Almost the first invention in point of importance originated in this town. It was a machine which combined the principles of the spinning-jenny and the water-frame, and was called from that circumstance a Mule. This was the discovery of a man of the name of Samuel Crompton, who lived in a part of an interesting old house about a mile from Bolton called 'Hall in the Wood,' where the experiments were carried on. He was a man of great ingenuity, and made the most of the opportunities which the town afforded him. Fortunately for the public, but unfortunately for the inventor, no patent was taken out for the machine. It consequently came into immediate use, and made the fortunes of thousands, while the ingenious discoverer, after receiving the first description of the new invention, was unable to get difficulty from the persons whom his invention had enriched, was remunerated by a parliamentary grant of 5000l. In the mean time Sir Richard Arkwright, another native of Bolton, who had risen from a very obscure condition, had established large factories in Derbyshire, where he carried on the cotton manufacture in the greatest perfection. The opposition made by the labouring classes in Bolton to the improvements in machinery has, at various times, driven the most lucrative branches of employment from that town to other places. The introduction of the mule and of the power-loom was not accomplished until they had enriched other communities for some time. After a while cotton factories began to rise up in various parts of the town, filled with machinery upon the best principle. Foundries and machine manufactories followed them, and a great extension was immediately given to the trading interests of the place. Some of the largest mills in the county are in Bolton. Two of the principal spinners have each more than 100,000 spindles employed, and there are nearly fifty factories in the town. The manufacture of the woollen and worsted manufactures is carried on in these mills, comprehending the dressing and carding of the raw material, and the spinning it into yarn, employs steam-power equivalent to about 1190 horses. About fifty steam-engines are used in the spinning-machine alone, and as many in the mill. (This is Baines's calculation) there would therefore be 7700 persons, old and young, engaged in the mills alone in Bolton. But this average is too high: it would be more accurate, giving a total of the whole trade of 40,000 very considerable numbers. In 1831 the whole number of men employed in the cotton and silk trade in the townships of Great and Little Bolton was 6100. The women and children would quadruple the number.

The weavers of Bolton produce a great variety of fabrics, probably of greater variety than any other single place in the county. Plain and fancy muslins, quiltings, counterpanes, and dimities, are the chief kinds of cloth, but cambrics, gingham, &c. are also woven. Formerly fustians, jeans, thickets, and similar fabrics were the staple of the town. The manufacture of these descriptions of cloth are now chiefly produced in the power-loom, as well as calicoes and dimities. Silk goods are not produced here to any extent. Several attempts have been made to introduce them among the Bolton weavers, but without much success.

The bleachers, printers, dyers, and mercers are among the largest in the kingdom, and employ a considerable number of persons, ten millions of pieces being the average number annually bleached in the parish of Bolton. The steam-power used in these works is calculated to be equal to the power of nearly 100 horses.

In the foundries it is nearly as great, twenty-five steam-engines being employed in them. The iron foundries and machine shops in Bolton are numerous and extensive. Steam-engines are made at several of them, and, together with the machines and tools that is manufactured here, are considered of the first quality.

Many other branches of trade connected with the above are carried on to a considerable extent; and there are several large chemical and paper-works in the town and vicinity. A great proportion of the glass manufactured here is sold in Manchester, where the manufacturers have warehouses for the storing and sale of their goods. They meet their customers there from all parts of the country, one, two, or three days of each week, but always on Tuesday to Thursday, and in the case of a large polis of the cotton trade. On that day all the principals or their representatives from every establishment in the county connected with the cotton trade, more particularly bleachers and manufacturers, meet in Manchester. The practice, although apparently inconvenient, and involving with much trouble, has so many advantages that there is no wish, even among those who are most remote from the market, to alter it.
Bolton is well accommodated with the means of conveyance to all parts of the kingdom. Being on the direct line of the north road from Manchester, coaches are constantly passing through it in that direction. The intercourse with Manchester, already very easy and frequent, will be rendered more easy by the projected railway (1835) between the two towns, the completion of which is expected in the course of a year. There is also a railway, which was opened in 1831, connecting Bolton with the Manchester and Liverpool line at Kenyon, by which passengers can travel by the two coast towns in less than three hours. The distance by it to Liverpool is thirty-two miles, to Manchester twenty-two miles. The advantages of inland navigation have been enjoyed since 1791. when a canal was made from Manchester to Bolton, with a branch to Bury. It begins at the junction of the Irwell and the Mersey at Wigan, and runs through the town of Wigan, crossing the river Mersey, and arrives at Bolton near the bridge, where the canal is joined by the Irwell, to which it runs nearly parallel, crossing it at Clifton, and again near Little Lever, where its two branches to Bolton and Bury separate. Its whole length is fifteen miles one furlong, with a rise of 187 feet. The two towns thus connected with Manchester, being on the same level, no lock is required between them. The distance by canal from Bolton to Manchester is twelve miles; from Bolton to Bury six miles.

The whole district through which the canal runs abounds with coal. The mines, though not perhaps so close to the town, appear to have been worked when Leland wrote his 'Itinerary.' He says 'They burn at Bolton sum canale but more so cole, of thewich the pitte be not far off.' The principal mines for canal coal belong to the Earl of Bessborough's estate, and have been worked for many years. The inferior quality is found nearer Bolton. The common coal lies round the town, and is the main source of its prosperity.

The two townships of which the borough of Bolton consists are separated by a small river called the Croe, which rises in the Irwell valley, and makes a bend west into the Irwell, dividing in its course Great and Little Bolton, the south side of it being the township of Great Bolton, and the north side the chapelry of Little Bolton. Though an ancient town, the streets of Bolton are wide and straight. The houses of the better class leading to and from the town in every direction are kept in good condition, and the principal entrances are good. The town covers nearly a square mile, having been very considerably extended in the S.W. direction, under an act of parliament obtained in 1792 for inclosing Bolton Moor, a large tract of waste land comprising nearly 300 acres, which was divided into allotments and sold by public auction on a perpetual chief-rent to be secured by buildings, and made payable to trustees as mentioned in the aforementioned act. A fifth of the chief-rent is secured to be paid to the owner of the manor, to whom were reserved also the mines and minerals underneath the surface. The powers of these trustees were extended by another act in 1817, by which they were empowered to raise a rate to the amount of 2s. 6d. in the pound on all the houses of the town for the purposes specified in a former act for lighting, cleansing, paving, and improving the town of Great Bolton. The many expensive improvements which were made previous and subsequent to the passing of the last act involved the trustees in expenses beyond the amount of their annual receipts from the Moor, which, united with a want of proper economy, rendered it necessary for them to get an enlargement of their powers, in order to obtain a mortgage upon the Moor rents. In this way they raised 12,000l. to defray the increased expenses, which were mainly paid for by a cess amounting to 2s. 6d. in the pound, which was annually laid upon the inhabitants, and paid for a number of years, until, in the year 1835, the tax was discontinued, and by a better administration of the funds yielded by the chief rents on Bolton Moor, not only have they been found equal to defray the annual disbursements for the lighting, paving, cleansing, and improving the town, but, in addition, 2000l. of the debt has been discharged. The income of the whole property is 2500l., and 400l. is of which is absorbed by the interest of the debt. The powers of the trustees of Great Bolton, who are appointed under the Police Act, do not extend to the preservation of public order. Officers are annually selected at a court leet called by the lords of the manor, in each township respectively, under the names of a boroughreeve, two constables, and a deputy constable, in whom all authority is vested, during their continuance in office, for the preservation of the public peace. The consequence of this mode of appointing such important officers is the same as in most other towns similarly situated,—a most inefficient police—an evil which is so strongly felt by the inhabitants, that it is likely they will seek to remove it by incorporating themselves under the Municipal Act, which is now in operation. Little Bolton has a police act distinct from Great Bolton, which vests the appointment of a certain number of trustees annually in the rate-payers. The sum raised last year for the purposes of lighting, paving, and cleansing Little Bolton amounted to 181l., being 1s. 6d. in the pound upon the annual value. The parochial concerns of the two townships are each as separate as their municipal affairs, and in both are well managed. In Great Bolton, the sum collected for the relief of the poor was about 400l., being 2s. 6d. in the pound. In the preceding year, the same sum was collected. During the same year, 1674l. 6s. 10d. was collected for the relief of the poor, being 1s. 6d. in the pound upon the annual value of the property in the township.

The town is well lighted with gas by a company incorporated in 1820. It is also admirably supplied with water, brought from a distance of four miles N.E. of the town. The springs are first collected in a large reservoir near their source, from which the water is conveyed in earthenware pipes into another reservoir, about a mile from the town, from whence it is conveyed by two canals, each of about fifteen inches diameter, to various parts of the town. The water descends from an elevation of about 700 feet; but the elevation of the reservoir from which the inhabitants are supplied is not more than eighty feet, and is not found to give sufficiency of pressure to reach the highest house. The water, of which it is wanted. The company are about to remedy this, by making another reservoir on a higher level, which will make the water available to all the purposes for which it is required. This undertaking was effected at an expense of 40,000l., and the general rate of 1s. 6d. in the pound is established by act of parliament in 1824. The scale of charges is so moderate as to put it within the power of the poorest inhabitants to have the water brought into their own houses. Dwellings under 10l. are charged 10s. a year, and dwellings of greater value one shilling in the pound upon the annual rent.

The churches and chapels, the exchange, news-room, and library, the dispensary, the workhouse, and the town-hall in Little Bolton, are the only edifices that can be considered as public buildings. Of these the oldest, dedicated to St. Peter, is supposed to be several centuries old, but has few pretensions to architecture. It has a low tower, and is surrounded with a very extensive burial-ground. The living is a discharged vicarage in the deanery of Manchester, in the bishopric of Chester, and is part of the vicarage of St. George's, and is returned of the yearly value of 464l. in the Ecclesiastical Returns. Another church was recently erected in Great Bolton, at an expense of 13,412l., part of which was defrayed by a grant from the parliamentary commissioners. It is noticed among the English-Gothic style, and contains 925 free sittings. The living is a perpetual curacy in the gift of the vicar of Bolton. The largest church in Little Bolton, St. George's, a brick building, with a tower and bells, was built by subscription in 1796. The living is a perpetual curacy, to which the subscribers had three presentations, which are now exhausted, and it reverts to the bishop of Chester. There is also a chapel of ease in the same township, dedicated to All Saints, in the gift of Thomas Tipping, Esq., of the manor of Reddish, and of which the vicar is the perpetual curacy. It is endowed with 200l. of private benefaction, 200l. royal bounty, and 2200l. parliamentary grant. The places of worship belonging to the dissenters in Bolton are numerous and spacious. There are two each for Baptists, Independents, and Unitarians, one each for the Society of Friends and Swedenborgians, a Roman Catholic Chapel, and seven places for the various denominations of Methodists.

The institutions for education in Bolton are numerous. The free grammar-school, contiguous to the parish churchyard, educates 120 boys. It was founded in 1641 by Robert Lever, citizen and clothier of London; and in 1651 an old school, of unrecorded foundation, was, with its revenue and property, united to it; since which time both have been considered as one school. The income is 468l. per annum, of which the head master receives a salary of 180l., the second master 100l., and the writing-master 75l. per annum.
The appointment of masters and the government of the school are vested in twelve governors, who supply vacancies in their number as they occur. No boys are admitted into the school above the age of seven, and all are sent from the parish of Bolton. The children of dissenters are admitted if they are willing to conform to the rules of the school. The only payment is one shilling on entrance to the head master, who superintends the whole school, and has a right to all the fees paid. The boys are instructed in the Latin and Greek. In the lower school the second master teaches English, geography, and the rudiments of Latin. The boys both in the upper and lower school attend the writing-master, and receive instruction according to their capacities in writing, arithmetic, music, &c. Latin is not taught in the middle school, and French has been discontinued. The boys learn the Church Catechism and read other religious books, principally selected from those published by the Christian Knowledge Society. Among the masters who have presided over this school are Royle, Atkinson, the compiler of the Latin Dictionary, and Dr. Lemperiere, the author of the 'Classical Dictionary.'

At another school, endowed by Mr. Nathaniel Hulton, in School-street, Moor-lane, 120 boys and 80 girls are instructed in reading, writing, arithmetic, and geography, and the girls in sewing, on the system of the British and Foreign School Society. It was not founded by the testator, but established in 1794, by his trustees, in compliance with his will, out of the surplus proceeds of money bequeathed for that purpose. Duke York's children pay a small sum weekly towards their education.

Marsden's and Popplewell's Charity-school, in Churchgate, was founded in 1714, for teaching twenty children, boys and girls, reading and the church catechism, without pay. Since 1819, the school has been conducted on the same plan, and has been conducted on the same plan as the other charity-schools mentioned. In 1843, it was increased to a school for thirty-two in the same manner, and another considerable bequest has been received from the executors of the late Mr. Popplewell, which will soon render it desirable to place the school in a situation more adapted to the accommodation of the pupils. (Report of Commissioners concerning Charities, pp. 155-175.) The number of private day-schools in Bolton is about eighty; of which forty-four are for children between the ages of three and nine; fifteen for girls only, from five upwards; seven for boys only, of the same age; and the rest for pupils of both sexes, between the ages of four and twelve. The number of children educated in Sunday schools is very considerable, as may be seen from the following statement, taken with some of the above particulars from the Journal of Education (No. xxviii. p. 74):

<table>
<thead>
<tr>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parish School</td>
<td>430</td>
<td>720</td>
</tr>
<tr>
<td>St. George's School</td>
<td>310</td>
<td>490</td>
</tr>
<tr>
<td>All Saints</td>
<td>75</td>
<td>125</td>
</tr>
<tr>
<td>Methodist—old and new</td>
<td>1464</td>
<td>1744</td>
</tr>
<tr>
<td>Primitive and Independent Methodist</td>
<td>370</td>
<td>340</td>
</tr>
<tr>
<td>Independent Schools</td>
<td>430</td>
<td>570</td>
</tr>
<tr>
<td>New Jerusalem</td>
<td>69</td>
<td>39</td>
</tr>
<tr>
<td>Catholic School</td>
<td>110</td>
<td>190</td>
</tr>
<tr>
<td>Unitarian</td>
<td>174</td>
<td>158</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3432</strong></td>
<td><strong>4306</strong></td>
</tr>
</tbody>
</table>

Besides these institutions, funds are raised for the establishment of two new schools, one in each of the townships, on the system of the British and Foreign School Society, for the education of a thousand children, 600 boys and 400 girls.

In addition to the school charities considered sums are distributed to the poor from various bequests connected with the town. From Hulton's Charity, 25l.; Parker's, 5l.; Gossell's Charity, 5l.; Crompton's Charity, 7l. 10s.; Astley's Charity, 5l. 12s.; Ashley's Charity, 5l. 15s.; Morley's Charity, 5l. 15s.; Mort's Charity, 1l.; Lomax's Charity, 12s. 6d.; Greenhalgh's Charity, 4l. 10s.; and Popplewell's Charity, 3ol. (Report of Commissioners concerning Charities, 1828, pp. 168-184.)

The Charity was established in 1814, and is liberally supported. A clothing society, and a society for the relief of poor women during child-birth, are supported chiefly by ladies.

Petty sessions are held on Monday and Thursday in each week, which are attended by several magistrates, the business of which has undergone a most extraordinary diminution since the Poor-Law Bill came into operation.

There is a large weekly market on Mondays and Saturdays, and a fair on the 31st of August, and the other on the 4th of October, for hardware, toys, &c., and on the day preceding each is a fair for horned cattle. A fortnight fair is also held for cattle on Wednesdays, when there are classes for the examination of cattle, and a prize is awarded under the title of 'The Bolton Chronicle,' is published every Saturday. (Communication from Bolton.)

BOBM, the original name of what is now called a shell, is a hollow globe of iron, which, when charged with a certain quantity of gunpowder, is fired. It is generally fired at a considerable distance, and is used by the infantry, generally at a considerable angle with the horizon; in order that, by the moment acquired in its descent, it may crush the roofs, and, by exploding, destroy the buildings on which it may fall. The name is thought to have been given as an expression of the sound, produced either in its explosion, or at its discharge from the piece of artillery employed to project it.

It is said by Strada, in his account of the wars in the Low Countries, that bombs were employed for the first time in 1558 by Ernest, the father of Charles, Count of Mansfeld, at the siege of Wachtendonk, a town near Gelders. He adds that they were invented, a few days before that siege commenced, by an inhabitant of Venlo; and it is stated that the people of this city, wishing to exhibit the invention in presence of the Duke of Guelders, fired a bomb, which, falling on one of the houses set fire to it, and, the flames spreading, three fourths of the town were destroyed before they could be extinguished. (Père Daniel, Histoire de la Milice Française, liv. vii. ch. 6.) But Grose relates that the bomb was invented in 1545, of a work by Valturinus, was accompanied by a print representing a cannon just fired, with a ball in the air and another on the ground, both of which were burning at the vent. A title to the print denoted that this was a contrivance for firing a ball filled with powder; and as the first edition of Valturinus is dated 1472, it appears from thence that bombs must have been invented about the middle of the fifteenth century. Blondel however, in his treatise entitled L'Art de Jeter les Bombes, remarks that bombs were used by the French for the first time in 1534, at the siege of La Motte, under the direction of one Malthus, an English engineer, who was invited from Holland by Louis XIII., and was afterwards killed at the siege of Gravelines.

In 1688 there was cast in France an enormous bomb, which is said to have been in the shape of an egg, and to have been capable of containing 7000 or 8000 pounds of powder; it was nine feet long and five feet in diameter, and the iron was six inches thick. The bomb was to have been discharged against the Algerines, and the ship in which it was intended to be blown up with it. It was not however employed, probably in consequence of an opinion that it would not have had the intended effect, and no attempt has since been made to project such an immense mass of metal. While the Citadel of Antwerp was besieged by the French army in 1633, shells twenty-four inches in diameter were thrown from the largest mortar which has been employed in modern warfare; the shell or bomb was capable of containing ninety-nine pounds of powder, and when charged weighed 1015 pounds.

The word bomb is now being now except as a component in those which express the subjects of the three following articles, and in the term bombardier, which is applied to the soldier whose duty it is to serve the ordnance from which shells are projected, the description of this missile will with most propriety be introduced under the words which denote the different species at present in use: as CARCASS, CASE-SHOT, GRENADE, and SHELL.

BOMB-PROOF. This term is applied to a military magazine, or other building, when its roof has sufficient thickness to resist the bursting of shells, either when being fired from mortars at considerable elevation. Under the word BOMBAGE is given the construction of such buildings of timber as are intended to secure troops or ordnance from the effects of what are called vertical fires; and under CASEMATE are comprehended those works, which are formed in the masses of ramparts to serve for the like purposes. A bomb-proof, however, is generally understood to signify an isolated building, rectangular on the plan, formed of brick or stone and covered with a vaulted
of the same material. The intrados, or interior line, in a vertical and transverse section of the vault, sometimes forms a semicircle, but now more generally, a parabola; and the exterior surface of the roof has the form of two inclined planes meeting in a ridge which is parallel to the sides of the building and over the middle of its breadth. By this construction the vault is intended to be water-tight, or, upper part, where a falling shot or shell would be most injurious to the stability of the vault. It is intended to serve as a powder, or store-magazine, an hospital, or to cover a battery of guns or mortars; and when constructed in a fortress for the first time, it should not only be isolated, but should also be situated some spot at a distance from the fronts likely to be attacked, and secured as much as possible against accidents. As the details of the construction and uses of such buildings are necessary, it is necessary to observe here, that the span, or internal width of a bomb-proof vault, is usually about eighteen feet, and the thickness of the arch three feet at the heads or sides. But the extrados, or exterior of the vault, should be covered with a bed of earth about five or six feet deep, to deepen the concussion produced by the shells which may strike it; this earth should be renewed as fast as it is blown away by the explosions, to prevent the shell from falling on the naked vault, for, as each shell would tear off the masonry to a depth of two or three inches, it is evident that the building would be totally destroyed after a few successive shocks.

BOMB-VESEL, a ship of about 350 tons burthen, usually forming part of a fleet intended by a bombardment to destroy or to compel the surrender of some town situated on the coast. It varies from 150 to 250 long tons; 18-pounder mortar, besides 6-pounder guns, one 12-pounder, and eight 24-pounder carronades; the crew consists of sixty-seven men, with the usual complement of officers for ships of the same class, besides a detachment of marine artillerymen with their officers, for the service of mortars and mortars. The mortars are mounted on their beds, which are placed on traversing platforms in the middle of the gun-deck, and they may be fired over either side of the ship at an elevation never less than 45°. As to the protection of the structure, it is desirable that the vessels should keep beyond the range of the enemy's batteries, and that they should have springs upon their cables.

For particular concerning the ordnance and stores on board of bomb-veesels, and for the management of the latter when in action, see the British Gunnner, by Captain M. Spearman.

BOMBA/CHEE, a group of plants considered by some a distinct natural order, by others as a mere section of Sertulacidae. They are usually large trees, with broad deep-green leaves. The commonest of the genus differ from Tricræaee in having two cells to their anthers, which are often doubled down upon themselves, in their calyx opening in an irregular rather than a valvate manner, and in their stamens being usually collected into five parcels. Their anthers are often described as containing only one cell; but this is an inaccurate mode of speaking of them, inasmuch as they are formed upon the common twincelled type, and merely have the cells united at the point of the respective petals.

This contains some of the most majestic and beautiful trees that are known, but nothing of much medical or economical importance is furnished by them. Their wood is light and spongy; the long cotony substance found within their fruit, and which has gained for small feathers, and has the power of destroying the staple to be manufactured into linen; and the slightly acid or mucilaginous qualities that occur in the group are altogether inferior to those of many Tricræaee. Adenanthera, or the Bocb tree, already mentioned in its proper place, is one of them.
It is said that the excessive size of its trunk as compared with its height, and this is a character of common occurrence. Several American species spread enormously near the ground, forming huge buttresses with the angles of their trunk. This is especially the case with the genus Engleriana, which is frequently seen in very large conical prickles, which do not fall off till they are exfoliated by the gradual distention of the trunk. Among these plants is a singular instance of a flower resembling the paw of some animal. The tree which produces so strange a conformation is called the Menila, and will be described under CHEIROSOMMON. No bombaceous plants are found far beyond this element.

BOMBARDIER, a non-commissioned officer of the royal regiment of artillery, whose duty it is to load shells, grenades, &c.; to make and fix the fuzes, and who is particularly appointed to the service of mortars and Howitzers. A certain number of bombardiers are attached to each company of artillery.

BOMBARDMENT. This is the action of throwing shells, carcasses, and shot into an enemy's town in order to destroy the buildings, and chiefly the military magazines; for which purpose mortar, howitzer, and gun-batteries are constructed in convenient situations, generally opposite to the most densely inhabited quarters. If the town is a sea-port, bomb-vessels also are moored along the shore, and the fizing is kept up simultaneously on the land and sea-sides of the place.

When an army invests a fortress, whether it proceed against it by the operations of a regular siege, or simply keep it in a state of blockade, a bombardment is one of the means resorted to is order to accelerate the surrender, by rendering its occupation dangerous to the citizens, and ruining the buildings in which they are accustomed to reside, or in which the garrison while not on duty find repose.

Among civilised nations it has become a principle to spare as much as possible the lives and property of individuals who are not actually engaged in the military service of the state, or who by reason of their situation are not subject to the cruelty of acting otherwise, the end thereby to be gained, which is the final termination of hostilities, is not in the smallest degree advanced. The practice of besieging fortresses is now so far reduced to a regular process that the putting of them in a state of total submission is at present the sole object of the engagement, by employing the artillery, that, while it effectually dismounts that of the enemy, and lays the rampart in ruins in the ditch, it scarcely produces the smallest injury to any but the defenders of the works; hence the simple bombardment of towns occurs so much less in modern times, and no circumstance is considered as a justification of the measure except the absolute inability to reduce a place by other means.

When a nation is, from the war of about to become subject to a bombardment, the garrison should endeavour to retard the calamity by the erection of advanced works about the place, or by keeping troops in the suburbs and neighbouring villages as long as possible. By this measure provisions, materials, and even workmen will be in abundance for the service of the defenders; the inhabitants of the fortress also, finding that the garrison is not shut up within the walls, will be inspired with confidence in its protecting power, and thus induced to suffer less unwillingly the privations and dangers to which they must inevitably expose themselves by a continued state of siege, either to abstain from constructing a line of countervallation, as it is called, to prevent the sorties of the garrison; or, if such is attempted, the line must be so extensive as to require a long time to its formation, so that the workconstitutes it must be so far as possible as to render it impossible to watch the avenues of the place with sufficient care to prevent all communication between the town and country. The power of acting offensively may thus be not wholly taken away from the garrison, and the enemy may be kept at such a distance as to lessen materially the effect of the bombardment. What has been said must not be understood to imply that any village, suburb, or building, which, by falling into the power of the enemy, might facilitate his operations, or which might be turned into a fortress, or which might be useful as a means of communication, should be destroyed; but it is evident that the object in view, which is the preservation of the place, and of its docks and arsenals, if it be a naval station, will be most effectually obtained by keeping the enemy as long as possible at a distance from the beyond the range of this artillery.

The garrison must of course employ a fire of the heaviest artillery to destroy the enemy's batteries as soon as they are formed. The casemates and blinded buildings in the town should be repaired and multiplied; and the ammunition should be kept in small quantities to hand in, to keep down the loss and damage which would be occasioned by the explosion of a large and full magazine; for which reason also, it should be disposed in the quarters least subject to the fire of the enemy. Wells and cisterns should be protected by shell-proof blinds, the fire-engines carefully secured, and companies of men formed whose duty should be to
proceed immediately with the engines to any spot where a fire may have broken out. The utmost intrepidity is re-
quired in men employed on this service, which is rendered particularly dangerous, because the enemy always continued to
direct his fire towards any spot at which flames are seen to rise, in order to prevent such places from being extended.
When red-hot shot are thrown into a town, men should also be appointed to seek them and, by pincers or otherwise, remove them to places where they can do no harm.
A strict police is to be maintained, and every precaution used to prevent conspiracies among the citizens for deliver-
ing up the place. For now, since the loss of a town does not, as in ancient warfare, entail upon the inhabitants the loss of life or liberty, it is easy to conceive that their interest in their property must be very powerful, and they may be induced to destroy an enemy, though at the price of the transfer of the town to the enemies of their country; and it must be expected that they will use every means in their power, whether of persuasion or force, to compel the com-
mander to surrender.
The most celebrated bombardments mentioned in history are those of Gibraltar, Copenhagen, and Algiers. The first of these places was invested on the land-side by a Spanish army, which was afterwards united to that of France, and on the sea-side by the combined fleets of the two nations. The investment took place in 1779, but no remarkable actions occurred till 1782. The town was twice distressed for want of provisions; the highest works of the fortress, though 1340 feet above the level of the enemy's batteries, were destroyed by shells from the latter. The town was, however, defended by the ships in the harbour, and to enorrow the British army by gun-boats.
On the other hand, the garrison was employed in strengthening the old fortifications and adding new bat-
teries, and in making occasional sorties against the Spanish land army. In the last mentioned year, however, the besiegers converted some of their large ships into floating batteries, which, on September 13, commenced a tremendous fire on the town, while the land-batteries cannonaded the works in flank and rear; the garrison, in return, paying little attention to the threat, continued to send fire from the batteries, binding fire of carcasses, shells, and red-hot balls. This work of destruction continued on both sides till about seven or eight p.m., when it nearly ceased. The utmost confusion and distress by this time prevailed in the fleet of the besieger; several of their largest ships caught fire, and two of them blew up with tremendous explosion. The general peace, which was made in the beginning of the next year, put an end to this memorable siege after it had been carried on nearly four years.
The bombardment of Copenhagen took place in 1807, and was effected by a British army under Lord Cardon, which closely invested the city on the land-side, while the fleet under Admiral Gambier blockaded the harbour. The first attack of the batteries took place on the evening of September 2, and continued till the night of September 4, when a capitulation took place. In this bombardment the rockets invented by Sir William Congreve were used for the first time, and it is said that the cathe-
dral, with above three hundred houses, was destroyed by the shot and shells which were thrown into the town. The last action of this nature occurred in 1816, when the united fleets of England and Holland, consisting of fifteen ships of war, besides gun-boats, under the command of Lord Exmouth, bombarded the town of Copenhagen, on the evening of September 2, and continued till the night of September 4, in which time all the enemy's ships in the harbour were destroyed and great part of the town.

BOMBAY, an island on the western coast of Hind-
dustan, lying off the shore of the Concan in the province of Malabar, which is at the south-eastern ex-
tremity of the island, is in 18° 56'. N. lat., and 72° 57'. E. long. It lies to the south of the island of Salsette, which is considered to be a dependency of Bombay; the two islands are connected by a causeway which was constructed in 1805 by Mr. Duncan, at that time surveyor general.
Bombay is little more than eight miles long from north to south, and about three miles broad in its widest part. It is formed by two ranges of whinstone rock of unequal length, running parallel to each other on opposite sides of the island, and at the distance of between two and three miles from each other. The eastern range is about seven and the western about five miles long; and they are

united at the north and south by belts of sandstone which are only a few feet above the level of the sea. The in-
terior of the island was formerly liable to be flooded so as to give to the whole the appearance of a group of small islands. This flooding is now prevented by the construction of mounds of earth raised over the spring-tides, but as the lower parts of the island are ten or twelve feet under high-water mark, a great part of the interior is, during the rainy season, reduced to a swamp. The site of the new town of Bombay is subject to this class of inconvenience, so that the wet monsoon the houses are separated from each other by water sometimes for seven or eight months of the year: this spot was recovered from the sea in the latter part of the last century.
The narrow difficulties of the island must have prevented any settlement upon it by Europeans but for the advan-
tages of its position for commerce, and its harbour, which is unequalled for safety throughout the British Empire in India. This excellent harbour, on account of which the island received its name (Bomb Bahia) from the Portuguese, is bounded on the north and west by the islands of Salsette, Bombay, and Colaba, or Old Woman's Island, which last is a small island or narrow promontory, naturally connected by a mass of rock, which rises near the surface of the water, with the south-west extremity of the island, and is protected by a causeway which is overflowed at spring-tides. The cantonments for the European troops are situated on Colaba. On the east side of the harbour, about four miles from Bomb-
ay, is Butcher's Island, and behind this the island of Shipwrecked Island, from which the name of Bombay has just mentioned and a reef of rocks surrounding on all sides the point of Colaba, and extending about three miles to the southward. The channel between these is about three miles wide, and seven to eight fathoms deep. In entering this channel the bar, which is the extreme of a sand bank which occur in the passage. There is a light-house built on the southern extremity of Colaba Island, 150 feet above the level of the sea, which may be seen seven leagues off the coast.
There is no other important harbour in British India where the rise and fall of the tides are sufficient to admit the formation of wet docks: the rise at ordinary spring-
tides is fourteen feet: occasionally it is three feet higher.
In the age of the Periplus this island, then called Kali-
ka, was frequently visited by Egyptians. It was called previously an established commercial port, but Sandaxa, one of the sovereigns of Barugaza, prohibited any of the Egyptian trading vessels from entering the harbour, and if any were compelled to do so by accident or stress of weather, a guard was immediately put on board, and they were taken to Barugaza.
Bombay was ceded by the Moguls to the Portuguese in 1530, and came into the possession of the English on the marriage of Charles II. with the Infanta Catherine of Portu-
gal. By the marriage-contract the king was to receive 450,000l. in money, the town of Tanag, in Africa, and the island of Bombay with its dependencies, together with per-
mission for his subjects to carry on a free trade with all the Portuguese settlements in India and Brazil. A fleet of sixty ships and 1500 soldiers, commanded by the earl of Marlborough, with 500 soldiers on board, was sent from Bombay, where they arrived on the 18th September, 1662. Under the pretext that the instrument by which the sou-
reignty of the island was made over did not accord with the uses of Portugal, but, really, as it is said, instigated by the priests, who could not endure the thought of surrendering the place to heretics, the Portuguese governor refused to complete the cession, and the fleet returned to England. This matter was not arranged between the two governments before the end of 1664. It was not until 1669, when the king of England by Mr. Coke's advice, that a visit was paid to Bombay, which was then in the possession of the English. The trade carried on from this settlement by officers in the king's service, who paid no freight for the goods which they covered from the native princes, was reduced to a small sum; to undersell the factors of the East India Company, caused great dissatisfaction on the part of that corporation; and on
According to a valuation made in 1813 the buildings within the walls were worth rather more than one million sterling, and the rent of houses, including the annual value of the company's buildings, was 27,736.

Since the first occupation of the island by the English, its resident population has increased more than tenfold. At that time it amounted to about 15,000. In 1716 the number was 16,000, and in 1816, 161,550, divided into the following classifications: for its defence and government. Bombay is therefore the oldest of the East India Company's settlements in Hindustan, and the terms upon which it was acquired first invested them with that political power which they have since exercised in India. In 1674 a small number of Bombay residents were very easily repelled, when the ringleaders were tried and executed, the Company then first exercising the power of enforcing martial law. Another insurrection in 1683 was not so easily quelled. The commander of the troops, dissatisfied with the proceedings of the Company, and being joined by the soldiers as well as the great body of the settlers, denounced the authority of the Company, and by a proclamation dated Dec. 27, 1683, declared that the island belonged to the king. This proceeding was not approved by the crown, and orders were sent to deliver the island to the officers of the Company, who were directed to proceed by force to their execution. It was only under the promise of free pardon to all the insurgents that possession was regained, and at this time it was deemed expedient to guard the island with a very small force, referring to Bombay the seat of the Company's government in India, which had previously been placed at Surat. In 1687 the title of regency was given to the administration as regency, and unlimited power over the rest of the Company's settlements.

The only natural vegetation of the island, with the exception of some rank grasses, was the cocoanut tree, which grew very abundantly, and being a property of the soil, was not injured by sea-water. It was necessary to clear away the trees of this group in order to erect the fort and buildings of the town. The spots capable of being cultivated in the island will hardly yield a week's supply of provisions for its inhabitants, who are dependent upon the farmers and gardeners of Salsette, which is well cultivated.

The fortifications are extensive, and would require a numerous garrison for their defence; towards the sea the works are extremely strong, but on the land-side, assuming as do most of the children of the soil that they would offer comparatively little resistance. The houses within the walls are built of wood, with verandahs and sloping roofs covered with tiles. In 1803 a great fire destroyed many houses; after which a great number of dwellings were destroyed. In 1816, the fort covered an area of 300. The cylindrical buildings, each twenty-five feet high, the interior of which is built up solidly with masonry to within five feet of the top, with the exception of a kind of well fifteen feet in diameter in the centre. The boles are deposited between this well and the wall, and being only loosely wrapped in cloth, are speedily devoured by vultures, many of which are always to be observed hovering about these charnel-houses. From time to time the bones are thrown into the well in the centre, from the bottom of which they can be removed with difficulty. Many of the tombs in the island, all of which are from two to three miles distant from the fort: the more wealthy of the sect have private tombs of similar construction.

The docks within the fort, although the property of the East India Company, are entirely under the management of Parsees, by whom merchant-vessels of 1000 to 1200 tons burden, frigates, and even line-of-battle ships are built. These docks were about twenty-five years ago enlarged and improved under the superintendence of Major Cooper of the 44th Engineers, and are now built of the best materials in all proportions; this building is said to have been formerly a church belonging to the Jesuits, from whom it was purchased by the Company.

Niebuhr remarked that the temperature at Bombay was very unhealthy from the sea-winds and the quantity of rain that falls in the wet season. He admits that many Europeans died suddenly, but he attributed this nearly altogether to their injudicious mode of living.

The barracks, arsenal, and docks are all within the fort.
being employed as traders during fourteen or fifteen years, have been bought by government and added to the naval force of the country, being then considered much stronger than newly-built European vessels. From the cheapness of labour, ships may be built at Bombay for three-fourths of the cost in England. The Minden, a seventy-four gun ship, which was launched at Bombay in 1816, was constructed entirely by Parsees, without any assistance from Europeans, and since that time several frigates and line of battle ships have been built at these docks.

In addition to its trade with Europe and with China, a very great traffic is carried on by coasting-vessels with all the ports on the western side of India, from Cape Comorin to the Gulf of Cutch. The vessels thus employed vary in size from ten to near twenty two tons burden, and nearly 800 of them are registered belonging to the port. The articles which form the principal part of this trade from Bombay are European manufactures and the produce of Bengal and China, the returns being made in cotton-wool and cloths, timber, oil, and grain from the northern ports, and from the south, cotton, hemp, coir, timber, pepper, rice, and cocoa-nuts.

The merchandise thus brought to Bombay is in great part re-exported in larger ships to different parts of Europe, to North and South America, to Canton, to the Arabian and Persian Gulfs, and to the Bay of Bengal. The value of this export trade during three years ending with 1831-32, as far as relates to Europe and America, was as follows:

<table>
<thead>
<tr>
<th>Years</th>
<th>Ships</th>
<th>Tons.</th>
<th>Value of Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829-30</td>
<td>2,647,592</td>
<td>694,069</td>
<td>£686,000</td>
</tr>
<tr>
<td>1830-31</td>
<td>19,145</td>
<td>11,417</td>
<td>11,062</td>
</tr>
<tr>
<td>1831-32</td>
<td>19,024</td>
<td>5,360</td>
<td>5,360</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,872,800</strong></td>
<td><strong>798,405</strong></td>
<td><strong>£697,000</strong></td>
</tr>
</tbody>
</table>

Through these channels Bombay receives from Persia raw silk, copper, pearls, golds, coffee, gum-arabic, copal, myrrh, olibanum, balsam, assafadot, dried fruits, horses, wool, leather, and muslin. The returns are grain, Bengal and China sugar, British manufactured goods, cotton and woollen, and spices. The merchandise sent to Calcutta from Bombay, in return for sugar, indigo, and rice, are timber, coir, cocoa-nuts, sandal-wood, and cotton.

The heavy duties levied by the Ameers of Seend, at the mouth of the Indus, together with the unsettled state of Afghanistan, have reduced the inland commerce of Bombay with Central Asia to a comparatively trifling amount. The little trade now carried on between those quarters is conducted by means of a tedious and expensive land route through Surat.

Among the mercantile establishments conducted in
Bombay is an insurance company with a capital of 200,000l. sterling.

The seamen from the port of Bombay are considered to be the best among the natives of India. It is usual for ships of considerable burthen to be under the charge of European commanders and officers.

The western coast of India are infested by numerous piratical vessels, and to keep these in check it has been necessary for the East India Company to maintain a considerable naval force at this station. The expense of maintaining this force is included among the charges of government in the Bombay presidency, and this forms one among other reasons why its revenues are invariably so greatly below its expenditure. The navy is thus maintained, not for the exclusive benefit of Bombay, but for the protection of an extensive and profitable commerce from which every part of British India derives benefit.

The travelling distances between Bombay and the most considerable cities and towns in India are given by Major Rennell as follows:

- Ajmere, 650 miles; Allahabad, 977; Ahmedabad, 321; Ahmednuggur, 181; Aroor, 722; Aurungabad, 260; Baroda, 221; Bassein, 27; Bednore, 452; Bijanagar, 398; Calcutta, 1301; Canore, 889; Cashmere, 1233; Cuttuck, 1034; Cochin, 780; Delhi, 880; Dowlata, 238; Goa, 292; Golconda, 475; Gwalior, 765; Hyderabad, 480; Jugger, 1296; Indore, 456; Lahore, 1610; Locknow, 953; Madras, 758; Masulipatam, 686; Mysore, 952; Moosrabad, 1259; Moutlan, 920; Mysore, 630; Nagpur, 532; Oude, 1013; O CGI, 486; Patna, 1145; Pondicherry, 805; Poonah, 98; Seriapadum, 628; Sumbhore, 1177; Surat, 127; Teilcherry, 612.

BOMBAY, PRESIDENCY OF. Bombay is the seat of one of three presidencies into which the British empire in India is divided. Together with the presidency of Fort Saint George, or Madras, it is subordinate to the Governor-General of India, whose residence is in Calcutta. The territory under the immediate jurisdiction of the governor and council of Bombay is situated between the 14th and 24th degrees of N. lat. and the 71st and 77th degrees of E. long., and comprehends the following districts:

- Ahmedabad,
- Kaira,
- Surat,
- Baroda,
- Bombay Island,
- Darwar,
- Candia,
- Northern Cancon,
- Southern Cancon,
- Poonah,
- Ahmednuggur.

The following statement of the extent and population of the districts comprehended in the presidency of Bombay was given in evidence before a committee of the House of Commons which sat in 1831, to inquire concerning the affairs of India.

<table>
<thead>
<tr>
<th>English</th>
<th>Square Miles.</th>
<th>Population.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bombay Island, including Colaba or Old Woman's Island</td>
<td>181</td>
<td>169,570</td>
</tr>
<tr>
<td>Surat, comprehending the city and suburbs, the town of Randier, and the two pergunnahs which constitute the collectorate of Surat</td>
<td>1,350</td>
<td>454,431</td>
</tr>
<tr>
<td>Bombay 1832; Indore, 456; Lahore, 1610; Lucknow, 953</td>
<td>1,600</td>
<td>229,557</td>
</tr>
<tr>
<td>Ahmedabad collectorate</td>
<td>4,600</td>
<td>526,073</td>
</tr>
<tr>
<td>Kaira collectorate</td>
<td>1,850</td>
<td>484,735</td>
</tr>
<tr>
<td>Southern Cancon collectorate</td>
<td>6,770</td>
<td>649,857</td>
</tr>
<tr>
<td>Poonah collectorate</td>
<td>8,500</td>
<td>650,000</td>
</tr>
<tr>
<td>Ahmednuggur collectorate</td>
<td>20,870</td>
<td>484,717</td>
</tr>
<tr>
<td>Candia collectorate</td>
<td>12,430</td>
<td>417,976</td>
</tr>
<tr>
<td>Darwar collectorate</td>
<td>28,490</td>
<td>1,499,800</td>
</tr>
<tr>
<td>The Southern Jadhires</td>
<td>8,950</td>
<td>778,153</td>
</tr>
<tr>
<td>Sattara</td>
<td>9,950</td>
<td>778,204</td>
</tr>
<tr>
<td>Total</td>
<td>59,438</td>
<td>6,251,546</td>
</tr>
</tbody>
</table>

The table above is exclusive of the district of the Northern Cancon, where there are no returns; its area and population are estimated at 5,500, 387,264.

Among the population thus stated, which is composed of different races of people speaking different languages, and who, up to a recent date, have lived under different systems of religion, laws, and government, the greatest variety must necessarily exist. The number of resident Europeans in this presidency is smaller, when compared with its area and native population, than the number of Europeans in Bengal and Madras.

On the subject of education, the same general remarks as are made in regard to Bengal (vol. iv. p. 233), apply equally to Bombay. By a recent report from the Sudder Dewanee Dewulti, it is stated that in the British territory dependant on Bombay there are 1705 schools, at which 35,153 scholars were receiving instruction. Twenty-five of these schools, containing 1315 scholars, were maintained by the government of the company, and the remaining 1580 were village schools, with 22,889 scholars. The proportion of the population attending upon the schools is thus shown to be exceedingly small, besides which it may be said that the village-system of education is of the lowest description, and the same that has been handed down from time immemorial. The books read are some silly stories, and the writing acquired goes little beyond the ability of signing the name.

The sums annually chargeable on the revenues of India for the support of native schools within the presidency was thus given in 1832, from the records of the comptroller-general's office:

- Bombay school | 3,600 rupees
- Society for Promoting the Education of the Poor within the Government of Bombay | 11,385 rupees
- Bombay Native School-book and School Society | 12,720 rupees
- Native School Society, Southern Cancon | 500 rupees
- For the education of natives on Capt. Sutherland's plan | 4,800 rupees
- Dhukans, in the Deccan | 50,000 rupees
- College at Poonah | 15,250 rupees
- Engineer Institution at Bombay | 180 rupees
- For an English class | 960 rupees

Total rupees | 99,395

The number of schools and of scholars are thus distributed through part of the presidency, as to which the following details are given:

<table>
<thead>
<tr>
<th>Bombay</th>
<th>6,251,546</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surat</td>
<td>484,735</td>
</tr>
<tr>
<td>Ahmedabad</td>
<td>526,073</td>
</tr>
<tr>
<td>Kaira</td>
<td>484,717</td>
</tr>
<tr>
<td>Southern Cancon</td>
<td>649,857</td>
</tr>
<tr>
<td>Poonah</td>
<td>650,000</td>
</tr>
<tr>
<td>Ahmednuggur</td>
<td>484,717</td>
</tr>
<tr>
<td>Candia</td>
<td>417,976</td>
</tr>
<tr>
<td>Darwar</td>
<td>1,499,800</td>
</tr>
<tr>
<td>Total</td>
<td>6,251,546</td>
</tr>
</tbody>
</table>

The number of villages in these districts is stated to be 15,782, while the number of village schools is only 1185, showing only one school for more than thirteen villages. The chief obstacle in the way of establishing new schools is stated to be the difficulty of obtaining qualified teachers: many of those at present employed are indeed far from possessing the qualification for the situation; but this is an obstacle which, if the government were so disposed, might be materially lessened, or indeed removed, in the course of a few years, by the establishment of normal schools in the chief town of each district.

A literary magazine has been established for many years in Bombay. Three quarter volumes of its transactions were printed between 1819 and 1823. In 1819 the society became a branch of the Royal Asiatic Society of London. There is also a Geographical Society recently established at Bombay.

Our information concerning the state of crime throughout the Bombay presidency, is very insufficient. Returns have been made from the greater part of the districts, stating
the number of persons who have been charged with the commission of offences during the five years ending with 1829. The returns made for the last year of this series are more complete than those for the earlier years, and enable us to offer the following abstract of the number of offenders, and the punishments awarded to those of them who were convicted on trial. Not any statement is given as to the nature of the crimes, nor as to the connexion between the crimes and the punishments awarded. The inconvenience of this deficiency has been felt by the home government, and we perceive that instructions have been given to supply the omissions in future returns.

Abstract of the Proceedings of the Criminal Courts and the Police under the Presidency of Bombay, in the year 1829.

<table>
<thead>
<tr>
<th>Extent in Square Miles</th>
<th>Population in 1829</th>
<th>Convicts Preferred</th>
<th>Persons Apprehended</th>
<th>Number Acquitted</th>
<th>Number Punished</th>
<th>Requiring Trial</th>
<th>Fined and Licensed</th>
<th>Imprisoned</th>
<th>Sentenced to Death and Executed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surat</td>
<td>1,350</td>
<td>454,421</td>
<td>4,067</td>
<td>3,008</td>
<td>2,240</td>
<td>1,665</td>
<td>3,130</td>
<td>238</td>
<td>85</td>
</tr>
<tr>
<td>Ahmedabad</td>
<td>6,450</td>
<td>1,018,808</td>
<td>13,354</td>
<td>2,960</td>
<td>421</td>
<td>2,239</td>
<td>2,286</td>
<td>127</td>
<td>119</td>
</tr>
<tr>
<td>North Convac</td>
<td>6,100</td>
<td>387,284</td>
<td>1,731</td>
<td>1,550</td>
<td>326</td>
<td>1,624</td>
<td>1,475</td>
<td>46</td>
<td>60</td>
</tr>
<tr>
<td>South Convac</td>
<td>6,770</td>
<td>649,857</td>
<td>1,572</td>
<td>2,831</td>
<td>465</td>
<td>2,365</td>
<td>2,365</td>
<td>38</td>
<td>61</td>
</tr>
<tr>
<td>Poona and Sholapur</td>
<td>83,300</td>
<td>484,717</td>
<td>1,946</td>
<td>2,992</td>
<td>1,524</td>
<td>1,374</td>
<td>1,330</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Ahmednagar and Candish</td>
<td>1,067,796</td>
<td>1,858</td>
<td>2,335</td>
<td>903</td>
<td>1,273</td>
<td>59</td>
<td>1,147</td>
<td>21</td>
<td>94</td>
</tr>
<tr>
<td>Total</td>
<td>53,370</td>
<td>4,048,053</td>
<td>12,448</td>
<td>16,866</td>
<td>5,699</td>
<td>10,641</td>
<td>126,983</td>
<td>472</td>
<td>433</td>
</tr>
</tbody>
</table>

The military force maintained by the East India Company in the districts comprised within the Bombay presidency, was as follows, in the year 1830, the latest date for which returns have been given to parliament:—

| Engineer—Officers, Europeans | 21 |
| Natives                      | 3  |
| Non-commissioned Officers and Privates, Europeans | 14 |
| Natives                      | 147|
| Artillery—European, Horse, Officers | 20 |
| Foot, Officers               | 39 |
| Natives                      | 392|
| European, Officers Priv.     | 852|
| Native—Foot, Offic. Europ.  | 20 |
| Natives                      | 23 |
| Non-commissioned Officers and Privates, Europeans | 2 |
| Natives                      | 890|
| Ordnance Drivers, &c.       | 109|
| Cavalry—King’s, Officers     | 26 |
| Non-commissioned Officers and Privates | 679 |
| Company, Officers, Europ.    | 45 |
| Natives                      | 75 |
| Non-commissioned Officers and Privates, Europeans | 2 |
| Natives                      | 2,695|
| Infantry—King’s, Officers, Europeans | 133 |
| Privates                     | 3,321|
| Company, Officers, Europ.    | 473 |
| Natives                      | 466|
| Non-commissioned Officers and Privates, Europeans | 934 |
| Natives                      | 24,424|
| Invalids—Europeans          | 66 |
| Natives                      | 1,797|
| Pioneers—Officers            | 16 |
| Privates                     | 902|
| Carried forward              | 39,708|

Brought forward = 39,708

Hospital—Surgeons and Assist. Surg. = 156
| Native Doctors                | 156|
| Staff—Commissariat, European Officers | 9 |
| Other Staff, European Officers | 89 |
| European Non-com. Officers    | 57 |
| Regulars—Europeans            | 7,457|
| Natives                      | 29,613|
| Irregulars and Invalids—Europeans | 70 |
| Natives                      | 3,808|
| Europe, 7,772—Natives, 32,421. Total | 40,148|
| The expense of maintaining this force amounted to 1,949,519l., exclusive of the cost of military stores sent from Europe. The public revenue and charges of government in this presidency during three years, from 1831-32 to 1833-34, were as follows:—

| Revenue | £3,096,343 | £2,125,340 | £2,269,662 |
| Charges, including interest on debts | 2,754,925 | 2,662,741 | 2,606,068 |
| Deficiency | £638,552 | £557,401 | £267,354 |

The above charges are exclusive of any proportion of the expenditure incurred in England for the general management. The statement from which this abstract has been drawn does not afford the means of ascertaining the amounts to the different districts. Such a statement was given for the year 1827-28, for the undermentioned districts, showing the gross aggregate collections, and the charges in the revenue and judicial departments. It was as follows:—

<table>
<thead>
<tr>
<th>Gross Aggregate Collection</th>
<th>Charges in the Revenue and Judicial Departments</th>
<th>Net Collections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rupees</td>
<td>Rupees</td>
<td>Rupees</td>
</tr>
<tr>
<td>Southern Convac</td>
<td>18,41,845</td>
<td>5,86,653</td>
</tr>
<tr>
<td>Northern Convac</td>
<td>14,15,293</td>
<td>5,98,911</td>
</tr>
<tr>
<td>Surat</td>
<td>29,39,697</td>
<td>8,56,157</td>
</tr>
<tr>
<td>Baroda</td>
<td>26,90,065</td>
<td>7,79,049</td>
</tr>
<tr>
<td>Kaira</td>
<td>29,11,055</td>
<td>8,35,389</td>
</tr>
<tr>
<td>Ahmedabad</td>
<td>17,01,784</td>
<td>5,99,084</td>
</tr>
<tr>
<td>Poona</td>
<td>26,00,109</td>
<td>8,31,031</td>
</tr>
<tr>
<td>Ahmednagar</td>
<td>38,93,045</td>
<td>8,11,443</td>
</tr>
<tr>
<td>Candish</td>
<td>19,87,603</td>
<td>11,79,089</td>
</tr>
<tr>
<td>Darwar</td>
<td>28,76,589</td>
<td>2,78,069</td>
</tr>
<tr>
<td>Total</td>
<td>2,92,59,096</td>
<td>69,88,904</td>
</tr>
<tr>
<td>Sterling</td>
<td>£3,092,500</td>
<td>£698,900</td>
</tr>
</tbody>
</table>
(Rennell's Memoir of a Map of Hindustan; Mill's History of British India; Tables of the Revenue, Population, etc., of the United Provinces; Reports of the Legislative Council of India, parts iii. and iv.; McPherson's History of the European Commerce with India; Niebuhr's Description of Bombay, vol. ii., Copenhagen ed.; Vincent's Periplius of the Erythraean Sea, part ii.; Reports of Committees of both Houses of Parliament concerning the Affairs of the East India Company in 1831 and 1832.)

BOMBAY. This word is derived from the Greek bombyx (βομβύξ), denoting both a silk-worm and the silk spun by that insect.

In ancient times, the name of a fabric woven of worsted and silk; the warp being the silk, the weft (also called shot) the worsted. The worsted is thrown on the right side, which has a twist upon it. The manufacture of bombazine originated in Norwich, and is now almost entirely confined to that city, Salem, and Halifax in Yorkshire.

The weaving of worsted stuffs was originally introduced into England by the town of Norwich in the reign of Henry I. by a Dutch colony, who, being driven from Holland by an inundation, settled at Wursted or Worsted (hence the name), in Norfolk. The first charter granted to the city of Norwich by Henry I. enabled the Flemings, who had long frequented the city for the purchase of wool, to settle there and vest their property with greater security in the manufacture of worsted stuffs. Norwich became in consequence one of the most flourishing cities of England, and, being long durée, the government thought fit to protect the worsted weaving and wool trade by many statutes, writs, and proclamations, and by granting great privileges to foreign artificers settling in the city.

In 1574 an act was passed for the true making of worsteds in Norwich and Norfolk, authorizing the weavers yearly to elect eight wardens, with the power to survey all worsteds, and make such regulations as were judged to be for the good of the craft. In 1575 the Dutch elders presented in court a book containing the work of cotton and worsted cloth, with the drawings of the manner and order of making the same, together with the sort and name of all the worsted cloths, the manner of weaving them, and the names of such worsted cloths as were usually used in Holland.

BOMBElli RAPHAEL, a Bolognese mathematician of the sixteenth century. We know nothing of his birth, life, or death, except his work on Algebra, published in 1572 (Hutton), or in 1579 (Montuella, Bousat, Wallis, Delambre, Deshollin, Desargues, Desargues, etc.), or in both (Laocoon, Bip. U. etc.). The book itself is divided into two parts. Bombelii is principally known as the first who attempted the solution of the cubic equations. He gave the geometrical solution which depends upon the construction of a circle, and observed that the latter problem may be reduced to the solution of a cubic equation. He is also the first who attempted the actual extraction of the cube root in the result of Cardan's (or Tartaglia's) well-known formula.

Bombelli states that he discovered a manuscript of Diophantus in the Vatican Library, and that an author who had translated the greater part for publication. He says, that he found frequent references to Indian authors, from which he learned that algebra was known to the Hindoos earlier than to the Arabs. This assumption has been much quoted as a proof of the priority of the Hindus, and numerous manuscripts now existing (three in number) to be closely examined, but without finding any thing to confirm Bombelli's assertion; which remains a puzzle, since there is no suspicion of deceit, and the work of Diophantus is in reality far older than any of those attributed to the Indian Yuga Ganita. But as Bombelli is said, in the Toulouse edition of Diophantus, to have misinterpreted the questions from that writer which he inserted in his own algebra, it is possible that he may have not well understood the Greek. (ALONSO, Hist. Mat. vol. ii. p. 259; Montuella, Hist. des Math. vol. i. p. 598; also Cossali, Storia di Algebra. If there be any mention of Bombelli in Khastner's History or Murhard's Bibliography, we cannot find it.)

BOMBIE, the generic name of those insects commonly called humble-bees; this latter name was derived (Messrs. Kirby and Spence conjecture) from the German hummel or hummel-hiene, a name probably given to these insects from the humming sound which they emit.

The Bombi belong to the order Hymenoptera, family Apidae, and, as regards the English species, are by far the largest of the tribe. They may be distinguished by the following characters:—body thickly covered with hairs, having a longitudinal groove and an indentation extending across from the middle of the side; proboscis of the male covered with a patch of dark brown or black on the upper side; posterior tibia compressed, smooth, margined with strong recurved hairs, and armed with spines at the apex. *

* These reciprocal hairs (corbicula) form, as it were, a little basket, in which the Bombi carry to their nests the flowers which they collect from flowers.
The above are the peculiarities of the females. In the males the antennæ are thirteen-jointed and considerably longer than those of other bees; the hinder tibia want the corbicular; the mandibles are bidentate at the apex and each furnished with a tuft of curved hairs; they differ likewise in possessing no sting and in the structure of their claws, but these two last characters are common to the whole tribe of Apidae.

The neater bees resemble the females in every respect excepting size; in this they are inferior to the males, which latter are rather less than the females.

Kirby, in his monograph on the bees of this country, enumerates thirty-seven species as belonging to his section * * * c. 2; this section, with the exception of a few species [*Pavirius*], now constitutes the genus of which this article treats.

The prevailing colours of the species are yellow, red, and black; these colours are disposed with a certain degree of uniformity, we have arranged the following, which form the principal part of the British species, under three heads, viz., those which have the apex of the body more or less red, those which have that part white, and those in which the ground-colour of the body is yellow or buff; by this arrangement much repetition in the descriptions is avoided.

**Section 1.—Apex of the body red.*

*B. lapidarius* (female), black: the male is rather long and narrow; head and anterior and posterior portions of the thorax yellow.

This species, well known by the name red-tailed bee, is one of the largest and commonest of the genus; the females are to be seen in the spring and summer months; in the autumn, when the males make their appearance, they are less common.

*B. Raitellus* (female), smaller and shorter in proportion than the last, from which it may moreover be distinguishedly having red hair on the hinder tibia.

*B. Derhamellus* , colour-sable-brown; thorax and abdomen each with a black fascia; most probably the male of the last described.

*B. subinterruptus* (female), black: anterior portion of the thorax yellow; abdomen with a subinterrupted fascia of the same colour towards the base.

*B. pratorum* , black: anterior portion of the thorax yellow.

*B. Burrellanus* (male), yellow: thorax with the central portion black; abdomen with a black fascia near the middle.

*B. Cutilamens* (male), like the last, but the fascia of the abdomen is very narrow, occupying only one segment.

*B. Donovanellus* (female), black: thorax with the anterior portion yellow; abdomen with the basal portion yellow.

In the male the anterior portion of the thorax is obscurely coloured.

**Section 2.—Having the apex of the abdomen white.

*B. terrestris* . This is the largest and most common of the yellow and blackumble-bees; it has the anterior margin of the thorax and the segment next the basal one of the abdomen of a yellow or buff colour; the rest of the body is black, with the exception of the apex, which is sometimes of a dirty yellow colour and at others white.

The nearest of all the species are very variable in size, but in this there appears to be the greatest extreme; we have specimens which are scarcely as large as the common hive-bee.

*B. Hortorum* , black: thorax with the anterior and posterior parts yellow; abdomen with the base yellow; rather less than the preceding species.

*B. Tunsallanus* (female), black: thorax with the anterior and posterior margins narrowly edged with yellow.

The insect described by Kirby under the name of *Larissa* , a slanderer of bees (most of them are hairy; some produce irritant to the hand when touched), and assume the pupa state in a cocoon spun for its protection. The pupa is simple.

*B. floralis* , yellow: abdomen with a black spot on each side of the second segment, the three following segments with their bases black.

*B. Bechithelulius* , pale buff colour: thorax and apex of the abdomen reddish yellow, the latter with a black fascia in the middle.

*B. Curtisellus* , like the last, but the abdomen is black, with the base of reddish-yellow.

*B. Fosterelli* , thorax buff-coloured, with the anterior part blackish: abdomen with three obscure black fasciae.

Obs.—We have reason to believe the four last to be varieties of the same species.

*B. ylifrom* , yellowish white: thorax with a black fascia; abdomen with two black fasciae; the apex red interspersed with white.

*B. fragrans* , bright yellow; thorax with a black fascia.

Of the above species *B. terrestris* and *Lepidurus* are the largest; *B. fragrans* , *Tunsallanus* , and *Hortorum* are the next in size; all the rest of the species are nearly of a size, with the exception of *B. pratorum* , which see description.

For the habits of the species see *Humile-Bee* , and for more detailed descriptions we refer our readers to Kirby's *Monographia Apum Angliae* .

**BOMBCYCIDÆ** (entomology), a family of the order Lepidoptera, belonging to the section Lepidoptera-nocturna of Latreille.

The principal characteristics of this family are their possessing only rudimentary maxillae, remarkably small palpi, and bipectionate antennæ.

Some of the species fly very rapidly, and make their appearance in the day-time as well as in the evening. The caterpillars of some of the species are hairy (some produce irritation to the hand when touched), and assume the pupa state in a cocoon spun for its protection. The pupa is simple.

One of the most interesting of the family is the *Bombyx mori* , well known as the moth to which the silkworm turns. This species, which was originally from China, is of a white or cream-colour, with a brown fascia and two or more waved lines of a deeper colour crossing the upper wings. In this country the eggs of this moth hatch early in May; the caterpillar or silkworm is at first of a dark colour, but soon becomes light, and in its tints much resembles the perfect insect, a circumstance common in caterpillars. Its proper foo is the mulberry, though it will likewise eat the lettuce and some few other plants; on the latter however it does not thrive equally well, and the silk yielded is of a poor quality.

The silkworm is about eight weeks in arriving at maturity, during which period it changes its skin four or five times. When about to cast its skin it ceases to eat, raises the forepart of the body slightly, and remains in perfect repose. In this state it is necessary that it should continue for some
little time, in order that the new skin, which is at this time forming, may become sufficiently strong to enable the larva to burst through the old one. This operation, which is apparently one of considerable difficulty, is performed thus:—the fore-part of the old skin is burst; the silkworm then by continually writhing its body (but not moving from its spot) contrives to thrust the head and tail, and ultimately to disengage itself altogether: this last part of the operation however is the most difficult, since it is no uncommon occurrence for them to die from not being able to disengage the last segment of the body from the old skin.

Those who have reared silkworms must have observed how large the head is in proportion to the body in those which have just changed their-skins: this circumstance is worthy of observation, for in it will be found a most beautiful point for the classification of this insect. When the larva of an insect has just changed its skin, every part is soft, and in many cases (such as caterpillars) the greater portion of the body still remains in this flexible state; but the skin of the head and some few other parts, in all instances, soon become hardened, after which it never grows. The same happens with those larvae which have a skin of a great measure covered with hard plates, which circumstance leaves no parts to enlarge but such as are flexible. In the instance of a caterpillar the body increases in size rapidly after change; but the parts which will be observed, does not expand, and although the body may be stretched much it does not appear that the skin has grown; it seems only to be stretched with the increase of size of the inner parts. In the case of those larvae which have the body covered with hard plates, the skin stretches out on the plates that stretch to allow of growth in the interior parts, just before changing skin all the plates are considerably separated.

From the above we conclude that the external covering of insects does not grow at all, except, as at the time of reposing, to the extent of the soft skin, after which operation the head, and those parts which soon become hard, are sufficiently grown to last until the next change; and also that the soft parts of the external covering will bear stretching to that extent and no further, when the body is increased from one thread to another. With respect to the silkworm and other caterpillars, an unobservant person would not readily understand how the head, which is much larger than the one the case of which has just been cast off, can come to a close comparison. From the foregoing account it appears just before it is about to change its skin, it will be seen that such is not exactly the case, for part of the new head may be seen thrust out before the old one, so that the fore-part only is included by the latter.

When full grown the silkworms come to a convenient spot, and as it does not change the position of the hinder portion of its body much, but continues drawing its thread from various points and attaching it to others, it follows that after a time its body becomes in a great measure inelastic, as the silkworm is not in the habit of moving from its spot. With this, it is continued from one thread to another, the silkworm moving its head and spinning in a zigzag way, bending the fore part of the body back to spin in all directions within reach, and shifting the body only, to cover with silk the part which was beneath it. As the silkworm spins its web by thus changing its fore part of the body back, and moves the hinder part of the body in such a way only as to enable it to reach the farther back with the fore part, it follows that it incloses itself in a cocoon much shorter than its own body, for soon after the beginning the whole is continued with the body in a bent position. From the foregoing it appears that with the most simple instinctive principles all the ends necessary are gained. If the silkworm were gifted with a desire for shifting its position much at the beginning of the work it could never inclose itself in a cocoon; but by its inclosing itself, as above explained, it incloses itself in a cocoon which only consumes as much silk as is necessary to hold the chrysalis.

During the time of spinning the cocoon the silkworm decreases in length very considerably, and after it is complete it becomes quite torpid, soon changes its skin, and appears in the form of a chrysalis. The time required to complete the cocoon is about five days. In the chrysalis state the animal remains from a fortnight to three weeks; it then bursts its case and comes forth in the imago state, the moth having previously dissolved a portion of the cocoon by means of a thread which it spins out of the silkworm-moth. [Silk.]

BOMBYCILLA (zoology). The name of a genus of tooth-billed birds (Dentirostra). Cuvier places the genus B. under the family Dentirostres, and its order Passe- reaux. Latreille also arranges it under that family; but does not allow it to belong to the Dentirostres, and classes it among its first family, that of the broad-billed birds (Lattores). Temminck, considering it to be an omnivorous bird, places the genus in his order Bomy- byciformes, in his second order Omnisores; Vieillot's second order (Sylvian Birds, Sylviocole) contains two tribes; and in the sixteenth family (Baccivorti, or berry-eaters) of the second tribe (Amenacidylis), the genus in question will be found. Vigors places it in the second tribe Dentirostres of his second order; Innoresores or perch-eating birds; and, after some hesitation, and expressing his doubt whether its natural situation is not in the family Merulidae, is inclined to arrange it provisionally among the Pipitides, his last family (or third tribe) among the Rosoridae, which contains the genera Sarcitici. Swainson, in Fauna Boreali-Americana, arranges it under his Bomybyclinea, a sub-family belonging to the aberrant group of his Amphilidae, or fruit-eaters; but, in giving his table of Amphilidae, he expresses considerable doubt whether it belongs to that tribe or to that of the Linnaeus at one time made it a butcher-bird (Lanitis), and afterwards an Amphetis. Brisson classed it among the thrushes (Turdus), and Illiger among the crows (Corvus).

The birds of this genus are known by the English names of Wax-wings, Waxen-wings, and Silk-tails; in fact, Le Jaeger de Bokhémé (Buffon, &c.), Grand Jaeger (Temminck) and Geay de Bohémé of the French; Garrulo de Bomia of the Italians; Rüthigergraer Sei- denwanzen (Meyer), Europäischer Seidenwanzen and Der Gemeine (Bayer), that is, the common Linnæus, Garrulus Bohemieus of Gesner, Bombecylla, Schwenck, Aegilops, Aldrovand, Bombycilla Bohemia of Brisson; Ampelis garrulus of Linnæus; Bombyciphora garrula, Brum; Bombyciphora poliocellia of Meyer; Bombivora garrulus of Temminck, and Bombycilla garrula of Vieillot.

In addition to the nomenclature above given, the bird is said to be named by the Italians in some localities Becco- Prione, in others Gallieto del bosco; and by the bird-catchers of Bologna Uccello del mondo novo; by the Ger- mans Zänzer, and by the French Sceau-ercol and Schwan- Lesché, and by those in the neighbourboud of Nuremberg Beemerl and Bemmel; by the Swedes Siden-svan; by the Bohemians Brkoslav; and by the Poles Jedwabnicza and Jemilowka.

That the Bohemian Chatterer was known to the ancients there can be little doubt; but a great deal of obscurity prevails as to the names by which it was distinguished. Some have taken it to be the Incendiaria Asiae of Pliny (Book x, c. 13), the inauspicious bird, on account of whose appearance the Romans midsummer flame would rise above the smoke, especially in the consuls of L. Cassius and C. Marius, when the apparition of a great owl (Bubo) was added to the horrors of the year. Others have supposed that it was the bird of the Hercynian forest (Book x, c. 47), whose feathers shone in the night like fire. Aldrovandus, who collected the opinions on this point, has taken some pains to show
plentiful in the neighbourhood of Bury St. Edmunds, Suffolck, in the few days in January, 1835, in which snow lay upon the ground. On the 19th, four were seen in Rushbrook: on the 21st, a party of nine or ten was observed in the neighbourhood of Rougham; and on the same day one was seen near Milton, Norfolk. Of late, a flock of four or five, or either two or three were seen in Ickworth Park. About the same time one was shot at Norton, and four were seen in Newton, and one in the gardens of Hardwicke House. On the, I believe, 24th, five or six were seen feeding on the haws of hedges, in the neighbourhood of Ipswich. The shot at Norton had several haws in its stomach, as had another that was shot in the neighbourhood of Bungay. Two, at least, additional have been shot in or about Thetford. (Henry Turner, Curator of the Botanic Garden, Thetford, Norfolk.)

In Worcestershire, a male was shot at Radford, near Evesham, and a female at Claines, both during the past winter; and of the two, deemed 'a fine pair,' the preserved forms are in the museum of the Worcester Natural History Society. (Berrow's Worcester Journal, April 18, 1835.)

A very fine individual (a male it was presumed to be), which had its colours remarkably bright and vivid, and the four central of its tail-feathers terminated each in a hoary appendage, the colour of red sealing-wax, and identical in kind with that which each of certain feathers in the wings is terminated, was killed near Harnaby Bridge, in the neighbourhood of Carlisle, Cumberland, on December 8, 1831. This was a second individual with appendages to certain feathers of the tail, which had been taken in the neighbourhood of Carlisle, Cumberland. (Phil. Mag., Feb. 1832, p. 84.)

An individual was taken alive early this winter, 1834-35, with birdlime, near Netherwitton, Northumberland; and I saw it lately (April, 1833), very tame and healthy, in the possession of Mr. John Cockburn, who has recently retired from the Service. Some other individuals, its companions, were shot, at about the same time, which he has preserved. (W. C. Trevelyan, Wallington, Northumberland.)

In northern Russia, and the extreme north of Norway, according to Mr. J. F. Hegner, in his account of Helsingfors, they are seen in great numbers every winter, being observed there earlier than in temperate countries. In northern Asia and eastern Europe their migrations are tolerably regular. Very numerous flocks pass through Scania in November, and are again seen on their return in the spring. But the species is not confined to Europe and Asia. 'By a singular coincidence,' says the author last quoted, 'whilst we were proclaiming this species as American, it was received by Temminck from Japan, together with a new species, which he named the Japanese Hox, and which is closely allied to our own. He states, that his best specimen was shot on the 20th March, 1825, on the Ahabasca river, near the Rocky Mountains; and he observes that the species appears to spread widely, as he had been credibly informed by hunters, that 'eider-birds of a large kind' were shot along the coast of Japan. He adds, that he is at a loss to conceive why it should never have been observed on this side of the last-mentioned river. Mr. Drummond, in the spring of 1826, saw it near the sources of the Athabasca; and Dr. Richardson observed it in the same season at Great Bear Lake, in lat. 62°, where a male, of which he gives a description, was shot on the 24th May of that year. 'Specimens,' writes Dr. Richardson, 'procured at the former place, and transmitted to England by Mr. Hudson, were afterwards accepted by Mr. Leach, who introduced the species into his great work on the birds of the United States. In its autumn migration southwards, this bird must cross the territory of the United States, indeed, without shelter of any kind within it; but I have not heard of its having been hitherto seen on the coast to the south of the fifty-fifth parallel of latitude.'

The mountainous nature of the country skirting the Northern Pacific Ocean being congenial to the habits of this species, it is more generally diffused in New Caledonia and the Russian islands, and is said to extend to the eastward of the Rocky Mountain chain. It appears in flocks at Great Bear Lake about the 24th of May, when the spring thaw has exposed the berries of the Alpine arbutus, and the Indian vacrunum, &c., that have been frozen and covered during winter. It is, however, seen only and none of the Indians of that quarter with whom I conversed had

** Loudon's Magazine** for Sept. 1835, p. 511.
seen its nests; but I have reason to believe that it retires in the breeding season to the rugged and secluded mountain limestone districts, in the sixty-seventh and sixty-eighth parallels, when it feeds on the fruit of the common juniper, which abounds in these places. Dr. Richardson adds, that he observed a large flock of at least three or four hundred of these birds on the slopes of Goat Rock, near Point House, early in May, 1837. They alighted in a grove of poplars, settling on one or two trees, and making a loud twittering noise. They stayed only about an hour in the morning, and were too shy to allow him to approach within gunshot.

We have hitherto only spoken of these birds in a migratory state, and the question presents itself, where do they breed? To this no one has yet been able to give a satisfactory answer. Bonaparte thinks it probable that their chief nest place is on the plains of the old continent, and hazards an opinion that the extensive and elevated table-land of Central Asia is their principal rendezvous, whence, like the Tartars in former times, they make their irregular excursions. Temminck is obliged to say, "Propagation inconnu," adding an "on dit," that it makes its nest far up in the north, preferring mountainous countries, and building in the crevices of rocks. Bonaparte expresses his disbelief of this, judging from analogy. Beechstein says that it does not build in Germany when wild, but with the Ararat.

Bonaparte gives a very amiable character of these birds in a state of nature, attributing to them a particular sentiment of benevolence, even independent of reciprocal sexual attraction. "Not only," says the Prince, "do the male and female feast together on the nest; but the most unkind, and even the most parasitical, mutual kindness have been observed between individuals of the same sex." Speaking of their habits he says, "They always alight on trees, hopping awkwardly on the ground. Their flight is very rapid; when taking wing, they utter a note resembling the syllables, ar, ra, but are generally silent, notwithstanding the name that has been given them. Beechstein says, "when wild we see it in the spring eating, like thrushes, all sorts of flies and other insects; in autumn and winter, different kinds of berries; and in time of need, the branches of trees and laurel leaves and laurel berries. trees." Willughby states that it feeds upon fruit, especially grapes, of which it is very greedy. "Wherefore it seems to me," he adds, "not without reason, to be called by that name (ampelis)." Bonaparte makes their food to consist of different kinds of juicy berries, or of insects, observing that they are fond of the berries of the mountain-sax and phytolacca, and that they are extremely greedy of grapes, and also, though in less degree, of juniper and laurel berries, apples, currants, figs, and other fruits. He adds that they drink often, dipping their bills repeatedly.

In captivity its qualities do not appear to be very attractive, according to Beechstein, who says that nothing but its beauty and scarcity can render the possession of it desirable, for that it is a stupid and lazy bird. Indeed, he draws such a picture of its greediness and dirty habits that, if it be not overcharged, few, we should think, would wish to have it as an inmate. Leaving out the more unpleasant parts of his description, we take the following extract from his cage-birds or stove-birds—"During the ten or twelve years that it can exist in confinement, and on very meagre food, it does nothing but eat and repose for digestion. If hunger induces it to move, its step is awkward, and its jumps so clumsy as to be disagreeable to the eye. Its song consists only of weak and uncertain whistling, and little resembling the thrush, but not so loud. While singing, it moves the crest, but hardly moves the throat. If this warbling is somewhat unmusical, it has the merit of continuing throughout every season of the year. When angry, which happens sometimes near the confined feeding-droog, it knocks very violently with its beak. It is easily tamed. The same author says, that in confinement the two universal pastes appear delicacies to it; and it is even satisfied with bran steeped in water. It swallows everything voraciously, eatable, such as potatoes, cabbage, salad, fruit of all sorts, and especially white bread. It likes to bathe, or rather to sprinkle itself with water, for it does not wet itself so much as other birds. It is taken in nooses, to which berries are fixed, which, for this purpose, says the author last quoted, "would almost be kept in store till February. It appears to be frightened at nothing, for it flies into nets and traps, though it sees its companions caught and hanging, and uttering cries of distress and fear."

Description. Length about eight inches; the size altogether approaching that of a starling.

Male. Bill strong, black, except at the base, where the colour inclines to a yellowish white; nostrils hidden under small black feathers. Iris purplish red. Chin and throat velvety black, as is also the streak (in the midst of which is the eye) passing from the bill to the hinder part of the head. Forehead reddish-brown. Head feathers long, silky, forming a reclining crest approaching to reddish-chestnut, which the bird can erect or degrees at pleasure. Upper parts purplish-red, or vinaceous-brown dashed with ash-colour, the rump lightest. Breast and belly pale purplish, tinged with pale brownish-red. Vent and under tail-coverts orange-brown, inclining to reddish-orange. Greater wing-coverts black, tipped with white. Lesser wing-coverts of a shade darker than the general tint of the upper plumage. Primaries black, with a bright-yellow spot near the white tips of their outer webs. Montagu says that the three first are tipped with white, and the others with yellow on their outer margins. Secondaries grey, tipped with white on the outer web, and seven or eight of them terminated with small flattish oval horned appendages, of the colour of red sealing-wax. Sometimes there are not more than five or six of these wax-like tips, and in Montagu's specimen there were five on one side and six in the other. Graves gives the number at from six to nine (Beechstein at from five to nine),* and mentions the specimen in Mr. Hope's collection, which had some on the tail, which is black tipped with yellow, and dashed with ash-colour on the base. Shank, toes, and claws, black.

Female. Generally similar to the male; but the yellow on the wings and tail is not so bright, nor are the wax-like appendages so large or so numerous.

Some have said that the female wants both the yellow and the wax-like ornaments. Graves says that the female has white on the wing where the male has yellow, and that she is wholly destitute of the wax appendages. Some females may have been taken with the plumage last-men tioned; but in general, the first description will be found the most correct. Beechstein says that the Aras basca river was a female. It was, according to him, eight and a half inches in length, and fifteen in extent. The bill was three-quarters of an inch long, black, but paler in the middle. The female has the habit of the under side. There was white on the tail, whatever on the wing. The tail was tipped with pale-yellow for half an inch, and four only of the secondaries were furnished with the bright-red appendages. Beechstein says that the narrow wax tips at the end of the tail denote that the bird is a very old male. The flesh of this species is said to be delicate food.

[Bombycilla Bohemica, male.]

* In a fine specimen shot in January, 1813, by Mr. John Creighton, of H. H. Garth, in Thornthwaite, close to his own house, the secondaries were...
such excess, as sometimes to be unable to fly, and suffer themselves to be taken by the hand. Indeed I have seen some which, although wounded and confined in a cage, have eaten of apples until suffocation deprived them of life, in the course of a few days. When opened afterwards, they were found to be gorged to the mouth.

Notwithstanding this gregariousness, they are, according to some writers, remarkable for their social and kindly disposition in a state of nature. Nuttall, on the authority of an eye-witness, states that one among a row of birds seated upon a branch, darted after an insect, and offered it to his associate when caught, who very delicately passed it to the next, and each delicately declining the offer, the morsel went backwards and forwards before it was appropriated.

After fattening on the fruits of May and early June they begin to attract their attention to the continuation of the species, and commence, about the tenth or twelfth of the latter month, building a nest large in proportion to the bird, sometimes in their favourite cedar-tree (Juniperus Virginiana, Wild.), but more frequently in the orchards, generally choosing a forked or horizontal branch of an apple-tree some ten or twelve feet from the ground. Outwardly and at bottom is laid a mass of coarse dry stalks of grass; the inside is lined entirely with very fine stalks of the same material. The eggs are three or four, of a dingy white, thick at the broad end, and becoming very narrow at the other, marked with small roundish spots of black of various sizes and shades; and the great end is of a pale dull purple tinge, marked likewise with touches of various shades of purple and black. About a week last spring I saw one of the young birds first fed on insects and their larva; but as they advance in growth, on berries of various kinds. The female," says Wilson, from whose personal observation the foregoing facts are given, "if disturbed, darts from the nest in silence to a neighbour tree or bushes; no cries are ever heard from either parent, nor are they even seen, notwithstanding you are in the tree examining the nest and young. . . . The season of love, which makes almost every other small bird musical, has no such effect on them: for they continue at that interesting period as silent as before." Nuttall, who observes that they are so sociable even in the breeding season that several nests may be observed in the same vicinity, gives the following interesting account of their nidification:—Two nests in the Botanic Garden at Cambridge were found in small hackberry trees at the distance of sixteen or eighteen feet from the ground, in the forks of the main branches. One of these was composed of dry coarse grass, interwoven roughly with a considerable quantity of dead hemlock sprigs, further connected by a small quantity of leaf-weed and the ragged ends of thin grape-vine bark, and dry leaves of the silver fir. In the second nest the lining was merely fine root fibres. On the 4th of June this nest contained two eggs: the whole number is generally about four or five; these are of a pale yellowish-white, of a remarkable form, the egg end rounded, the other end flattened, of a pale clay white, inclining to olive, with a few well-defined black or deep umbrer spots at the great end, and with others seen, as it were, beneath the surface of the shell. Two or three other nests were made in the apple-trees of the Cambridge orchard. As the time of the nesting season approached, the other on a depending branch easily reached by the hand. These were securely fixed horizontally among the ascending twigs, and were formed externally of a mass of dry wiry weeds: the materials being firmly held together by a large and well-entwined covering of corded moss. These last nests, which are placed on the ground, and must have at least two hatches in a season; for as late as the 7th of September a brood in this vicinity were yet in the nest. The period of sitting is about fifteen or sixteen days.'
Having endeavoured to give the reader some idea of the habits of the cedar-bird in a state of nature, we proceed to lay before him Nuttall's account of its manners in captivity:

' A young bird, from one of the nests described in the hemlock, was thrown upon my protection, having been by some means ejected from its cradle. In this critical situation however he had been well fed or rather gorged with berries, and was merely scratched by the fall he had received. Fed on cherries and mulberries he was soon well fledge, while his mate in the nest was suffered to perish by the forgetfulness of his natural protectors. Coeval with the growth of his wing-featheres, were already seen the remarkable red waxen appendages, showing that their appearance indicates no particular age or sex; many birds, in fact, being without these ornaments during their whole lives. I soon found my interesting protégé impatient on the cage, and extremely voracious gorging himself to the very mouth with the soft fruits on which he was often fed.

The throat, in fact, like a crab, admits of distention, and the contents are only gradually passed off into the stomach. I now suffered the bird to fly at large, and for several days he descended from the trees in which he perched to my arm for food; but the moment he was satisfied he avoided the cage, and appeared by his restlessness unable to survive the loss of liberty. He now came unheed me, and finally joined the laping manner of tze, tze, tze, and was enticed away, after two or three attempts, by his more attractive and suitable associates. When young, nature provided him with a loud impatient voice, and it-did, it-did, it-it-itit (often also the clamorous cry of the young Baltimore) was his desiring and almost incessant call for food.

Another young bird of the first brood, probably neglected, cried so loud and plaintively to a male Baltimore bred in the same tree, that he commenced feeding it. Mr. Winship of Brighton informs me that one of the young cedar-birds who frequented the front of his house in quest of honey-suckle berries, at length, on receiving food, probably also abandoned by his roving parents, threw himself wholly on his protection. At large, day and night, he still regularly attended the dessert of the dinner-table for his portion of food, and remained steadfast in his attachment to Mr. Winship till killed by an accident, being unfortunately trodden under foot.'

[Bombylella Carolinensis, male.]

The following is Wilson's description:—Length seven inches, extent eleven inches; head, neck, breast, upper part of the back and wing-coverts, a dark fawn colour; darkest on the back, and brightest on the front; head ornamented with a high pointed, almost upright crest; line from the nostril over to the hind head velvety black, bordered above with a fine line of white, and another line of white passes from the lower mandible; chin black, graying externally bright; face and neck fawn, the face lying extremely close; bill black, mandible nearly triangular at the base, with bristles, short, rounded at the point, where it is deeply notched; the lower scolloped at the tip, and turning up; tongue as in the rest of the genus, broad, thin, cartilaginous and lacetated at the end; belly yellow; vent white; wings deep-slate, except the two secondaries next the body, whose exterior vane are of a fawn colour, and interior ones white, forming two whitish strips there, which are very conspicuous; rump and tail-coverts pale light brown, the tail the outer feathers into black, and tipped for half an inch with rich yellow. Six or seven, and sometimes the whole nine, secondary feathers of the wings are ornamented at the tips with small red oblong appendages, resembling red sealing-wax; these appear to be a prolongation of the shafts, and to be intended for preserving the ends, and consequently the vanes of the quills from being broken and worn away by the almost continual fluttering of the bird among the thick branches of the cedar.

The feathers of those birds which are without these appendages are more rounded and obtuse, and the feathers there smooth and perfect in those on whom the marks are full and numerous. These singular marks have been considered as belonging to the male alone, from the circumstance perhaps of finding female birds without them. They are however common to both sexes, and male and female birds are now lying before me, each with large and numerous clusters of eggs, and having the waxen appendages in full perfection. The young birds do not receive them until the second fall, when, in moulting time, they may be seen fully developed, as the feathers develop, the tail-feathers once or twice found a solitary one on the extremity of one of the tail-feathers. The eye is of a dark blood colour; the legs and claws black; the inside of the mouth orange; gap wide; and the gullet capable of such distention as often to contain twelve pounds of cedar-bird's flesh in a kind of cramp to prepare them for digestion. The chief difference in the plumage of the male and female consists in the dullness of the tints of the latter, the inferior appearance of the crest, and the narrowness of the yellow bar at the tip of the tail.

Audubon gives the following dimensions:—Length six inches and three-fourths, extent of wings eleven, bill along the ridge five-thousandths, along the gap three-fourths, tarsus three-fourths. The length of the male described by Dr. Richardson was seven inches six lines. The Doctor observes that a female procured by Mr. Drummond wanted entirely the waxen appendages to the secondaries, and says that a young bird in Mr. Swainson's collection has the upper plumage of the head and body of a hair-brown colour, lighter than the neck, and in Mr. W. Edwards' by nature bird, except that the former want the waxen appendages. The black frontal mark is narrower, and there is no black on the chin. The under plumage is mostly hair-brown, edged with yellowish-grey, the belly and vent being straw-yellow.

**Ahiatic Wax-wing**

The discovery of the Red-winged Chatterer, or Japanese Wax-wing, is one of the fruits of Dr. de Siebold's scientific mission to Japan by the government of the Netherlands. In size it bears a greater resemblance to the Cedar-bird than to the Bohemian Wax-wing, but differs from both in the nakedness of the nostrils (which are not hidden by the small feathers of the front, like the nostrils of the other two species of this small but natural group), in the length of the crest, and the beautiful black plumes with which it is ornamented, and by the entire absence of the wax-like appendages that tip the secondaries of its congers.

The length of the Japanese Wax-wing is six inches and six lines. The base of the bill is bordered by a black hand, which passes to the back of the head, surrounding the eye in its way, and terminates in the lower crest-feathers, which are of the same colour throughout; the chin and throat are black; the crest is long, composed above of feathers of an ahy-reddish colour with an inferior layer of the black...
plumes already alluded to; the breast, upper parts, and
wing-coverts are of a brownish-ash, and a red band tra-
verses the wing about the middle of it; all the quills are
of an ashy-black, the greater quills terminated with black
and tipped with white; the tail is of an ashy-black, tipped
with vivid red; the middle of the belly is of a whitish-
yellow; and the lower tail-coverts chestnut; shanks and
feet black.

The species is found in the neighbourhood of Nangasaki.
Temminck, to whom we are indebted for our knowledge
of the bird, which is described and figured in his Planches
Colorées, says that there is a specimen in the galleries of
the Museum of the Pays-Bas, and another in the collection
of M. Blomhof, the resident at Japan; and he observes that
the absence of the nostril-plumes furnishes a proof, also af-
forded in the genera Corvus and Garrulus, in contradiction
to the opinion of those systematists who would separate the
omnivorous birds with covered nostrils from those which
have those organs smooth or naked, and divide them into
distinct groups. He also considers the proper position of
the genus to be near the Hirundo (Kitts), and the Roiles
(Colaris of Cuvier, Eurystomus of Vieillot).

[Bombylia phainopetra, male.]

BOMBYLIDÆ (entomology), a family of insects of the
order Diptera, distinguished chiefly by having a long pro-
bos: The body is short and very hairy. Antennæ mo-
derate, four-jointed, the basal joint long, second very short,
third longest, the apical joint minute and tapering to a fine
point. The legs are long and very slender. Wings hori-
zontal.

The species of this tribe are all remarkable for their great
swiftness of flight: two species of the genus Bombylia are
not uncommon in open parts of woods, frequenting sunny
banks, where they may be seen, in the month of April,
hovering over flowers from which they sip the sweets by
means of their long probosces, which enables them to do
this without setting on the flowers.

At one time they will be seen apparently quite motion-
less in the air—for their wings vibrate so rapidly that they
cannot be discerned—a moment after they will make their
appearance at a few yards distance, having darted from one
spot to the other with such rapidity that the eye cannot
follow them. In their flight they emit a humming sound.

The two species here spoken of are B. major and media;
they are about one-third of an inch long and of a brown
colour: the former has the anterior part of its wings clotted
with an opaque brown colour, and the posterior part trans-
parent—latter has the wings adorned with numerous
brown spots, and their anterior portion but slightly clouded.

Mr. Stephens enumerates seven species of this genus
as indigenous to this country: they are sometimes called
humble-bee flies.

BONA, a corruption of the antient name Hippo-
na, called by the Arabs Beled el Anab, or, country of the
jujubes, is a seaport town of the regency of Algiers, in the
beyluk or province of Constantina, in 37° N. lat. and 8° 15'
E. long., and about 265 miles E. of Algiers. It lies on
the west side of a bay in which there is good anchorage.
The harbour of Bona is now choked up with mud, but there
are good landing-places in the vicinity of the town. The
Seiboos, a considerable river, enters the sea about two
miles to the S.E. of Bona. Between the town and the river is a
marsh, which is crossed by two small rivers, Wadi el Dasha
and Wadi el Boqimah, which flow into the Seiboos just
above its entrance into the sea. This marsh is believed to
have been the antient harbour of Hippo Regius, the scanty
remains of which town are seen about a mile and a half
south of Bona. Between the walls of Bona and the mara
are gardens planted with jujube-trees, and to the west and
south-west is a plain which extends far into the interior
in the direction of Constantina. Bona is built at the foot
of a hill which rises to the north and north-west of the
town, and which forms the extremity of a ridge which
runs westwards to the sea, as far as the gulf of
Stora. On the summit of the hill and about 500 yards
above the town is the Casabah, or citadel, which is strong
by its situation. The town itself is surrounded by a wall
with towers. An aqueduct which brought water into the
town has been cut off by the Arabs since the French occu-
pation of the place. Previous to that event Bona con-
tained between three and four thousand inhabitants, and
carried on a considerable trade by sea; it exported cattle,
corn, wool, hides, wax, and other produce. It was oc-
ocupied by the French in 1839, but soon after was evacu-
ated, when many of the inhabitants emigrated. It was
again occupied in 1831, but after a few months a revolt
among the inhabitants and the Turkish garrison in the
Casabah forced the French to evacuate the place a second
time. In 1834 the Arabs and Kabylies, on the arrival of a
French force by sea, set fire to the town and left it. The
French again took possession of the place, but the country
around continues hostile to them. Through all these vicissi-
tudes the population of Bona has dwindled away to a few
hundred inhabitants besides the French garrison. (Shaw;
Pichon, Alger sous la Domination Francaise; Berthezene,
Dix-Aout Mois à Alger.) Along the coast eastward of Bona
were the French settlements of La Calle and Bastion de
France, which France retained by antient treaties with the
regency of Algiers and for the protection of the coral
fishery, which is carried on along this coast chiefly by
French and Italian boats. These settlements however
were destroyed by the late Dey Hussein in 1827 in conse-
quence of the breaking out of hostilities. In the Excur-
sions in the Mediterraneen, by Major Sir Greville Temple,
between 1835, there is an account of Bona in 1839, and of the
ruins of Hippo Regius, which he visited.

BONACCI, LEONARDO. [LEONARD OF PISA.]

BONAPARTE, NAPOLÉON, born at Ajaccio
in the island of Corsica, the 15th of August, 1769. He was
the second son (his brother Joseph being the eldest) of
Carlo Bonaparte and of Letizia Ramollini, both natives of
Corsica. The house in which he was born forms one side
of a court leading out of the Rue Charles. [AJACCIO,]
In his birth registry, which is widely dispersed, his name is
written Bonaparte, but his father generally signed himself
Bonaparte, a mode of spelling which seems more accor-
dant with Italian orthoepy, although there are other
Italian names in which the first component part is written
and pronounced bona, as, for instance, Bonaventura, Corso,
&c., besides common nouns, similarly compounded,
such as bonzantia, bonaccia, &c. This appears in itself a question of little moment, but it has been made the subject of much controversy, which a sort of national importance has given to it if there had been done for the purpose of Frenchifying the name. (Louis Bonaparte's Réponse à Sir Walter Scott.) Bonaparte being a family name, the correctness of the spelling must depend upon custom, and we find that Napoleon after he became Emperor changed the spelling of his family name without the u, probably, as Bourrienne observes, because it was a shorter way of signing, and probably also because it was better adapted to French pronunciation; it corresponded likewise to the common way of speaking of most Italians, who, with the exception of the Tuscanians, pronounced the familiar conversation bomo instead of buno. Napoleon's name first became known to the world as Bonaparte, as such it is registered in his proclamations, dispatches, and other documents, and as such therefore it ought to be written in whom the Genoese have likewise adopted the same way of writing it.

Napoleon's father's family was originally from Tuscany, but had been settled in Corsica for several generations. There is a comedy written by one of his ancestors, Niccolò Bonaparte of San Miniato, citizen of Florence, styled La Vedova, Florence, 1568 and 1592. There is likewise a narrative of the pillage of Rome under Charles V., written by a Jacopo Bonaparte, Ragguagli Storico del Sacco di Roma dell' anno 1527, Cologne, 1736. Charles, Napoleon's father, was a relation of the Bonaparte family, and one of them was canon of San Miniato in Napoleon's time. Before the birth of Napoleon, his father had served under Paul in the defence of his country against the French, from whom the Genoese had bauxly sold the island. The entry of submission of Corsica to France took place in June, 1769, about a month before Napoleon's birth, who therefore, legally speaking, was born a subject of France. In the following September, Count Marburig, the French commissioner, convoked by the king's letters patent the States of Corsica, consisting of three orders, nobility, clergy, and commons, the family of Bonaparte, having shown their titles, was registered among the nobility; and Charles, some years after, repaired to Paris as member of a deputation of his order. This was a delightful visit, which was received with great respect by the judicial court of Ajaccio. He was then in straitened circumstances, as he had spent most of his little property in a bad speculation of some salt-pan, after having previously lost a lawsuit against the Jesuits about an inheritance. The friendship of Joseph Anton, the manufacturer, obtained him the admission of his son Napoleon to the military school of Brienne as a king's pensioner. Napoleon left Corsica for Brienne, when he was in his tenth year, in April, 1779. At Brienne, where he passed five years, Napoleon was placed in the French mathematics, but showed less disposition for literature and the study of languages. Pichegru was for a time his monitor in the class of mathematics. The annual report made to the king by M. de Keralio, inspector general of the military schools of France, in 1784, has the following remarks on young Napoleon:—Distinguished in mathematical studies, tolerably versed in history and geography, much behind in his Latin and in belles lettres, and other accomplishments; of regular habits, studious and well-behaved, he shows able bent and capacity for the future (remembr.) Much has been said of young Napoleon's taciturnity and moroseness while at school. Bourrienne, who was his schoolfellow, states the facts very simply. Napoleon was a stranger, for the French considered the Corsicans as such; he spoke his own dialect, until he learnt French at the school; he had no connections in France, he was comparatively poor, and yet proud-minded, as Corsicans generally are; the other boys, more fortunate or more lively in their disposition, teased him and taunted him, and therefore he kept to himself, was not talkative, and was uncritical of social and friendly feelings towards those who showed him sympathy, his intimacy with Bourrienne sufficiently proves. Many stories have also been told of his assuming an authority over his comrades, showing a precocious ambition, and greatness of mind; but these are contradicted by Bourrienne, with the exception that in one instance when the snow had fallen very thick on the ground, and the boys were at a loss what to do to amuse themselves, he proposed to make entrenchments with the snow, and to perform a sham attack, of which he was the leader.

There was nothing extraordinary in young Napoleon's school life; he was a clever, steady, studious lad, and nothing more. The school of Brienne was under the direction of the monks of the order of St. Francis de Paula, called Minimi, and Bourrienne speaks rather indifferently of their learning and system of education, though the teacher of mathematics and modern languages was considered as particularly well qualified. Bourrienne also states that Napoleon had made more proficiency in history than the report above mentioned gives him credit for: his favourite authors were Cæsar, Plutarch, and Arrian; the last two he probably read in Latin, or perhaps in Italian translations, for he does not appear to have studied Greek.

Napoleon left Brienne in October, 1784; some say in 1783; but Bourrienne is positive as to the date the 17th Oct., 1784, after Napoleon had been five years and six months at Brienne, and he accompanied him part of the way to Paris, with four of his companions, to proceed to the military school there, to continue his course of studies, until he had attained the age required for entering the army. The Paris school, and the students' manner of living, were on an expensive footing, which shocked young Napoleon, who wrote to Father Berton, his superior at Brienne, a long letter, in which he forcibly expressed the error of such a system of education, as luxury and comforts were a bad preparation for the hardships and privations attendant on the military career. He signed this letter with the following remarkable letter. In the regulations which he afterwards drew up for his military school at Fontainebleau, Napoleon followed the principles he had thus early manifested. Napoleon's spirit of observation, his active and inquisitive mind, and his quick perception of everything that attracted his attention, excited the attention of the superiors of the Paris school, who hastened the epoch of his examination, as if anxious to get rid of a troublesome guest. He was likewise remarked for the wild energy and strange amplifications in his style of expressing himself when excited, a peculiarity which had distinguished many of his subsequent speeches and proclamations. In September, 1785, he left the school, and received his commission as sub-lieutenant in the regiment of artillery de la Fère, and was soon after promoted to a first rank. Napoleon, among other advantages, was enabled to travel to Valence. His father had just died at Montpellier of a scuritus in the stomach. An old great uncle, the Archdeacon Lucien of Ajaccio, now acted as father to the family; he was rich, and Charles had left his children poor. Napoleon's elder sister, Caroline, had married the Duke of Modena, who resided at Modena, and his brother Joseph, who was a captain in an inn at Autun in Burgundy, returned to Corsica, where his mother, sisters, and younger brothers resided, as well as a half-brother of his mother, of the name of Fesch, whose father had been an officer in a Swiss regiment in the Genoese service, formerly under the orders of Malaspina. This regiment, when the Swiss regiment, was allowed 1200 francs yearly from his family, probably from the archdeacon, which, added to his pay, enabled him to live comfortably and to go into company. He appears to have entered cheerfully into the sports and amusements of his brother officers, while at the same time he did not neglect improving himself in the studies connected with his profession. While at Valence he wrote a dissertation in answer to Raynal's question. 'What are the principles and institutions by which mankind can obtain the greatest happiness?' and this dissertation was sent anonymously to the Academy of Lyons, which adjudged to him the prize attached to the best essay on the subject. Many years after, when at the height of his power, he happened to mention the circumstance, and Talleyrand having sought the forgotten MS. among the archives of the Academy, presented it to him one morning. Napoleon, after reading a few pages of it, threw it into the fire, and no copy having been taken of it, we do not know what his early ideas might have been about the happiness of mankind. (Les Cases Napoleon; Vol. i. p. 152.) In October, 1785, Napoleon was at Fontainebleau, and was instructed by Talleyrand; but in October, 1786, interesting himself in the proceedings of the first National Assembly. The officers of his regiment, like those of the army in general, were divided into royalists and democrats;
several of the former emigrated to join the Prince of Condé. Napoleon however refused to follow the same course: he took the popular side of his cause, and engaged in the sedition of his brother officers in the regiment. In 1792 Napoleon became a captain in the regiment of Grenoble artillery (Las Cases, vol. i.), his promotion being favored probably by the emigration of so many officers. By order of Gen. E. he was sent to Egypt in July 1793, after his return from Corsica. He however was at Paris in 1792, and there met his old friend Bou- rienne, with whom he renewed his intimacy. He appears to have then been unemployed, probably unattached, while the army was undergoing a new organization. Napoleon and Bourienne happened to be at the Café des Deux Magots on the 26th of June, 1792, at a coffee-house in the street St. Honoré, when the mob from the faubourgs (a motley crowd armed with pikes, sticks, axes, &c.) were proceeding to the Tuileries. Let us follow this camarade, whispered Napoleon to his friend. They went accordingly, and saw the mob break into the palace without any opposition, and the king afterwards appear at one of the windows with the red cap on his head. It is all over henceforth with that man, exclaimed Napol- eon; and returning with his friend to the coffee-house to dinner, he explained to Bourienne all the consequences he foresaw from the degradation of the monarchy on that fatal day, now and then exclaiming indignantly, How could they allow those despicable wretches to enter the palace? why, a few discharges of grape-shot amongst them would have quite altered the course of events, and what's more, would be running yet at this moment! He was collected and ex- tremely gay all the remainder of that day; the sight had made a deep impression upon him. He witnessed also the scenes of the 10th of August, after which he left Paris to return to the expedition to Egypt. General de St. Pierre, who held the chief authority in that island from the king and the French National Assembly, and Napoleon was appointed by him to the temporary command of a battalion of national guards. Paoli had approved of the constitutional monarchy in Corsica, and had expressed his acquiescence in the measures, nor of the attempts to establish a republic. Facts had broken out in Corsica also, which Paoli endeavoured to repress. In January, 1793, a French fleet, under Admiral Truguet, sailed from Toulon, for the purpose of attacking the island of Corsica, but the fleet was driven back by a gale; a set of wretches, the real sans culottes of Paris and other towns, who followed the army as volunteers. Throughout that frightful period which has been styled the reign of terror, it was not, generally speaking, the officers of the army who carried it out. Nevertheless, the officers of the Convention attached to the armies, who directed and presided at the massacres. There is an atrocious letter by Fouche to Collot d'Herbois, testifying his joy at the exter- mination of the rebels; and another from Saunier, Barras, and Frere, to the prosecutor of Paris, expressing their pleasure at the success of the massacre of the 31st July, 1793. (See Napoleon's Memoirs, by Gourgaud, vol. i. Appendix.) In consequence of his services at the taking of Toulon, Bonaparte was recommended by General Dugommier for promotion, and was accordingly raised to the rank of brigadier-general of artillery, in February, 1794, with the chief command of that department of the army in the south. In this capacity he inspected the coasts, ordered the weak points to be fortified, strengthened the fortifications already existing, and displayed his ability in these matters. He was then joined by General Genoa, who was stationed at the foot of the Maritime Alps, and with which he made the campaign of 1794 against the Piedmontese troops. In that campaign, the French disregarding the neutrality of Genoa, and advancing by Ventimiglia and San Remo, turned the Piedmontese position at Suorgo, obtained possession of the Col de Tende, and penetrated into the valleys on the Piedmontese side of the Alps. A battle was fought at Cairo, in the valley of the Bormida, 21st September, in which the French had the advantage. It was the means of compelling Genoa to abandon the campaign, in which Bonaparte had taken an important part, together with Massena. Previous however to the battle of Cairo, Bonaparte had had considerable risk from the factions that divided France. On the 17th November, 1794, a number of men who were superintending the operations of the army gave him a commission to proceed to Genoa, with secret instruc- tions to examine the state of the fortifications as well as the nature of the country, and also to observe the conduct of the
Genoese government towards the English and other belligerent powers. These instructions were dated Loango, and signed Ricord. Ricord and the younger Robespierre were then commissioners. Bonaparte went to Genoa and fulfilled his commission. Meantime, the revolution of the 9th of July (July 21) took place, Robespierre fell, and his party was proscribed. Attilio Sicilietti, Bartolomeo, and Laporte, were the new commissioners appointed to the army of Italy. On Bonaparte's return from Genoa to head-quarters, he was placed under arrest, his papers were sealed and an order was issued by the commissioners, declaring that he had lost their confidence by a suspicious conduct, and especially by his journey to Genoa; he was suspended from his functions of commander of the artillery, and ordered to proceed to Paris under escort to appear before the committee of public safety. This order was dated Barcelonetta, August 29. Three commissioners, and countersigned by Dumouriez, general-in-chief, Bonaparte remained under arrest for a fortnight. He wrote a pithy remonstrance, which he addressed to Attilio and Sicilietti, without taking any notice of the third commissioner Laporte. In it he complained of being disgraced, and having his character injured without trial: he appeals to his known patriotism, his services, his attachment to the principles of the revolution; he appeals to Sicilietti, who had known him he says for five years, &c. &c. He offers to resign his command to those men who are more precise an investigation of the affair, and the result was a counter order from them, dated Nice, 20th August, stating that citizen Bonaparte had been arrested in consequence of measures of general safety after the death of the then minister, M. Courtois, early 30,000 troops of the national guard had examined his conduct previous to his journey to Genoa, and also the report of that mission, had not found any positive reason to justify the suspicions they might have entertained of his conduct and principles, and that considering moreover the advantage the troops of the national guard were, with his knowledge and knowledge of the service of the republic, they, the commissioners, order him to be restored provisionally to liberty, and to remain at head-quarters until further instructions from the committee of public safety. This was followed by an order of the same date from the French republic in those times. Bonaparte however seems to have had no further annoyance on the subject. The real grounds of his accusation have never been known, and he himself, at the close of his life, professed himself to be ignorant of them (Bonaparte's Memoirs dictated to Gourgaud and Montholon).

After the close of the campaign of 1794, Bonaparte returned to Marseilles, where his family then was. It would seem that he had been superseded in his command of the army in the department of Provence, and was sent to Paris soliciting employment. Aubry, an old officer of artillery, was then president of the military committee. Bonaparte was coldly received by this officer, who made some remarks on his youth, which Bonaparte resented; Aubry then treated him as a candidate for the corps of infantry in the army of La Vendée, an appointment which he refused, considering it a sort of degradation. He remained therefore without active employment, retaining his rank of general of brigade. He now took lodgings in the Rue du Mail, opposite to the Hôtel de Victoires, and led a private life. Bourrienne states, that he had then some ideas of going into the Turkish service, and gives a copy of a project which Bonaparte laid before the war-office, showing the advantages that would result to France by forming a closer connexion with the Porte, and sending officers of artillery with a body of gunners, to the service of the Sultan. On his return to France, after the new crisis arrived in the affairs of France. The Convention had framed a new constitution, establishing a council of Elders, a council of juniors, and an executive directory of five members. This is known by the name of the constitution of the year III., and was in fact their constitution, which had been claimed since the beginning of the revolution. But the Convention, previously to its own dissolution, passed a resolution to the effect, that at least two-thirds of the members of the two legislative councils should be taken from the ministerial party, and that the directorate should be laid before the primary assemblies of the departments, and every kind of influence, legal and illegal, was used to ensure its approbation. The department of Paris however refused, and the sections or districts of that city being assembled, demanded a strict scrutiny of the returns of the votes of the assemblies of the departments, and protested against the attempt of the Convention to perpetuate its own power. They declared they would no longer obey the orders of that body. It was said that the sections were urged or encouraged in their resistance by the royalists, who hoped to derive benefit from it. But it is also well known that the Convention, meekly and timidly, like a lamb to the slaughter, unresisting the bloodshed and atrocities of the reign of terror, was odious to the Parisians. On the other side the members of the Convention for this very reason were afraid of returning to the rank of private citizens. They determined therefore to risk every thing in order to carry their object by force; they had at their disposal about 5000 regular troops in or near Paris, with a considerable quantity of artillery, and a body of volunteers from the suburbs. The command of these forces was given to Barras, a leading member of the Convention, commander in chief, and a relative of Robespierre. Barras, who had become acquainted with Bonaparte at the siege of Toulon, proposed to intrust him with the actual direction of the troops for the defence of the Convention. Bonaparte was also known to Carnot and Tallien, and other members of the Convention, as an able artillery officer. The choice being unanimously approved, Bonaparte quickly drew his line of defence round the Tuileries where the Convention was sitting, and along the adjoining quay on the north bank of the Seine. He depended mainly for his success on the passions created amid the people by the acts of the Convention, and the incitements of the Jacobins, and the terror that mounted at the head of the various avenues through which the national guards, the force of the citizens, must advance. The national guards had no cannon. They advanced on the morning of the 13th Vendémiaire (4th October, 1795), at about 30,000, and the conventicles and clubs of Parisians, arming with muskets and pikes, rushed upon the quays and the street of St. Honore. As soon as they were within musket-shot, they were ordered to disperse in the name of the Convention; they answered by discharging their firelocks, and their fire was returned by discharges of grape-shot, which drove them back into the thick masses, cooped up in narrow streets. They however returned several times to the charge, and attempted but in vain to carry the guns; the fire of the cannon swept away the foremost, and threw the rest into disorder. Filled with shame and mortification, the national guards withdrew in the evening to their respective districts, where they made a stand in some churches and other buildings; but being followed by the troops of the Convention, their disunited resistance was of no avail; they were obliged to surrender, and were marched off. By the next morning all Paris was subdued. The Convention and its troops did not use their victory with cruelty; except those who were killed in the fight, few of the citizens were put to death, and only two of the leaders were publicly executed. Barras, Murat, Veron, Marmontel, Barruyer, Verdier, and others, served with Bonaparte on the occasion, but to Bonaparte chiefly the merit of the victory was justly attributed. He was appointed by a decree of the Convention second in command of the army of the interior, and at all retaining the nominal chief command; and soon after the new constitution coming into operation, Barras being appointed one of the directors, reigned his military command, and Bonaparte became general of the interior.

About this time Bonaparte became acquainted with Josephine Beauharnois, a native of Martinique, and the widow of the Viscount Alexandre de Beauharnois. This lady had suffered imprisonment, but was liberated at fall of Robespierre. The Director Barras, an old acquaintance of her husband, frequented her, and she and Bonaparte also instituted with Madame Tallien, and other ladies of note and influence at that time. She was amiable, elegant, and accomplished. Bonaparte saw her often, and became attached to her. She was several years older than he was. He was now rapidly rising in his fortunes, and his marriage was a lady of rank and station (for rank, although nominally prescribed, began again to exercise a sort of influence in society), who was upon terms of intimacy with the political leaders of that period, could but prove advantageous to him. Such was the advice given to him by his friends, and he consented. On March 9, at a ball given by de Leyrand. Barras, having heard of the projected marriage, approved of it also. Mean time, Bonaparte had been applying to Carnot, the then minister at war, for active employment. The directors had at that time turned their attention towards Italy, where the French army, under General
Scherer, was making no great progress. After gaining a
victory over the Austrians at Loano, in November, 1795, the
French entered Genoa and Pluvione in the heart of Liguria.
This invasion was designed to check the Austrians, and
the other directors approved of it. This appointment was
signed the 23rd February, 1796; on the 9th of March follow-
ing he married Josephine, and a few days after parted from
his bride to assume the command of the army of Italy.
This story was true, but there was an inaccurate
being the condition of his appointment, and all the
inuendos built upon that assumption, appear to have no
foundation. He was appointed to the army of Italy, because
he was thought capable of succeeding, becaused by his
ability and the ground he was placed on; and it was also
thought that his Italian origin might afford him facilities with
the people of that country; and lastly, because the directors
were not sorry to have a general at the head of one of their
armies who was a man of their choice, and depended
dependent upon their favour, one whose growing reputation
might serve as a counterpart to the widely-populated
province of Moreau, Pichegru, Hoche, and the other generals
in the first years of the Republic.
The army at Bonaparte's disposal consisted of about
50,000 men; only two-thirds were fit for the field. It was
in a wretched state as to clothing, and ill
supplied with provisions; the pay of the soldiers was in
arrears, and the army was almost without horses. The
discipline also was very relaxed. The Piedmontese and
Austrians were as much at liberty as Beaulieu, a gallant veteran, past seventy years of age: it was posted
along the ridge of the Apennines, at the foot of which the
French were advancing. Bonaparte, in his despatches to the
Directorate, stated the allied armies at 75,000 men, and his
own at 30,000; but on the 3rd of March, when he
arrived at Nice, and immediately moving his head-quar-
ters to Albenga, pushed his advanced guard as far as Voltri,
near Genoa. Beaulieu, with the Austrians' left, attacked
Voltri and drove the French back; he at the same time
ordered a general retreat, after an unimportant action. Beau-
lieu descended by Montenotte upon Savona, and thus take the
French in flank. On this road the French Colonel Rampon
was posted with 1500 men on the heights of Montelegno.
He was repeatedly attacked on the 10th April by D'Argen-
teu, but stood firm, and all the assaults of the Austrians
could not dislodge him from the redoubt. This gave time to
Bonaparte to collect his forces, and to march round in the
night by Altare to the rear of D'Argenteau, whom he
attacked on every side on the following day, and obliged to
move towards Genoa. Beaulieu, after attacking the best part of his division, before Beaulieu, on the left,
crossed the river near thirty miles below Pavia. Beaulieu was now obliged to fall back upon the Adda
after a sharp engagement at Fombio, on the road from
Piacenza to Milan. Milan was occupied by the Army of
the centre of the castle. Bonaparte resolved to
Bordone near the Adda, where the Austrians
beautified with the exception of Mantua, which he blockaded. This
ended the first Italian campaign of 1796.

At the first entrance of the French the people of Lombardia showed a quiet, passive spirit. There was no
enthusiasm among them either for or against the invaders,
and they had enjoyed half a century of peace under the administra-
tion of Austria, which under Maria Theresa and Joseph had
affected many useful reforms, and acted in an enlightened,
liberal spirit. The country was rich and thriving, as it always was Bonaparte used as little force as was consistent dignity,
peace and security to property. The Milanese looked upon
the French invasion rather with wonder than either satisfaction
or hostility. Ideas of a republic existed only in a few speculative heads; but there were many who sided
with the invaders, in order to obtain the advantages as conquerors. The people of the towns behaved
hospitality to the French troops, who on their side maintained
a stricter discipline than they had done in passing through
Piedmont. But the army was to be supported, equipped,
supplied, and disciplined, and all the resources of the
Directorate and of Bonaparte. The Directory, besides,
wished to receive a share of the golden harvest to recruit its
own finances, and its orders were to draw money from all the
Italian states. Bonaparte accordingly put on Lombardy
as his department. The universal enthusiasm of the
rich proprietors on the rich proprietors and the ecclesiastical bodies.
Meantime he authorized the commissaries to seize pro-
visions, stores, horses, and other things required, giving
cheques to be paid out of the contributions. This was done
in the towns with a certain regularity, but in the country
places, away from the eyes of the general, the commissioners and soldiers often seized whatever they liked without any acknowledgment. The owners who remonstrated were insulted or ill-used; and many of the Italians calling themselves republicans assisted the French in the work of plunder, of which they took their share. The horses and carriages of the officers were drawn off, as if they belonged to the aristocrats. All property belonging, or supposed to belong, to the archduke and the late government, was sequestrated. But an act which exasperated the Milanese was the violation of the Monte di Piacé of Milan, a place of depositing money, goods, &c., which were either left for security, or as pledges for money lent upon them. The Monte was broken into by orders from Bonaparte and Saliceti, who accompanied the army as commissioners of the Directory. They seized upon this deposit of private property; and not one as it was lost to the owners but was sent them to Genoa to be at the disposal of the Directory. Many of the smaller articles belonged to poor people; many were placed there by the parents of young girls as a dowry when they came to be married. Although these smaller objects were not intended by Bonaparte to be detained, yet in the disorder of the seizure many of them disappeared, and a report spread through Milan that all had been seized. The same thing had been practised at Piacenza when Bonaparte and Saliceti passed through it; and afterwards at Parma and Piacenza. The Monte di Piacé, became a common practice of the French army in all the towns they entered.

These excesses led to insurrections in different parts of the country, in which French soldiers were killed by the patriots. The French, English, Austrian, and Bavarian troops were joined together, and a large number of men were killed, and Pavia, rose and killed a number of the French and their Italian partisans. The country people ran towards Pavia, and were joined by the lower classes of that town, who had been irritated at the hoarding of a tree of liberty in one of their streets. A number were equitably executed, and an armorer had been thrown down by the revolutionists. On the 23rd of May Pavia was in open insurrection. The French soldiers took refuge in the castle; those scattered about the town were seized and ill treated; some were killed, but most had their lives spared by the interference of the municipal magistrates and others who were friends of the people. The gates of the real hospitals were walled up, and to pass through on his way to Milan, was attacked by the frantic populace and wounded, but the magistrates, at their own risk, saved his life. In all this tumult the country people were the chief actors, by the acknowledgment of Haquin himself. Bonaparte, alarmed by this movement in his rear, and at the possibility of its spreading, determined to make an example, and "strike terror into the people," a sentence which was afterwards frequently carried into effect in the progress of his arms. A strong body of French and Bavarian troops were sent to Piacé, dispersed the inhabitants, burned the place, and then marched against Pavia, which being a walled town was capable of making some defence. Bonaparte sent thearchbishop of Milan, who, from the balcony of the town-house, addressed the multitudes, and exhorted them to lay down their arms and quietly to disperse, explaining to them the futility of their attempts at resistance. The ignorant and deluded people would not listen to his advice; the French soon forced one of the gates, and the cavalry entering the town, cut down scores, and either took prisoners or despatched them by the other gates, and left the unfortunate city to the conqueror. Bonaparte then deliberately ordered Pavia to be given up to plunder for twenty-four hours, as if Pavia had been a fortified town taken by storm, and while it was being plundered, the inhabitants, dispersed the place, burned the palace, and then marched against Pavia, which being a walled town was capable of making some defence. Bonaparte sent thearchbishop of Milan, who, from the balcony of the town-house, addressed the multitudes, and exhorted them to lay down their arms and quietly to disperse, explaining to them the futility of their attempts at resistance. This order was publicly signified to the inhabitants and the troops, and during the rest of that day, 25th May, and the whole of that night, the French soldiery were plundering and destroying within the houses of the unfortunate Pavia. Murder however was not added to pillage and rape, and it is recorded that several of the French officers and soldiers spared the honour and property of the town, and their lives by the arms of their nation. It was the case of the risk of their lives from their more brutal companions. Next morning (the 26th) at twelve o'clock the pillage ceased, but Pavia for a long time felt the effects of this cruel treatment. It is not true, as has been stated by some, that the municipal magistrates were shot; they were only sent for a time as hostages to France. Four of the leaders of the insurrection were publicly executed, and about 100 had been killed on the first interruption of the French into the city. The university and the houses of some of the professors, Spallanzani's in particular, were exempted from pillage. General Haquin, who was sent after this to Pavia as governor, endeavored to soothe the feelings of the inhabitants.

Bonaparte imposed on the Duke of Parma, who had not yet acknowledged the French Republic, a sort of peace, on condition of his paying to France a million and a half of francs, besides giving provisions, cattle, horses, cards, &c., and fifteen of his choice paintings; but as he was not quick enough in paying the whole of the money his duchy was taken from him a few months after. The Directory wanted cash, and Bonaparte says that he sent during his first Italian campaigns fifty millions of francs from Italy to Paris.

To copy the Grande Duchy of Tuscany, the Emperor of Austria, was an independent sovereign; he had long acknowledged the French Republic, and kept an ambassador at Paris; but the Directory ordered Bonaparte to seize Leghorn, and confiscate the property of the house of Austria, as belonging to the French republic. Bonaparte executed the order, took Leghorn without any opposition, put a garrison in it, seized the English, Portuguese, and other goods in the warehouses, which were sold by auction, and insisted upon the native merchants buying in the property which belonged to the enemies of the French republic. The Leghornese merchants, to avoid this odious act, agreed to pay five millions of francs, as a ransom for the whole. The pope's turn came next. That sovereignty was really in a state of hostility towards the French republic, and had never acknowledged the Republic, in consequence of the abolition of the Catholic church in France. On the 16th of June the French entered Bologna, whence Bonaparte ordered away the papal authorities, and established a municipal government. He did the same at Ferrara; and at the same time entered into insurrections on both those provinces. The Monte di Piacé of Bologna shared the same fate as that of Milan, only the deposits or pledges (not exceeding 200 livres each, 8½ sterling) were ordered to be returned to the owners. The people of Lugo, and Ravenna, were engaged against the invaders. Augereau was sent against Lugo: after a sharp fight, in which 1000 of the natives and 200 French soldiers fell, Lugo was taken, given up to plunder, and partly burnt: the women and children were spared. Proclamations were issued: every person who should take up arms against the French should be burnt, and that every individual not a regular soldier taken with arms in his hands should be put to death; and yet the French had loudly

The court of Rome was now the great alarm, and Pius VI. sent envoys to Bonaparte to sue for terms. An armistice was signed on the 23rd of June, preparatory to a definitive treaty of peace between the pope and the Directory. The principal conditions of it were that the French should give up the provinces of Ferrara and Bologna, and the cities of Ancona, should close his ports against the enemies of France, should pay fifteen millions of livres in gold or silver, and six millions in goods, provisions, horses, cattle, &c., besides surrendering a certain number of paintings, statues, vases, and 500 manuscripts, at the choice of the two commissaries sent by the Directory. This new species of spoliation, unprecedented in modern history, was brought into a regular system, and carried on in all countries conquered by the French armies. Some of the scientific and learned men of France, whom were Monge and Berthollet, went in succession to Parma, Milan, Bologna, Rome, and afterwards to Venice and Naples, to take an inventory of the works of art, from among which they chose the best, and sent them to France.

While these things were going on south of the Po, the
court of Vienna was preparing a fresh army for the recovery of Lombardy. Marshal Wurmser, a veteran officer of considerable reputation, was detached with 50,000 men from the Army of the Rhine to reinforce the Emperor in Tyrol, where he collected the remains of Beauhain's troops and the Tyrolese levies, forming altogether an army of between 50,000 and 60,000 men. Bonaparte's army was not quite 50,000, of which part was stationed round Mantua to hold the passes of the Alps, and the rest before Verona and Vincenza. Towards the end of July, Wurmser, with the main body of his troops, advanced from Trento by the eastern shore of the Lake of Guards, towards Verona, while another corps under Quosnadowich marched by the western shore to Salò and Brescia, and by the two places it discovered the French away. Bonaparte, after some hesitation, hastily raised the siege of Mantua, leaving his battering train, and collected the best part of his forces to meet Quosnadowich as the weaker of the two generals. He attacked him at Lonato, drove him back into the mountains, and then turned quickly to the right to face Wurmser, who, having passed Verona, had entered Mantua, destroyed the French entrenchments, and was now advancing by Castiglione, from whence he had driven away the French under General Valette. This was a critical moment in Bonaparte's career, and it is said he was in doubt whether to fall back on the Po, but was dissuaded by Augereau. On the 3rd of August the French retook Castiglione after an obstinate combat. Wurmser however took up a position near the town, where he placed his right on the 29th, and the Emperor's forces were, with the loss of his cannon and several thousand men, Wurmser withdrew beyond the Mincio, and afterwards up the Adige into the Tyrol, followed by the French, who attacked and defeated an Austrian division at Roveredo on the 4th of August. Bonaparte then changed his position, and suddenly crossed the mountains that divide the valley of the Adige from that of the Brenta, and entered Bassano, where he joined by some reinforcements from Carinthia, intending to march down again towards Verona and Mantua. But the Emperor forced him quickly by the same road, and attacked and routed him at Bassano. Wurmser had now hardly 16,000 men left, and his artillery being lost, and his retreat cut off, he took the bold resolution to cut his way to Mantua, and shut himself up in that fortress. With a rapidity of movements the French divisions, and the intricacy of their manoeuvres, can only be appreciated by a description of the events of the 14th and 15th. A third general and a third army were sent by Austria into Italy in the autumn of the same year. Marshal Alvinzi, an officer of some reputation, advanced from Carinthia by the way of Belluno with 30,000 men, while General Daviukovich, with 20,000, descended from the Tyrol by the valley of the Adige. They were to meet between Peschiera and Verona, and proceed to relieve Wurmser at Mantua. Bonaparte, who was determined to attack Alvinzi before he could form his junction, gave him battle at Le Nove, near Bassano, on the 14th September. Hereupon the higher efforts of Massena and Augereau, he could not break the Austrian line, and next day he retreated by Vicenza to Verona. On the same day Vaubois, whom Bonaparte had overlooked, was driven away from Trento and Roveredo with great loss, and obliged to fall back to Rivoli and La Corona. Had Daviukovich followed up his success, he might have pushed on to the plains on the right bank of the Adige near Verona, and have placed Bonaparte in the dilemma of what to do. But on the 14th, with Alvinzi on his left flank, Daviukovich in his rear, and instead of advancing, Daviukovich stayed ten days at Roveredo. Alvinzi meantime had advanced by Vicenza and Villanova to the heights of Calidoro facing Verona, where he waited for Daviukovich's appearance. Bonaparte attempted, on the 12th November, to dislodge Alvinzi from Calidoro, and in the attempt he lost he was obliged to withdraw his troops again into Verona. He wrote next day a desponding letter to Paris, in which he recapitulates his losses, his best officers killed or wounded, his soldiers exhausted by fatigue, and himself in danger of being surrounded. He however determined to make a last effort to dislodge Alvinzi by turning his position. With two divisions under Massena and Augereau, he attacked Alvinzi on the 15th, followed the right bank of the Adige, crossed that river at Ronce early next morning, and moved quickly by a cross road leading through a marshy country towards Villanova in the rear of Alvinzi, where the Austrian baggage, stores, &c., were entrenched. He captured the post of Ronta, and advanced by surprise between the French and Villanova. The French attempted to pass it by the bridge of Arcole, but found it defended, and this led to the celebrated battle of that name, which lasted three days, and which was unquestionably the hardest fought in all those which fall under the name of the Austrian War. On the 17th Bonaparte succeeded in turning the position of Arcole, when Alvinzi thought it prudent to retire upon Vincenza and Bassano, where the Austrians took up their winter quarters. Bonaparte wrote to Carnot after the action of the third day: 'Never was a field of battle so exhausted and contested: our enemies were numerous and determined. I have hardly any general officers left.' They were almost all killed, wounded, or prisoners.

On the same day that Bonaparte obliged Alvinzi to retire from the Adige, Daviukovich, rousing himself from his incognito inaction, pushed down by Aila on the Adige, drove Vaubois before him, and entered the plains between Peschiera and Verona. But it was now too late; Bonaparte turned against him, and obliged him quickly to retreat his army back to Roveredo. Thus ended the third campaign of the year 1796.

Bonaparte had now some leisure to turn his attention to the internal affairs of the conquered countries. The Milanese in general remained passive, but the people of Milan were eager to be admitted into an independent state. Bonaparte himself had not directly encouraged such manifestations, but his subalterns had; and indeed the revolt of Reggio, which was the first Italian city that proclaimed its independence, was begun by a body of Corsican pensioners, who were passing through on their way to the army. (Count Paradisi, Lettera a Carlo Rotta.) Bonaparte allowed Modena, Reggio, Bologna, and Ferrara to form themselves into a republic, which was called Cispadene. As for the Milanese, the Directory wrote that the acts of the Reggio were innovations which it was necessary to restore that country to the emperor at the peace. Bonaparte has clearly stated his policy at that time towards the North Italians in a letter to the Directory 28th December, 1796. 'There are in Lombardy (Milanese) three parties: 1st, the friends of the old governments; 2nd, which aims at liberty and a national government, and that with some degree of impatience; 3rd, the party friendly to Austria and hostile to us. I support the first, restrain the second, and put down the third. For the moment I have no care of the third. But there are also three parties: 1st, the friends of the old governments; 2nd, the partizans of a free constitution, though somewhat aristocratical; 3rd, the partizans of pure democracy. I endeavour to put down the first; I support the second because it is the party of the great proprietors and of the clergy, who exercise the greatest influence over the masses of the people, whom it is our interest to win over to us; I restrain the third, which is composed chiefly of young men, of writers, and of people who, as in France and elsewhere, love liberty merely for the sake of revolution.'

The pope found that he could not agree to a peace with the Directory, whose conditions were too hard, and consequently, after paying five millions of livres, he stopped all further remittances. Bonaparte, after discovering in his dispatches the abruptness of the Directory, and saying that it was impolitic to make too many enemies at once while Austria was still in the field, repaired to Bologna in January, 1797, to threaten the Roman states, when he heard that Alvinzi had crossed the Adige and was marching down to Roveredo. The Austrian marshal had received reinforcements which raised his army again to 50,000 men. He marched them in several columns, threatening several points at once of the French line on the Adige, and Bonaparte for awhile kept him where he was, making no attempt to stop him. He learnt however through a spy that the main body of Alvinzi was moving down from the Tyrol along the right bank of the Adige upon Rivoli, where Joubert was posted. On the 13th Bonaparte hurried from Verona with
Massena's division to Rivoli, and on the 14th the battle of Rivoli took place. Alivini, calculating upon having before him only a retreat, had extended his line with the view of surrounding Massena and cutting off his retreat by a detachment of Austrians, and twice retreated by the French, Massenas, and afterwards Ney, with his division, coming to Joubert's assistance, carried the day. Alivini's scattered divisions were broken and driven, and Massena himself, who had seen his division under General Provera had most fortunately escaped the attack of Garibaldi and Wurmser, and arrived outside of Mantua, where Provera attacked the entrenchments of the besiegers, while Wurmser made a sortie with part of the garrison. Massena, with a small force of Austrians, was at the battery driven back to Belluno at the foot of the Neric Alps. Soon after, Wurmser being reduced to extremities for want of provisions, the garrison having exhausted their last supply of horse-flesh, and being much reduced by disease, offered to capitulate. The Austrian soldiers, especially in their hurried retreats, when discipline became relaxed, plundered and killed on the way; the French plundered, violated the women and committed every sort of excess in the villages and scattered habitations; the towns were laid under a regular system of plunder by the French commissaries, by requisitions of provisions, clothes, horses and carts, and forced contributions of money. At the same time the greater part of the men of the flower of the army were butted little to the comforts of the soldiers, but went to enrich commissaries, purveyors, contractors, and all the predatory crew that followed an invading army. Bonaparte, although he had not been able to defend the states of former years, was strengthened by the flight of those troops that had survived the disasters of the former campaigns. Bonaparte, on the contrary, had an army now superior in number to that of the Austrians, flushed with success, and reinforced by a corps of 20,000 men from the Rhine under the command of General Gourgaud. Bonaparte attacked the archduke on the river Tagliamento, the pass of which he forced; he then pushed on Massena, who forced the pass of La Pontebba in the Neric Alps, which was badly defended by the Austrian General Qazda. The archduke was met by a multitude where he fought in person; but was at last obliged to retire, which he did slowly and in an orderly manner, being now intent only on gaining time to receive reinforcements and to throw the greater part of his army into a position to advance rapidly upon the capital of Austria and to frighten the emperor into a peace. He was not himself very secure concerning his rear, as he could not trust in the neutrality of Venice which he himself openly violated. He was also informed that an Austrian column under General Laudon, after driving back the French opposed to it, had advanced again by the valley of the Adige towards Lombardy. Had this movement been supported by a rising in the Venetian territory, Bonaparte's communications and that of the emperor, between the two countries, would have been dispersed by the spirit of theideas he held of Italy. The archduke at length, pressing in upon me, sent me a letter from the emperor, saying: "You are an traitor to the republic. Who are you to conquer, your own Germany will feel all the ravages of war. Cannot we come to an amicable understanding? The French Directory wishes for peace. . . ." To this note the archduke returned a civil answer, saying he had no commission for treating of peace, but that he had written to Vienna to inform the emperor of his (Bonaparte's) overtures. Meantime Bonaparte continued to advance towards Vienna and the archduke to retire before him, without any great advantage to the latter. It would have been better that the archduke's advice was to draw the enemy farther and farther into the interior of the hereditary states, and then make a solid stand under the walls of Vienna, while fresh troops would have time to come from Hungary and from the Rhine, and the whole population would rise in the rear of the French army and place Bonaparte in a desperate situation. But there was a party at the court of Vienna anxious for peace. Bonaparte had now arrived at Judenberg in Upper Austria, about eight days' march from Vienna. The citizens of that capital, under their walls for more than a century, were greatly alarmed. The cabinet of Vienna resolved for peace, and Generals Bellegarde and Meerfeldt were sent to Bonaparte's head-quarters to arrange the preliminaries. It would have been better that the negotiations began at the village of Lobon, and the

No. 287. [THE PENNY CYCLOPEDIA.]

VOL. V.-R

The penal troops, to the number of about 8000, were posted along the river Semin between Imola and Faenza, but after a short resistance they gave way before the French, who immediately occupied those places, and the Marquis of Tolomei, where he received deputies from Fiume VI, who sued for peace. The conditions dictated were fifteen millions of livres, part in cash, part in diamonds within one month, and as many again, within three months; the cession of the town of Ancona till the general peace, and an additional number of paintings, statues, and MSS. On these terms the pope was allowed to remain at Rome a little longer. The Directory wished at first to remove him altogether, but Bonaparte, fearing the importance of religion and the influence over nations, and he treated the pope's legate, Cardinal Mattei, with a courtesy that astonished the free-thinking soldiers of the republic.

Austria had meantime assembled a new army on the Rhine, and Bonaparte was given to the Archduke Charles, who had acquired a military reputation in the campaigns of the Rhine. But this fourth Austrian army no longer consisted of veteran regiments like those that had fought under Beauju, Wurmser, and Alivini; it was recruited at the expense of those troops that had survived the disasters of the former campaigns. Bonaparte, on the contrary, had an army now superior in number to that of the Austrians, flushed with success, and reinforced by a corps of 20,000 men from the Rhine under the command of General Gourgaud. Bonaparte attacked the archduke on the river Tagliamento, the pass of which he forced; he then pushed on Massena, who forced the pass of La Pontebba in the Neric Alps, which was badly defended by the Austrian General Qazda. The archduke was met by a multitude where he fought in person; but was at last obliged to retire, which he did slowly and in an orderly manner, being now intent only on gaining time to receive reinforcements and to throw the greater part of his army into a position to advance rapidly upon the capital of Austria and to frighten the emperor into a peace. He was not himself very secure concerning his rear, as he could not trust in the neutrality of Venice which he himself openly violated. He was also informed that an Austrian column under General Laudon, after driving back the French opposed to it, had advanced again by the valley of the Adige towards Lombardy. Had this movement been supported by a rising in the Venetian territory, Bonaparte's communications and that of the emperor, between the two countries, would have been dispersed by the spirit of the ideas he held of Italy. The archduke at length, pressing in upon me, sent me a letter from the emperor, saying: "You are an traitor to the republic. Who are you to conquer, your own Germany will feel all the ravages of war. Cannot we come to an amicable understanding? The French Directory wishes for peace. . . ." To this note the archduke returned a civil answer, saying he had no commission for treating of peace, but that he had written to Vienna to inform the emperor of his (Bonaparte's) overtures. Meantime Bonaparte continued to advance towards Vienna and the archduke to retire before him, without any great advantage to the latter. It would have been better that the archduke's advice was to draw the enemy farther and farther into the interior of the hereditary states, and then make a solid stand under the walls of Vienna, while fresh troops would have time to come from Hungary and from the Rhine, and the whole population would rise in the rear of the French army and place Bonaparte in a desperate situation. But there was a party at the court of Vienna anxious for peace. Bonaparte had now arrived at Judenberg in Upper Austria, about eight days' march from Vienna. The citizens of that capital, under their walls for more than a century, were greatly alarmed. The cabinet of Vienna resolved for peace, and Generals Bellegarde and Meerfeldt were sent to Bonaparte's head-quarters to arrange the preliminaries. It would have been better that the negotiations began at the village of Lobon, and the
liminaries of the peace were signed by Bonaparte on the 16th. Of the conditions of this convention some articles only were read to the public, viz.: that the Emperor Ferdinand should be the emperor of the Austrian Netherlands and of Lombardy. The secret articles were that Austria should have a compensation for the above losses out of the territory of neutral Venice. This is a transaction which has been loudly stigmatized as an infraction of the pact. The palliation attempted by Bonaparte's advocates, who pretend that the Venetian senate had first violated their neutrality, and that they had organized an insurrection in the rear of the French army while Bonaparte was engaged with the Archduke Charles, or the Emperor Ferdinand, will be best investigated in treating of Venice. [Venice.] Meantime we can only refer our readers to the Raccolta di documenti inediti che formano la Storia diplomatica della rivoluzione e caduta della Repubblica di Venezia, 2 vols. quarto, of Dami and Dalmatia, which contains a detail in his Histoire de Venise. A careful attention to dates is sufficient to refute every attempt to palliate the dishonesty of the French Directory and of Bonaparte in their conduct towards Venice. The correspondence of Bonaparte, published by M. de la Hontiécourt, serves to confirm this view of the events. It says that he seized upon the opportunity of the Austrians having entered Peschiera by stratagem, and without the Venetian senate's consent, in order to frighten the senate into submission to his will. If your object, as said to the Austrian ambassador, was to punish Venice, you have now a fair pretence for it. If you have further views respecting Venice, we may protract this subject of complaint until more favourable opportunities. This was written in June, 1796. He then seized upon the estates of the nuncio of the Church of Venice, and other fortified places of the Venetian state, he made the country support his army, and meantime he favoured the disaffected against the senate, who at last, assisted by the Lombards and Poles in his army, revolted at Bergamo and Brescia, and drove away the Venetian authorities. When the senate armed to put down the insurrection, the French officers stationed on the Venetian territory obstructed its measures, and accused it of arming against the French. They dispersed by force the militia assembled for the purpose, of which the mayor of Padua himself was a member. The conduct of the French having driven the people of Verona to desperation, a dreadful insurrection broke out in April, 1797, which ended by Verona being plundered by the French. Bonaparte now insisted on a total change in the Venetian government, and a view of troops being repulsively introduced into Venice, the Doge and all authorities resigned. A provisional government was then formed, but meantime Bonaparte barred away Venice to Austria, and thus set up a government opposing the aristocratic politicians. He wrote to the Directory 'that the Venetians were not fit for liberty, and that there were no more than 300 democrats in all Venice.' By the definitive treaty of peace signed at Campoformio near Udine on the 17th October, 1797, the emperor Ferdinand yielded the whole of the territory of the Rhine with the city of Mainz; he acknowledged the independence of the Milanese and Mantuan states under the name of the Cispinale republic; and he consented that the French republic should have the Ionian Islands and the Venetian possessions in Albania. The French republic on its part consented (such was the word) that the emperor should have Venice and its territory as far as the Adige, with Istria and Dalmatia. The provinces between the Adige and the Adda were to be incorporated with the Cispinale, the province of the Adda was to have an increase of territory at the expense of the elector of Bavaria, and the Duke of Modena was to have the Brugia.

All this time the democrats of Venice were still thinking of a republic and independence; they had planted, with great solemnity, the tree of liberty in the square of St. Mark, and the French garrison grazed the show. Bernadotte, who knew the conditions of the treaty, forbade a similar pageant at Udine, where he commanded; but another French commander put a heavy contribution on a small town of the Paduan district, 'because the inhabitants had cut down their tree of liberty.' At last the time approached when the French were to evacuate Venice. Bonaparte wrote to Villettard, the French secretary of legation, a young enthusiastic republican, who had just been a martyr to the Venetian revolution, that all the Venetian democrats who chose to emigrate would find a refuge at Milan, and that the naval and military stores and other objects belonging to the late Venetian government must not be burned for their support. Villettard communicated this last proposal to the municipal council, but it was at once rejected; 'they had not accepted,' they said, 'a brief authority for the sake of conciliating in the spoliations of their country. They had been too long, you know, kept in the dark by their guilty allies'; and they gave in their resignation. Villettard, sincere in his principles, wrote a strong letter to Bonaparte, in which he made an affecting picture of the despair of these men, who had trusted in him and now found themselves cruelly deceived. This was the sort of answer which has been often quoted for its unfeeling sneering tone. 'I have received your letter, but do not understand its contents. The French republic does not make war for other people. We are under no obligation to the duchy of Savoy, to pay the price of the destruction of the free state of France, to please a band of declaimers whom I should more properly qualify as madmen, who have taken a fancy to have a universal republic. I wish these gentlemen would try a warmer campaign with me.... And then he went on nobbling on the words of his treaty. The French republic did not deliver Venice into the hands of Austria; that when the French garrison evacuated the place and before the Austrians came, the citizens might defend themselves if they thought proper, &c. &c. As for the cannons, the Austrians sent home, the cannons and other arms removed, the fleet carried off by the French to Corfu, Istria, and Dalmatia already occupied by the Austrians, and the country drained of all resources. However, Serrurier was ordered to the island of Loano, and Bonaparte completed the departure of the fleet, emptied the arsenals, and the stores of biscuit and salt, having sent to sea the ships of war, sunk those that were not fit for sea, and stripped the famous state barge called Bucentoro of all its ornaments and gold, he departed with the French garrison, and the magnificent island of Venice was entered. The Venetian senator Pesaro came as imperial commissioner to administer the oaths. The late Doge Marin while tendering his oath fell into a swoon, and died soon after. Thus ended the republic of Venice, after existing 1100 years. Only the naval power of Italy became extinct, and Italy lost the only colonies which she still possessed.

During the several months that the negotiations for the peace lasted, Bonaparte had time to effect other changes in Italy. He began with Genoa, and the massacres of the democrats. The king of Sardinia, by a treaty with the French Directory, remained for the present in possession of Piedmont. Bonaparte showed a marked favour towards that sovereign; he spoke highly of the Piedmontese troops, and wrote to the Directory that the king of Sardinia with one regiment was stronger than the whole Cispinale republic. Insurrections broke out in several towns of Piedmont, which Bonaparte however openly disconcerted, professing, at the same time, a deep regard for the House of Savoy. His orders for the Massacre of the democrats were made public, and the insurgents having thus lost all hope of support from him, were easily subdued by the king's troops, and many of them were executed. Thus at one and the same time the democrats of Genoa were encouraged by Bonaparte, those of Piedmont were abandoned to the severity of the king, those of Venice were
given up to Austria, and those of Lombardy were despoiled. Bonaparte wrote to the Directory that he had with him only 1500 Cisalpine soldiers, the refuse of the towns, that no reliance could be placed on the democrats, who were but a handful, and that it was not for the present of the French they would be all murdered by the people. (Bonaparte's Correspondance.) He however thought proper to consolidate the Cisalpine republic, and to give it a constitu-
tion. Henceforth, the local authorities were to take care of property, men of science, or men who had distinguished themselves in their respective professions. The republic consisted of the Milanese and Mantuan territories, of that part of the Venetian territory situated between the Adda and the Po, a small part of the Grand Duchy of Milan, and the papal provinces of Bologna, Ferrara, Ravenna, Faenza, and Rimini, as far as the Rubicone. Tuscany, Parma, Rome, and Naples remained under their old princes; all, however, with the exception of Naples, in complete submission to France.

In all these important transactions Bonaparte acted almost as if he were uncontrolled by any authority at home, and often at variance with the suggestions of the French Directory. How it was that Bonaparte did not immediately return to France, is not easy to explain. He was in fact the umpire of Italy. He at the same time supported the power of the Directory in France by offers of his services and addresses from his army, and he sent to Paris Augereau, who sided with the Direc-
tory. He was not only fighting out his own battles, but was also evincing on several occasions but an indifferent opinion of the Directory, calling it a government of lawyers and rhetoricians, unfit to rule over a great nation. (Bourienne, and Napoleon's Memoires by Gourgaud, &c.) He flatly refused, after his first Italian victories, to divide his command with Kollerern; he strongly censured the policy of the Directory with the Italian powers; he signed the preliminaries of Leoben, and withdrew his army from the hereditary states, without waiting for the Directory's ratification. He insisted upon having the regulations that he had made with the Emperor in his resignation if not allowed to do so; he made that peace on his own conditions, though some of those were contrary to the wishes expressed by the Directory, and in the end the Directory approved of all he had done. 'It was a peace worthy of Bonaparte. The Italians may perhaps break out into vociferations, but that is of little con-
squence.' Such were the words of the Directory's minister for foreign affairs, Talleyrand. (Bonaparte's Correspondance.)

After the treaty of Campo Formio Bonaparte was appointed minister plenipotentiary of the French republic at the con-
gress of Rastadt for the settlement of the questions concern-
ing the German Empire. He now took leave of Italy and arrived at Paris, where he arrived in December, 1797. He was received with the greatest honour by the Directory; splendid public festivals were given to the conqueror of Italy; and writers, poets, and artists vied with each other in celebrating his triumphs. Bonaparte was given an ovation and a standing ovation. He however appeared distant and reserved. He was appointed general in chief of the Army of England, but after a rapid inspection of the French coast and of the troops stationed near them, he returned to Paris. The expedi-
tion of Egypt was then secretly contemplated by the Directory. A project concerning that country was found in the archives among the papers of the Duke de Choiseul, minister of Louis XV., and it was revived by the ministers of the Directory. The Directory on their part were not sorry to remove from France, a man whose presence in Paris gave them uneasiness; and Bonaparte warmly approved of a plan which opened to his view the prospect of an inde-
pendent command, while visions of an Eastern empire floated before his mind. He had in his composition some-
thing of that vague enthusiasm of the imagination for remote countries and high-sounding names. At the same time he saw there was nothing at present in France to satisfy his excited ambition, for he does not seem to have thought as yet of the possibility of his attaining supreme power. He believed the French nation, foreseeing that its government must undergo further changes. The expedition having been got ready, partly with the

The fleet arrived before Malta on the 9th of June. The Order of St. John of Jerusalem, as it was called, had never acknowledged the French republic, and were therefore considered by France as enemies. The British fleet, under Nelson, had been asked to go to the assistance of the Order, and Nelson, who was a strong advocate of the abolition of slavery, had at once given his consent. He arrived at Malta on the 6th of June, and after the blockade of the island for two days, the British fleet sailed on board the admiral's ship *L'Orient* in the night of the 19th May, while Nelson's blockading fleet had been forced by violent winds to remove from that coast. The destination of the French fleet was kept a profound secret: 2000 men, chiefly from the army of Italy, composed the land force.

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of musketry and grape shot made fearful havoc among them; and after losing most of their men in desperate attempts to break the French ranks, the remnants of this brilliant cavalry retreated towards Upper Egypt; others crossed the Nile, and retreated towards Syria. This was called the battle of the Pyramids, and was unequivocally a defeat. The French soldiery had won victories too cheaply bought over a barbarian cavalry unequipped with European tactics. Bonaparte two days after entered Cairo without resistance, and assembled a divan or council of the principal Turks and Arab sheiks, who were to have the direction of the country. He pro-


duced a determination to administer equal justice and protection to all classes of people, even to the humblest Fellah, a thing unknown in that country for ages. He established an institute of sciences at Cairo; and he en-
doctrined the people with new good customs, and in the imams, and to some extent he succeeded. It is not true however that he or any of his generals, except Menou, made profession of Islamism. The report originated in a desultory conversation he had with some of the sheiks, who hinted at the advantages that might result to him and his army from the adoption of the religion of the country. It was however a wild idea, unsuited both to him and the sort of men he commanded. It would have made him ridiculous in the eyes of his troops, and would have probably conciliated the Moslem natives. While he was engaged in organizing the internal affairs of Egypt, the destruction of his fleet by Nelson took place in the roads of Aboukir on the 1st and 2nd of August. He was now shut out from all communication with Europe. The French then issued an indignant manifesto, dated 10th September, de-

clairing war against France for having invaded one of his provinces, and prepared to send an army for the recovery of Egypt. A popular insurrection broke out at Cairo on the 22nd of September. The revolutionists plundered the streets were killed. Many however, and especially the women and children, were saved in the houses of the better sort of inhabitants. (Denon’s account of that event.) Bonap-

parte, who was absent, returned quickly with troops; the insurrection was quelled, and the streets took refuge in the Great Mosque, the doors of which they barricaded. Bonaparte ordered them to be forced with cannon. A dreadful massacre ensued within the mosque, even after the bombardment. Five thousand Moslems were killed on that day. Bonaparte then issued a proclamation, in which, imitating the Oriental style, he told the Egyptians that he was the man of fate who had been foretold in the Koran, and that any resistance to him was in vain and fruitless; and he appealed to them as to their most secret thoughts, as nothing was concealed from him.

In the month of December Bonaparte went to Suez, where he received depositions from several Arab tribes, as well as from some Egyptians, who, while giving protection to the great caravan of the pilgrims proceeding to that sanctuary. From Suez he crossed, at ebb tide, over the head of the gulf to the Arabian coast, where he received a deposition from the monks of Mount Sinai. On his return to Suez he was overtaken by the rising tide, and was in some danger of being drowned. This he told Las Cases at St. Helena.

Meantime the Turks were assembling forces in Syria, and Djezzar Pacha of Arabia appointed vassal and commander. Bonaparte resolved on an expedition to Syria. In February, 1799, he crossed the desert with 10,000 men, took El Arish and Gaza, and on the 7th March he stormed Jaffa, which was bravely defended by several thousand Turks and Arabs, and the British had sent a small garrison under General Bosc on, just off the head of the messenger. A great number of the garrison were put to the sword, and the town was given up to plunder, the horrors of which Bonaparte himself in his dispatches to the Directory acknowledges to have been frightful. The Turks were all sent to Damascus, and many men were quartered in the fort and other buildings, until at last they surrendered as prisoners. They were then mustered, and the natives of Egypt being separated from the Turks and Arousauts, the latter were put under a strong guard, but were supplied with provisions. So, two days after, on the 9th, this body of prisoners was marched out of Jaffa in the centre of a square battalion commanded by General Bon. They proceeded to the sand-hills S.E. of Jaffa, and there being divided into small bodies, they were put to death in masses by volleys of musketry. Those who fell wounded were finished with the bayonet. The bodies were heaped up into the shape of a pyramid, and their bleached bones were still to be seen not many years since. Such was the massacre of Jaffa, which Napoleon at St. Helena pretended to justify by saying that these men had formed part of the garrisons of El Arish and Gaza, upon transports of which they had been allowed to return home on condition of not serving against the French;—on arriving at Jaffa however, through which they must pass, their countrymen retained them to strengthen the defence of that place. It may be seen that Napoleon did not like his men, who were the identical men of El Arish or Gaza. But however this may be, it is true that the Turks did not at that time observe the rules of war among civilized nations, and therefore, it may be said, were liable to be treated with the utmost severity in case of fresh encounters. This massacre, because done in cold blood and two days after their sur-

render. The motive of the act however was not wanton cruelty, but policy, for getting rid of a body of deter-


dined men, who would have exerted the French as prisoners, or increased the ranks of their enemies if allowed to live. This is the only apology, if apology it be, for the deed.

Another and a worse reason was, the old principle of Bonaparte’s striking terror into the country which he was invading. A number of Turks of the old and experienced sort, with the North Italians or the Fellahs of Egypt, failed of its effect when applied to the Turks or the Arabs; it only made them more desperate, as the defence of Acre soon after proved. Most in his Memoirs has, it seems, made a mistake as to the number of the garrisons of the forts; he states that at two or three thousand; they were about 1200.

At Jaffa the French troops began to feel the first attack of the plague, and their hospitals were established in that town. On the 14th the army marched towards Acre, which they reached on the 16th. The 10 August, Acre was invested. A severe battle was fought on the 1st September, but the French, in spite of all their efforts, were unable to take the city, and finally it surrendered on the 20th. Of the garrison of Acre 7,120 were slain. This was a signal victory for the Emperor of France. After this he was at once recognized by all the powers; the other attempts Bonaparte ordered an assault on a wide breach which had been effected in the curtain. General Lannes led the column. Djezzar gave orders to let the French come in, and then close upon them man against man, in which sort of combat the Turks were sure to have the ad-
among the rest, who examined the monuments of Thebes, Dendera, Ebfou, &c. From their observations the splendid work on Egypt was afterwards compiled.

Towards the end of July Bonaparte being informed that the Turkish fleet had landed 18,000 men at Aboukir, under Seid Mustapha Pacha, immediately assembled his army to attack them. He had formed a cavalry, which was commanded by Murat; the Turks had none. The Turks had entrenched themselves not near enough to the coast to attack their advanced posts and drove them back upon their entrenchments; but the Turkish guns checked their advance, and threw the foremost of the assailants into disorder. The main body of the Turks then sailed out, but in the eagerness of pursuit the French found they were charged by the French, both infantry and cavalry, routed, and followed into their entrenchments, where they fell into inextricable confusion. About 10,000 of them took to the sea. Only about 4,000 were captured, and they appeared covered with their turbans. Six thousand men received quarter, together with the pachas, whom Bonaparte condescended to praise for the courage he had displayed. This victory of Aboukir, fought on the 2nd July, 1799, closed Bonaparte's Egyptian campaign. It was not only a victory that Bonaparte received intelligence of the state of France, through the newspapers, and also by letters from his brothers and other personal friends. He learnt the disasters of the July revolution, the loss of Italy, the insurrection, and the faction prevailing in France against the Directory, and the intrigues and animosities among the directors themselves, and between them and the legislative councils. He determined at once to return to France. He kept it however a secret, and ordered the British fleet under Lord Byron to lie off the crossing of Alexandria to be got ready for sea, and having ordered his favourite officers, Murat, Lannes, Berthier, Marmont, and also MM. Monge, Denon, and Berthollet to meet him at Alexandria, he left Cairo on the 15th August, and on the 23rd boarded the frigate La Muiron on the 23rd. He took leave of Kleber, whom he left in command, only by letter. He left in Egypt 20,000 men, having lost about 9000 in his campaigns. The English fleet had gone to Cyprus to get provisions, and the British squadron, under Reynolds, was lying in the road of the English cruisers. It is said he has read during the passage both the Bible and the Koran with great assiduity. On the 30th September the two frigates entered the gulf of Ajezoio; on the 7th October they sailed again, and passing unnoticed through the English squadron, they anchored on the 9th in the gulf of Frejus, to the eastward of Toulon. The usual forms of quarantine were dispensed with, and on his landing he was received with applause by the inhabitants. In the various towns on his road to Paris, he was received with great enthusiasm, especially at Lyon, where the Rhone had broken its banks. People were tired of the Directory, which had shown both incapacity and corruption, and to which they attributed all the late misfortunes of France. [BARRAS.] The Directory was sitting for a change, and had already the sound of a storm. He was received with great enthusiasm by the people. Bonaparte decided on joining Sieyes, and giving him his military support; the day for attempting the proposed change in the constitution was fixed between them and their friends.

The Council met at six o'clock in the morning of the 18th Brumaire (9th Oct. 1799) at the Tulleries; but several of the leading members of the republican party were not summoned. Cornudet, Lebrun, and other members in the interest of Sieyes, spoke of dangers which threatened the Republic, of corruption among the Directory, of a return of the reign of terror, &c. The majority of the council were either in the secret, or were really agitated by fear of the Jacobins. The council adopted a resolution, according to the powers given to it by the constitution, by which the two councils were appointed to meet at St. Cloud the next day, in order to be safer from any attempts of the
mob of the capital. By another resolution General Bonaparte was authorized to suppress in arms, on his own responsibility, Paris, and charged with protecting the safe removal of the council. A message signifying this appointment, and summoning him to appear before the elders, was carried to Bonaparte while he was in the midst of his military labors. The attachment of his friends, his family, his friends, and all the officers to follow him. The greater number did so; but Bernadotte and a few more declined the invitation. Bonaparte had been talking privately with Bernadotte, but could not win him over to his side; he found him 'as stiff as a bar of iron.' Bonaparte had given his orders to the adjutants of the various battalions of the national guards and to the commanding officers of the regular troops which were formed in the Champs Elysées, repaired to the Council of Elders, surrounded by a numerous retinue of officers, and was received by M. Murat, and Le Fèvre, who commanded the National Guards. He told the council that they represented the wisdom of the nation, that by their resolutions of that morning they had saved the Republic, that he and his brave comrades would support them, and signified this in his address names. Coming out of the hall he read to the assembled troops the resolutions of the elders, which were received by the soldiers with bursts of applause.

Meantime the three directors, Barras, Mounier, and Cuautemoc at the Luxembourg, after Sieyes and Ducos had gone to the Tuileries, and given in their resignation, became alarmed. They had no force at their disposal; even their own personal guard had deserted them. Barras sent his secretary Botot to endeavour to negotiate with the directors, in the name of the National Guards, in the midst of his officers, and assuming the tone of an angry master upbraided the directors with their misconduct:

'What have you done with that France which I left to you preserved to the last grain? I leave it at peace; and I find her at war; I leave her triumphant, and I find nothing but spoils and misery. What have you done with a hundred thousand Frenchmen whom I left behind, my companions in arms and in glory? They are no more....'

For ten minutes, in the name of the National Guards, M. Botot pressed the ministers towards Barras, and assured him of his personal protection if he immediately abdicated. Talleyrand had meantime seen Barras, who, fearing perhaps to expose himself to an investigation of his official conduct, consented to resign. He wrote a letter to the Council of Elders to that effect, and then set off for his estate in the country under an escort which Bonaparte gave him. [BARRAS.] Ghioria and Mounier being thus left alone did not constitute the number required by the constitution in order to give their de- lict, and consequently an examination of an executive act of the three is to be sent by Bonaparte to guard the palace of the Luxembourg, and in fact to keep the two directors prisoners there.

The Council of Five Hundred having met at 10 o'clock on the same day, received a message from the elders, adjourning the sitting to St. Cloud for the next day. They separated amidst cries of 'The Republic and the Constitution for ever!'

Fouché, the minister of police, Cambacérès, minister of justice, Talleyrand, and other influential men, seconded the views of Bonaparte and of Sieyes. The power of the directory was at an end. The question was, what form of government should be substituted for it. It was agreed at last that the council should adjourn themselves to the following year, after appointing a commission for the purpose of framing a new constitution, and that meantime an executive should be formed consisting of three consuls, Sieyes, Ducos, and Bonaparte. These measures it was known would obtain a majority in the Council of Elders, but would meet with a determined opposition in that of the Five Hundred.

On the 19th Brumaire (10th November) the councils assembled at St. Cloud. The republican minority in the Council of Elders complained loudly of the hasty and irre- parable consequences of the preceding proceedings, that the debate Bonaparte appeared at the bar, accompanied by Berthier and his secretary Bourrienne, the latter of whom gives an account of the scene. He told the deputies that they were treading upon holy ground, that he and his brethren in arms came to offer their services. He was disinterested, 'and yet,' he added, 'I am calumniated, I am compared to Cromwell, to Caesar.' This was uttered in a raubing, broken manner. Liget, one of the minor-

"General, will you swear to the constitution of the 19th Brumaire?" Bonaparte answered, "I will.

"The constitution!" he cried out, 'you violated it on the 18th Fructidor [AUGEREAU], you violated it on the 22nd Floréal, you violated it on the 30th Prairial. All parties by turns have appealed to the constitution, and all parties have been refused. The constitution is dead. End it. End it! we will make a new constitution, let us at least preserve liberty and equality.' He then talked of conspiracies, of danger to the Republic, &c. Several members insisted on the General revealing these conspiracies, explaining these dangers. Bonaparte, as usual, silent, explained nothing. Mounier and Barras, who had proposed to him to take the lead in the conspiracy, this increased the vociferations among the members: 'The General must explain himself, every thing must be told before all France.' But he had nothing to reveal. He only replied, 'My name is Mounier.' To a member of the convention, M. Mercoeur, he added: 'You who wanted to re-establish the convention and the reign of terror. His sentences became incoherent, he was confused, but at last he said, 'If any orator, paid by foreigners, attempts to put me out of the pale of the law, let him beware! I shall ascertain what to do. Several members crowded around him: entrance of this hall.' Bourrienne and Berthier advised him now to withdraw, and they came out together, when Bonaparte was received with acclamations by the military assembled before the palace.

The Council of Five Hundred had also assembled. Its president, Lucien Bonaparte, read aloud the resignation of Barras, which had been forwarded by the Council of Elders. Some of the leaders then proposed to repeat the oath of fidelity to the Constitution, which was carried by acclama-

"Nay, our Constitution!' cried out the deputy Augusteur, who was present, went out and told Bonaparte what was passing in the council. 'You have placed yourself in a pretty situation.'—'Augusteur, replied Bonaparte, 'remains; he was still worse at one time. Keep quiet, and in half an hour you will see.' He then entered the Council of the Five Hundred, accompanied by four grenadiers. The soldiers remained at the entrance, he advanced towards the middle of the hall, un- accompanied. "We will have no dictator, no soldiers in the san-

cuary of the laws. Let him be outlawed! he is a traitor!' Bonaparte attempted to speak, but his voice was drowned in the general clamour. He was confused, and seemed un-
certain what to do. Several members crowded around him: a cry of 'Let us save our General!' was heard coming from the door of the hall, and a party of grenadiers rushed in, placed Bonaparte in the midst of them, and brought him out of the hall. One of the grenadiers had his coat torn in the struggle, and the soldiers demanded his pay. The draw against Bonaparte appears to be unfounded. In the confusion of the moment Bonaparte may have fancied it. Lucien, after the departure of his brother, attempted to pacify the council, but the exasperation of the members was too much for him. When the news was brought to Bonaparte, Lucien refused to put it to the vote, saying, 'I cannot outlaw my own brother,' and he deposed the insignia of president, and left the chair. He then asked to be heard in his brother's defence, but he was not listened to. At this moment a party of grenadiers came around the hall. Lucien put himself in the midst of them, and they marched out. He found the military outside already exasperated at the treatment their general had re-

ceived. Lucien, on hearing all this, and finding the crowd cried out to them, that factious men, armed with daggers, and in the pay of England, had interrupted by violence the deliberations of the Council of Five Hundred, and that he, in his quality of president of that assembly, requested them to employ force against the instigators of the disturbances. That the assembly of the Five Hundred is dissol

This address of Lucien decided the business. The soldiers felt no more scruples in obeying the orders of the president. M. Murat entered the hall of the Council, at the head of a de-
gnate of grenadiers. The situation of the business was one of disorder. The deputies to disperse, but was answered by loud vociferations, exclamations, and shouts of 'The Republic for ever!' The drums were then ordered to be beat, and the soldiers to clear the hall. They levelled their muskets, and the grenadiers fired a few rounds. This was sufficient; the windows were jumped out of the windows, others went out quietly by the door. In a few minutes the hall was entirely cleared. In this affair the military were the instruments, and Lucien
The chief direction. It is well here to quote the words of Lucien, who after a lapse of thirty years, filled with strange vicissitudes, has lately reverted to this subject, in a pamphlet in answer to General Lamarque's "Memoirs." 'We were convinced that the immense majority of the French would approve our proceedings; but our audacity did not wish to place the nation at the disposal of the dukes of France, and for this we hesitated....' The pursuit of so many objects was for a moment confused, not as it has been absurdly asserted through weakness, but because he was going to usurp a right which he had not then,—the right of dissolving the legislature. Yet, in view of the scaffold and the stigma of traitors, which would have been our lot had we failed, without having time to take the votes of the nation upon our bold attempt. If Napoleon wavered a moment, he soon conquered his hesitations. And so it was with the senate. It was only a moment of indenmity by raising my brother to the consulate, and afterwards (unluckily perhaps) to the empire.' (Réponse de Lucien Bonaparte, Prince de Camino, aux Memoires du General Lamarque, London, 1835). And in another place he says, that 'the appeal of the councils to the constitution was an inconsistency, as that constitution had been already violated by themselves on the 18th Fructidor (1797). On that day the legality of the councils was lost; the invalidity of the Council of Five Hundred could only have consequences for the police. We must seek a solution to the constitution. Beyond this there is no more legality for any one of the branches of the legislature.' One might go further back than the 18th Fructidor, and question the legality of the 13th Vendémiaire, in which Bonaparte had sat to the consternation of the constitution. The result of the overthrow of the constitutional monarchy in 1792, would be merely a waste of time.

On the night of the same day (19th Brumaire) the elders assembled again, and agreed that a provisional executive of three consuls, in conjunction gave in the favour of the country, and the country, and the country, and the country. Lucien assembled a small minority, some say only thirty members, out of Five Hundred, who on that night passed several resolutions, by one of which it was stated that there was no longer a directorate, and that the constitution, such as the consuls had been drawn up, were declared to have forfeited their seats in consequence of their violence and their crimes. By another, three provisional consuls were appointed, Sieyes, Ducos, and Bonaparte. At one o'clock in the morning, Bonaparte took the oath before the council. At three o'clock the two councils adjourned for three months, after appointing a commission to revise the constitution.

Everything was then quiet at St. Cloud, and Bonaparte returned to Paris with Bourrienne. After quietly the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and the and 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France was still at war with Austria, England, and the Porte. Bonaparte sent Duroc on a mission to Berlin, by which he confirmed Prussia in its neutrality. The news of Paul of Russia had withdrawn from the conference after the battle of Zorich, 25th September, 1799, in which Massena gained a victory over the Russian army. Bonaparte now wrote a letter to the king of England, expressing a wish for peace between the two nations. Lord Stirling, secret agent of Britain, took the letter, but the French admiral had a prompt and a plain answer, expressing doubts as to the stability of the present government of France, an uncertainty which would affect the security of the negotiations; but disclaiming at the same time any claim to preserve the status quo, he added that in whose hands she shall vest the authority necessary for conducting the affairs of a great and powerful nation. His Majesty looks only to the security of his own dominions and those of his allies, and to the general safety of Europe. But in the event of a breach of the peace, he can in any manner be attained, His Majesty will eagerly embrace the opportunity to concert with his allies the means of immediate and general pacification. Unhappily no such security hitherto exists; no sufficient evidence of the principles by which the necessità were rectified, no reasonable grounds by which to judge of its stability. This correspondence was the subject of animated debates in the British parliament. (Parliamentary Register for the year 1800.)

Bonaparte made an overture in compliance with the general wish for peace, but he says himself that he was not sorry it was rejected, and that the answer from London filled him with secret satisfaction, as war was necessary to maintain energy and union in the state, which was ill ordered, ill governed, and ill supported by the confidence of the people. (Monttholon, Memoirs of Napoleon, vol. i., note on Pitt’s policy.) Bonaparte at the same time succeeded in putting an end to the civil war in La Vendée: he entered into negotiations with the principal Vendean chiefs, offering a complete amnesty to all who, before the sound of the trumpet, time to send troops to La Vendée to put down any further resistance. The royalist party had gained considerable strength; owing to the weak and immoral policy of the Directory, many officers of the republic, both civil and military, went over to the Vendée, and the government was on the point of confiding to Bonaparte, they preferred anything to anarchy, and the return of the reign of terror. But the temperate and yet firm policy of the first consul effected a great alteration in public opinion. They saw the perfidy and the meanness of the officers under government were filled with men from all parties, chosen for their fitness. ‘We are creating a new army,’ said Bonaparte; ‘of the past we must remember only the good, and forget the evil. Times, habits of business and experience, have formed many able men and modified many characters.’ Agreeably to this principle, Fouché was retained as minister of police. Berthier was made minister at war instead of Dubois Cramé, the minister of the Directory, who could give no returns of the different corps, and who answered all questions by saying—We must communicate with the army, not with the ministers, it resists and clothes itself by requisitions on the inhabitants.

The churches which had been closed by the Convention were re-opened, and Christian worship was allowed to be performed all over France. The Sabbath was again recognized by law as Sunday, and the computation by weeks resumed. The festival of the 21st January, being the anniversary of the death of Louis XVI., was discontinued. The oath of hatred to royalty was suppressed as useless, now that the republic was firmly established and acknowledged by all, and as being an obstacle to the good understanding between France and the other powers. At the same time the sentence of transportation passed on the 19th Brumaire, on fifty-nine members of the former Council of Five Hundred, was changed into their remaining a distance from Paris, under the surveil-lance of the police.
mida in font of Alessandria. On the 14th of June Mela
crossed the Bormida and three columns attacked the
French. The Austrians carried the village of Marengo,
and drove the French back upon that of San Giuliano,
which was attacked by a column of 5000 Hungarian
grenadiers. At four o'clock in the afternoon the battle
seemed lost. For a time, Joffre was not thinking on all points, and in
considerable disorder, and the Austrians, seeing a division
attacked the advancing column, while the younger
Kellerman with a body of heavy horse charged it in flank.
The column was broken, and General Zach, the Austrian
second in command, and his staff, were taken prisoners.
The commander, thinking the old French officers
exhausted with fatigue, and thinking the battle won,
had just left the field and returned to Alessandria.
The other French divisions now advanced in their turn, a panic
spread among the Austrians, who, after fighting hard all
day, had thought themselves sure of victory, and they fled
in confusion towards the Bormida, many being trampled
down by their own cavalry, which partook of the general
disorder. The Austrian official report stated their loss in
killed, wounded, and prisoners at 9069 men, and 1423
horses. The French stated their own loss at 4600 men
and that of the Austrians at 12,000. But the loss of
the French must have been greater. Desaix was
shot through the breast in the charge; he fell from his horse, and
telling those around him not to say anything to his men, he expired
in the arms of his faithful friend. An armistice was concluded on the 16th of June between
the two armies, by which Melas was allowed to withdraw
his troops to the line of Mantua and the Mincio, the French
keeping Lombardy as far as the river Oglio. Melas, on his side, could not keep Piedmont and the Genoese territory, with all
their fortresses, including Genoa and Alessandria, to the
French.
Bonaparte having established provisional governments at
Milan, Turin, and Genoa, returned to Paris, where he ar-
rived on 29th of July, and enthusiasm was revived with the
hope of the French.
The battle of Marengo had wonderfully con-
solidated his power, and increased his influence on the opinion
of the French. Negotiations for peace took place between
Austria and France; Austria however refused to treat without
England, and Bonaparte demanded an armistice as a
condition. A convention was signed at Milan.
Egypt were then on the point of surrendering to the Eng-
lish, and Bonaparte wished to send reinforcements to those
countries during the naval armistice. This was refused by
England, and hostilities were resumed by sea and by land.
Moreau defeated the Austrians commanded by Arch
duke John, in the great battle of Hohenlinden, and ad-
vanced towards Vienna. The French in Italy drove the
Austrians beyond the Adige and the Brenta. (For all this war of 1800 see Précis des Evenements Militaires, par Ma-
thiessen.)

Austria was now obliged to make a separate peace. The
treaty of Lunelwe, 9th February, 1801, arranged by the two
plenipotentiaries, Count Cobenzel and Joseph Bonaparte,
was mainly grounded on that of Campoformio. Austria re-
tained the Venetian territories, but Tuscany was taken away
from the Grand Duke Ferdinand, and bestowed upon Louis,
son of the Duke of Parma, who had married a princess of
Spain. Through the mediation of the Emperor Paul of
Russia, with whom Bonaparte was now on very friendly
terms, these years of occupation by France, the year before,
was acknowledged by Bonaparte, and left in full possession of his territories, except the legations which
had been annexed to the Cisalpine republic. In the course
of the same year negotiations were begun with England, where
Mr. Pitt had succeeded Mr. Pitt as prime
minister. Egypt and Malta having surrendered to the
English, the chief obstacles to peace were removed. The
preliminaries of peace were signed at Paris on the 10th of
October, 1801, and the definitive treaty was signed at
Amiens, 24th April, 1802. By this treaty France was
confirmed in the conquests of 1792, the
Malta should be restored to the Knights of St.
John, and the forts be occupied by a Neapolitan garrison.
The independence of the Cisalpine, Batavian, Helvetic, and
Ligurian republics was guaranteed. Egypt was restored to the suzerain, the Caliph of Great Hope to Holland, the
French West Indies, the Italian islands of Elba, and restored
the island of Ceylon.

Bonaparte had shown at this period an earnest desire for
peace, which France stood greatly in need of. Both royal-
ists and republicans were dissatisfied with his dictatorship.
Joseph Aenus, Corsican, and brother of Bonaparte, a
depand of the Council of Five Hundred, who had warmly opposed
Bonaparte on the 19th Brumaire, Cerecchi and Diana,
Italian refugees, and several other violent republicans,
formed a conspiracy against Bonaparte's life; but they
were discovered and imprisoned. Soon after a fresh con-
spiracy of the same nature was discovered. In a letter, sent to
the Directory, Count de la Ciotat, which was read out in
the Assembly, said that the execution of ten million
persons united, was near terminating the life of the first consul.
As Bonaparte was passing in his carriage through the Rue
Nicaise on his way to the Opera, 24th December, 1800, a
harmless explosion of several barrels of gunpowder in a
harness shop on one side of the road, destroyed several
houses and killed many persons. Bonaparte's carriage
had just passed, owing to the furious driving of the coachman,
who was half intoxicated, and who made his way through all
obstacles that had been purposely placed on the road.
The police, therefore, had only two or three royalists
connected with the Chouans in the west of France.
They were tried and executed. At the same time Arena and
his republican friends, who had been already found guilty,
although, it was said, upon evidence not quite conclusive,
were brought to their confirmation and executed. By a
Senatus Consultum, for such the decrees of the Senate were
styled, 130 known leaders of the old Jacobin party, several
of whom had participated in the atrocities of the reign of
terror, were ordered to be transported beyond the seas. Bu-
onaparte then limited the number of those banished to
Jacobs and Bourbonists. A law passed the legislative
body empowering the executive to banish from Paris, and
even from France, persons who should express opinions
inimical to the present government. By another law, which
was also passed, the ministers and officials were afterwards sanctioned by the legislative body, special crimi-
nal courts were established to try all persons accused of
treason against the state. The secret police was now or-
organised with the utmost skill by Fouche, and numerous
persecutions were made by them. As to the general police, there was a military police, and another
police establishment under Bonaparte himself, in his own
household.

In April, 1801, a general amnesty was granted to all
emigrants who chose to return to France and take the oath of
fidelity to the government within a certain period. From
this amnesty about 500 were excepted, including those who
had been at the head of armed bodies of royalists, those who
belonged to the household of the Bourbon princes, those
French officers who had been guilty of treason, and those
who had held rank in foreign armies against France. The
property of the returned emigrants which had not been
sold was restored to them. Another conciliatory measure
was the concordat concluded between Joseph Bonaparte
and Cardinal Consalvi, which was signed by Pius VII. in
November.

The popes, however, never regained the absolute
independence, if ever granted by his predecessors. He suppressed
many bishoprics, he sanctioned the sale of church property
which had taken place, he superseded all bishops who had
refused the oath to the republic, and he agreed that the
first consul should appoint the bishops, subject to the appro-
val of the pontiff, who was to bestow upon them the
canonical institution. The bishops, in concert with the
government, were to make a new distribution of the
parishes of their respective dioceses, and the incumbents appointed
by them were to be approved by both the authorities.
The bishops, as well as the incumbents, were to take the oath
of fidelity to the government, with the clause of revealing any
plots they might hear of against the state. With these con-
ditions it was proclaimed, on the part of the French govern-
ment, that no Catholic religion was to be of the majority of
Frenchmen; that its worship should be free, public,
and protected by the authorities, but under such regulations as
the civil power should think proper to prescribe for the sake
of public tranquillity; that its clergy should be provided
for by the state, and that its churches should be restored to them. The total abolition of convicts
was also confirmed. This concordat was not agreed to by
the pope without some scruples, nor without much opposi-
tion from several of the theologians and canonists of
the church. (Concerning Pius VII. see his Life, by
Milan, 1824; and also Botta, Storia d' Italia del 1789 al
1814.) On Easter Sunday, 1802, the concordat was pub-
lished at Paris, together with a decree of regulations upon
matters of discipline, which were so worded as to make

No. 288. [THE PENNY CYCLOPAEDIA.] VOL. V. S.
them appear part of the text of the original concordat. The regulations were that no bull, brief, or decision from Rome should be acknowledged in France without the previous approval of the government; no nuncio or apostolic commissioner to appear in France, and no council to be held without its permission. Owners of abuses against abuses and discipline to be laid before the council of state; professors of seminaries to subscribe to the four articles of the Gallican Church of 1828; no priest to be ordained unless he have been twenty-five years of age, and have an income of at least 300 francs. The concordat was revised and reenacted, and the bishops of France should exercise the episcopal authority after the demise of the bishop, and until the election of his successor, instead of vicars elected ad hoc by the respective chapters, as prescribed by the Council of Trent. This last article gave to the French church for life the supremacy of the jurisdiction of the church. The pope made remonstrances, to which Bonaparte turned a deaf ear. Regulations concerning the discipline of the Protestant churches in France were issued at the same time with those concerning the Catholic church. The Protestant ministers were also paid by the state.

On the occasion of the solemn promulgation of the concordat in the cathedral of Notre Dame the Archbishop of Aix officiated, and Bonaparte attended in full state. The old archbishop, De Thiers, who had been made a councilor in the morning to attend the levees of the first council, who took them unawares with him to Notre Dame. Bonaparte said at St. Helena that he never repented having signed the concordat: that it was a great political measure; that it gave France the honor of being the first country in the world, over a great part of the world, and especially over Italy, and that he might one day have endeavored by directing the pope's councils altogether. 'Had there been no pope,' he added, 'one ought to have been made for the occasion.' (Gourgaud's Memoirs, g.)

Bonaparte established an order of knighthood both for military men and civilians, which he called the Legion of Honour. This measure met with considerable opposition in the army, and the first council of one-third of the members of that body, the senate contrived to eject the most decided members of the opposition.

In January, 1812, Bonaparte convoked together at Lyons the members of the provisional government of the Cisalpine republic, together with deputations of the bishops of the courts of justice, of the universities and academies, of the several towns and departments, and the national guards, of the regular army, and of the chambers of commerce. The number of deputies amounted to about 500, out of whom a commission of 42 persons was selected, which was elected to the first council of France, the republic of the state of the Cisalpine republic. The report stated, that owing to the heterogeneous parts of which that republic was composed, there was a want of confidence among them; that the republic was in a state of infancy, which required for its administration a more elevated spirit of the citizens, and that it ended by requesting that the first council should assume the chief direction of its affairs. Bonaparte then repaired to the hall of the deputies, and delivered a speech which was an echo of the report: he agreed with all its conclusions, and confirmed it in more positive language. He told them that they should still be protected by the strong arm of the first nation in Europe, and that as he found no one among them who had sufficient claims to the chief magistracy, he was willing to assume the direction of affairs in the state of France for the time being, and by a vote of the representatives of the people and the state of the republic, and to retain it as long as circumstances should require it. The new constitution of the Italian republic was then proclaimed: three electoral colleges—1. Of proprietors; 2. Of the learned; 3. Of the merchants—represented the nation, and appointed the members of the legislature and the judges of the upper courts. The legislative body of seventy-five members voted without discussion on the projects of law presented to it by the executive. There were two councils, under the names of Consulta of State and Legislative Council, which contained the members of the government. The president, the treaties with foreign states, &c. The principal difference between this constitution and that of France was in the composition of the electoral colleges, they being selected in Italy by classes, and in France by communes and departments, without distinction of classes; and, also that in Italy there was no tribune to discuss the projects of law proposed by the executive. As to the rest, the election of members to the legislature in both countries was not made by the body of the people: in both, the executive power had the exclusive right of proposing the laws; in both the government was monarchical under republican forms, and the chief magistrate had an unlimited tenure. The government of the Italian republic was for ten years, and re-eligible. He appointed to all civil and military offices, transacted all diplomatic affairs, &c. Bonaparte appointed Melzi d'Eril as vice-president to reside at Milan in his absence. This choice was generally approved, as having a better claim to the title of a new constitution for the Ligurian or Genoese republic, similar to that of the Italian republic: he did not assume the chief magistracy himself, but placed a native doge at the head of the state. On the 2d August, 1802, Bonaparte was proclaimed consul for life. He was surrounded by the leaders of the republic by the votes of the people in the departments to the number of three millions and a half. A few days after, another Senatus Consultum appeared, altering the formation of the electoral bodies, reducing the tribunate to fifty members, and paving the way in the legislation to one power. The Mémoires sur le Consulat, by Thibaudeau, explain the intrigues that took place at the time.

Switzerland was at this time distracted by civil war. The French troops had evacuated the country after the peace of Pressburg, and the remains of the government could have no claim on the different cantons remained. Bonaparte called to Paris deputations from every part of Switzerland, and after listening to their various claims, he told them that he would mediate among them: he rejected the schemes of unity and uniformity, which the country had made in the past, and that the old cantons of the Alps, the cantons of the Helvetian league, the cantons of the Cisalpine republic, the cantons of the Helvetic league. He retained however according to localities. The general Diet of the cantons were re-established. The neutrality of Switzerland was recognized; no foreign troops were to touch its territory; but the Swiss were to maintain a body of 16,000 men in the service of France, as they formerly did under the old monarchy. Bonaparte remained the head of the Helvetic league. He retained however Geneva and the bishopric of Basle, which had been seized by the Directory, and he separated the Valais, which he afterwards aggregated to France. To the end of his reign Bonaparte reorganized the constitution of the Helvetic league, and by the act of mediation; that and little San Marino were the only Republics in Europe whose independence he maintained.

Bonaparte had directed a commission of lawyers of the first eminence under the presidency of Cambacères to prepare a civil code, such as the civilized nations of Europe frequently attended their meetings, and took great interest in the discussions. The result of their labours was the Civil Code, which has continued ever since to be the law of France. It was styled 'Code civil des Français,' and it was accompanied by a Code de procédure. A Code penal, accompanied likewise by a Code d'instruction criminelle, a commercial code [Azuni], and a military code, were afterwards compiled and promulgated under Bonaparte's administration. These several codes, which are very difficult to classify, exist in the same state, and designated by the name of Code Napoleon, will form the subject of a separate article. [Cons.] The Civil Code is considered by far the best, and constitutes perhaps the most useful bequest of Bonaparte's reign.

The various branches of public instruction also attracted Bonaparte's attention, though in very unequal proportions. The task of providing elementary education was thrown upon the communes, but the communes being mostly very poor, the establishment of primary schools met with many difficulties, and the primary education was left in a languishing and precarious state during the whole of Napoleon's reign. Several reports delivered by the councilors of state, Fourcroy, to the legislative body under the consulate and the empire, show the wretched state of primary and secondary instruction throughout France. The secondary instruction was chiefly given in private schools for famous. Fourcroy, stated
the number of pupils under ten years of age in the primary and secondary schools at only 75,000, and this in a population of thirty-two millions. Classical and literary instruction was afforded by the Lyceas to about 4000 pupils, whose expenses were defrayed by the State, besides boarders kept at the charge of their parents. The discipline of these estab-
ishments was rigorous. (Lait. c.) Military education and military manoeuvres were the chief objects of instruc-
tion at the Lyceas. Scientific education was given in the special schools in the chief towns of France, such as the schools of law and of medicine, the college of France, and the polytechnic school at Paris, the military school at Pon-
tainnebule, the school of artillery and engineers at Mainz, that of bridges and highways, or civil engineers, the schools for the mines, &c. Speculative, philosophical, or political studies met with little encouragement under Bonaparte's administration. The young men were more interested in politics and army, and censured them as an idle and dangerous occupation.

The provincial administration of France was now organ-
ized upon one uniform plan, and was made entirely de-
pendent on the central power or executive. Each depart-
ment had a prefect, who had the chief civil authority; he was generally a stranger to the department, received a large salary, and was removed or dismissed at the will of Bon-
parte. The mayors of the towns of 5000 inhabitants and upwards were appointed by Bonaparte; those of the com-
unes under 5000 inhabitants, as well as all the members of the municipal councils, were also appointed by the prefects. Thus all remains of municipal or communal liberty and popular election were quietly abrogated in France. 'I was a dictator,' says Napoleon, 'called to that office by the force of circumstances. It was necessary that the strings of the government, which extends all over the state, should be in harmony with the key-note which was to influence them. The organization which I had extended all over the empire required to be maintained with a high degree of pressure, and to possess a prodigious force of elas-
ticity. (Lait. c.) Not only was the power of the prefects greater than that of the kings of the old monarchy, as his prefects were not men distinguished by rank and fortune and connexions, as the former governors and lieutenant generals; they owed their whole power to their immediate command over the troops, and they had no personal influence on opinion, and no force except the impulse they received from the chief of the state.

After the peace with England, Bonaparte sent a fleet and an army under his brother-in-law, General Leclerc, to St. Domingo. After a severe and bloody war ensued, which was marked by atrocities on both sides, and ended in the destruction of the French force, and the total emancipation of the blacks. At the same time he re-established the slavery of the blacks in Guada-
ungo, and also of the children of those who had been freed. By a treaty with Spain, that country gave up Louisiana to France, which France afterwards sold to the United States for fifteen millions of dollars. By another treaty with Por-
tugal, France acquired Portuguese Guiana. In Italy, France took possession of the duchy of Parma, at the death of the duke Ferdinand, in October, 1802. She likewise took possession of the island of Elba, by an agreement with Naples and Tuscany. The annexation of Piedmont to France next filled up the measure of alarm of the other powers. The Duke of Berry took the opportunity of the French, and Bonaparte had given out hopes that he would restore it to the old king, for whom Paul of Russia evinced a personal interest. He was then still at war with England, and he had formed a scheme of an offensive alliance with Russia at the expense of Turkey, with a view to march a combined army to India. The violent death of Paul having put an end to this scheme, he immediately procured a decree of the senate constituting Piedmont into a military division of the French empire, under a council of adminis-
tration named in accordance with the model of the French Senate. The Duke of Berry was about to become king of Sardinia, but after the assumption of the presi-
dency of the Italian republic, and the annexation of Parma and Piacenza, he was succeeded by the old Duke of Berry, provisionally occupied by the French, and Bonaparte had given out hopes that he would restore it to the old king, for whom Paul of Russia evinced a personal interest. He was then still at war with England, and he had formed a scheme of an offensive alliance with Russia at the expense of Turkey, with a view to march a combined army to India. The violent death of Paul having put an end to this scheme, he immediately procured a decree of the senate constituting Piedmont into a military division of the French empire, under a council of adminis-
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and of the duke's answers in Bourrienne's Mémoires, vol. v.)

The charges laid before the court against the prisoner were:
that he had borne arms against the French republic; that he had been tried and condemned to death by the Revolutionary Tribunal; that he was at the head of a party of emigrants assembled near the frontiers of France, and had treasonable correspondence with the neighbouring departments; and, lastly, that he was an accomplice in the conspiracy formed at Paris against the life of the king. This last charge the duke indignantly denied, and there is not the least evidence that he was implicated in it, nor that he had corresponded with either Pichegru or Georges. (Bourrienne.) He was however found guilty of all the charges. The duke expressed his desire to be tried on the first indictment. This however was overruled by Savary, who was present at the trial, though not one of the members, and who abruptly told the court that it was inexpedient to grant the prisoner's request. The duke was sentenced, by the same court, to death for crimes of espionage, of corsair, in alliance with the enemies of the republic, and of attempts against the safety, internal and external, of the state. (Jugement rendu par la Commission Militaire Spéciale scatée à Vincennes, 30 Ventôse, an XII. formée en vertu de l'arrêté du Gouvernement du 29 Ventôse, composée d'après la loi du 19 Fructidor, An V. de sept membres, nommés par le Général en Chef Murat, Gouverneur de Paris, à l'effet de juger le nommé Louis Antoine Henri de Bourbon, Duc d'Enghien, né à Chantilly le 2 août, 1772.)

Savary had orders from Bourrienne, that the trial should take place that same night, or rather early in the morning of the 21st March. The duke asked for a priest, which was refused; he then knelt down, and prayed for a minute or two, after which he was led down by torch-light to a postern gate of the gaol, as part of the gendarmes was drawn up, and a grave had been dug. It was dawn. Savary from the parapet gave the signal for firing. The duke fell dead, and was immediately buried in the dress he had on, without any funeral ceremony. (Savary's Mémoires, and General Hulin's pamphlet in extenuation of his share in the transaction.)

It is remarkable that Murat, afterwards king of Naples, when himself under sentence of death, told Captain Stratti, who guarded him, 'I took no part in the tragedy of the Duke of Enghien, and I cannot believe that God into whose presence I am soon to appear.' (Colletta, Storia del Reame di Napoli.)

In fact, Murat, as governor of Paris, merely appointed the members of the court martial according to the orders he received. It is not true that the duke wrote a letter to Bonaparte, which Murat delivered to the latter, as Murat himself seems to have believed. (Les Cases et Bourrienne.)

The apology which Bonaparte made at St. Helena for this judicial murder, was, that he believed the duke was privy to the conspiracy against his life, and that he was obliged to strike suddenly; and he would have ended the whole story by showing that he was not a man to be trifled with. An additional motive has been ascribed to him, namely, that of re-assuring the party implicated in the former French revolution against any fears they might have of his ever re-entering the Bourbons.

On the 6th April Pichegru was found dead in his prison. About the same time, Captain Wright of the English navy, who, having been employed in landing Pichegru and the other emigrants in Britain, was afterwards captured by the French, and imprisoned at Rochefort, was executed in the most shocking manner. The insinuation concerning the conspiracy, was likewise reported to have been found dead. The death of these two men is still involved in mystery. Bonaparte has positively denied any knowledge of Captain Wright's death, and has asserted his belief that Pichegru really strangled himself, as it was reported. Yet, even freely admitting the sincerity of his statements, one may suspect that the agents of his police, screened as they were from all public responsibility, might, in their eagerness to serve their master, or rather themselves, have resorted to some method. However, the case could not extract from them confessions that would suit their purpose. Bonaparte has repeatedly complained of the hasty zeal of some of his agents. It is stated by Bourrienne that Pichegru's depositions did not inculcate Moreau, whom the agents of the police sought to implicate. A number of dark rumours were circulated about Captain Wright having been put to excruciating torture. It is very possible that Bonaparte himself did not know at that time all the secrets of his prison-houses. There is a remarkable passage in Bourrienne, who, when he was French agent at Hamburg, kidnapped a spy, a really bad character, and sent him to Paris, where he wrote a letter by peremptory command of him. These are ominous words. See Montholon's Mémoires, vol. i., where Napoleon speaks of the arbitrary tyranny which the minister of police and his agents exercised until his decree on state prisons, 13th March, 1810, he changed the whole system. The French government, indeed, was not afraid of the tribunals; he had given them the liberty to hang any individual at their own pleasure and keeping him in their own hands, without the tribunals taking any cognizance of the case. This abuse had existed from the time of the convention.

The trial of Moreau, Georges, and the others, did not take place for several months after Pichegru's death. Mean-
Genoa, Durazzo, repaired to Milan with a deputation of senators, and expressed a wish on the part of the Genoese to make peace to the last. On the 9th of June Napoleon received Genoa. Soon after the Republic of Lucca was transformed into a principality, and given to Elisa, Napoleon’s sister, and her husband Baciocchi, to be held as a fief of the French empire. Thus two more Italian republics disappeared; San Marino alone remained.

In the preceding year (1804) Napoleon had assembled a large force on the shores of the British channel, with a flotilla at Boulogne, and had given it the name of ‘the army of England.’ The invasion of England and the plausible pretext of defending Boulogne through the lapse of time, seduced the suspicions of the British. After his return from Milan he gave a new impulse to the preparations for the projected invasion, and spoke of it publicly as an attempt resolved upon. His real intentions however have been a matter of much doubt and controversy. Bona parte, who was then still younger Bonaparte’s person, positively states that he did not entertain any serious view of landing in England; that he was duly aware of the difficulty and risk of such an undertaking; that even he had succeeded in landing 100,000 men, which was no easy matter, he might have lost one-half or two-thirds in taking possession of London; and then, had the English nation persevered, he, not having the superiority at sea, could not have obtained reinforcements, &c. Bonaparte, at St. Helena, spoke differently. He said he had spoken of it to Siborne, the Earl of Roden, and Sir Henry Erskine, and all over the sea; and while the English were sailing after them to different parts of the world, his ships were to return suddenly and at the same time; he would have had seventy or eighty French and Spanish ships in the channel, with a thousand sail of his fleet, to act as a diversion for two months. Three or four thousand boats and 100,000 men were ready at a signal. The enterprise was popular with the French, and was supported, Napoleon said, by the wishes of a great number of English. One pitched battle after landing, the result of which could not be doubtful, and in four days he would have been in London, as the nature of the country does not admit of a war of manoeuvres; his army should have preserved the strictest discipline, he would have presented himself to the English people with the magical words of liberty and equality, and as having come to restore to them their rights and liberties, &c. (Les Cases, vol. i. part ii.) It must be observed that all this declaration applies to his preparations towards the end of 1803 and the beginning of 1804, when he was still far from the discovery of the true character of the people. To O’Meara he spoke in a rather different strain. He said he would have gone straight to London, and have seized the capital, that he would have had all the mob for him, all the low, dissipated, and loose characters, all the restless discontented, who were always to be found in the same, fond of change, and riot, and revolution. He would have excited the democratic element against the aristocracy, he would have revolutionized England, &c. Whether, with such instruments let loose, he would have preserved the discipline of his army, and prevented the horrors that attended his invasion in Spain and other countries, he did not say. Luckily, however, for all parties, the trial was not made. While his army was assembled near Boulogne, a new storm burst on the side of Germany.

Austria had demonstrated against the never-ending encroachment of Napoleon in Italy. The Emperor of Russia and Gustavus, King of Sweden, protested against the violation of the German territory on the occasion of the seizure of the Duke of Enghien; the Moniteur answered them by taunts and ibes against the two sovereigns. By the treaty of Luneville the Italian, Batavian, and Ligurian republics were acknowledged as independent states, but Napoleon had now seized the crown of Italy, had annexed Liguria to France, and Holland as well as Hanover were occupied by his troops. Many of the French complaints remained unheeded. A new coalition was formed in the summer of 1805 between England, Russia, Austria, and Sweden. Prussia was urged to join it; she hesitated, increased her armies, but remained neutral, looking forward to the result of the operations. The arrival of the Russians, who were assembling on the frontiers of Galicia, enraged an army into the electorate of Bavaria; and on the elector refusing to join the coalition, they entered Münich. General Mack, who had given sufficient proofs of incapacity in the field while commanding the troops in Silesia, was placed at the head of the great Austrian army. The Archduke Charles commanded the Austrian forces on the side of Italy. Napoleon directed his army of England to march quickly to the Rhine; other troops from Holland, Hanover, and the Electorate of France, were ordered to march to the same quarter. He appointed Massena to command the army in Italy.

On the 23rd September, 1805, Bonaparte went in state to the senate, where he delivered a speech on the occasion of the war. As this is a fair specimen of his peculiar style of oratory, we shall quote some extracts. ‘The wishes of the eternal enemies of the continent,’ he said, ‘are at last fulfilled; war is begun in the middle of Germany. Austria and Russia have joined England, and our generation is plunged again into all the calamities of war. . . . The Austrian army has crossed the Inn; the elector of Bavaria has been driven away from his capital; all my hopes of the preservation of peace have vanished. In this instance the wickedness of the enemies of the continent has fully revealed itself. They feared the manifestation of my deep love for peace; they feared that Austria, at the sight of the precipice they have dug under her feet, might return to sentiments of justice and moderation, and that they have hurried her into war. I sigh in thinking of the blood that this will cost Europe, but the French name shall derive a fresh lustre from the cause. It is the voice not of the Emperor of the Germans, but at the voice of the whole French people, I assumed the imperial crown, I received of you and of all citizens a solemn engagement to preserve it pure and without stain. My people will rush to the standard of its emperor and of his army, which shall be yours from this moment, gentlemen of the Magistrates, soldiers, citizens, all are determined to keep our country free from the influence of England, who, if she should prevail, would grant us none but an ignominious peace, the principal conditions of which would be the burning of our fleets, the filling up of our harbours, and the annihilation of our industry. I have fulfilled all the promises which I made to the French people, who, in their turn have exceeded all their engagements towards me. In the present crisis, so important to their glory and mine, they will continue to deserve the Moniteur, of which I have repeatedly saluted them on the fields of battle.’

It was by constantly throwing all the blame of the war upon the English, by continually representing them as a sort of incarnation of the evil principle ever intent on the division of France, that Napoleon glorified himself and his people. It was in order to create this spirit of bitter and deep animosity against England which continued to exist long after his death. It is curious to read the general conclusion to the same day, that and the faced assertions and charges against England with which its columns are filled. (Recueil de décrets, ordonnances, traités de paix, manifestes, proclamations, discours, &c., de Napoleon Bonaparte et des membres du Gouvernement Français depuis le 18 brumaire an 8 [Novembre, 1799] jusqu’à l’année 1812 inclusivement, extraits du Moniteur, 4 vols. vro. 1813, a very useful book of reference.) In one instance the English were gravely accused of having thrown bales of infected cotton on the coast of France in 1804, in order to introduce the disease into France itself. The Moniteur (the official journal) added, ‘the English cannot conquer us by the sword, they assails us with the plague; and strange to say, this absurd story has been revived in the Memoirs of Marshal Ney,’ published at Paris in 1832.

Napoleon repaired to Mainz where he took the command of the grand army, a name which was afterwards always applied to the army while he commanded in person. He also began in this campaign to issue regular bulletins of the events of the war. Coloured as these documents generally are (Bouronne, in his account of the Egyptian war, shows the principle of them, but he does not state which of them constitute however a series of important historical papers.

We cannot enter into the details of the campaign of 1805, and we must refer our readers to the professional state-ments of military historians. It was, however, the achievement of Stutterheim’s Campaign of Austriàts; Rapp’s Memoirs, &c. Sufficient to say that General Mack allowed himself to be surrendered at Ulm, and then surrendered, on the 17th
of October, without fighting, with more than 20,000 men, all his staff, artillery, &c. The other Austrian divisions being sent to the back of the Austrians without the city, the French entered Vienna on the 13th of Nov. The Russian army had by this time assembled in Moravia, under the Emperor Alexander in person. Being joined by some Austrian divisions it amounted to about 80,000 men. Napoleon had therefore finally settled whether the French army the first or the second in Europe. The great battle of Austerlitz was fought on the 2nd of December, 1805. The two armies were nearly equal in number. The Russians, confident of success, extended their line too much. Bonaparte broke through it and separated their divisions, which, after a stout resistance, especially to the part of the Russian Guards, were routed in detail. The loss of the allies was tremendous; thousands were drowned in the frozen lakes in the rear of their position. The emperor of Austria had an interview with Napoleon the day after, and an armistice was concluded, by which the remaining Russian troops were allowed to retire to their own country. Peace between Austria and France was signed at Presburg on the 26th of December. Austria gave up the Venetian provinces and Dalmatia to the kingdom of Italy, Tyrol to the Elector of Bavaria, and other districts to the value of one hundred millions of francs. This war, which was to have checked the preponderance of Napoleon in Italy, left that country entirely at his disposal, and established his influence over a great part of Germany, where, having raised the duchy of Berg and the grand-duchy of Oldenburg to the rank of kings, he placed himself at the head of all the smaller states, which he formed into the confederation of the Rhine under his protection. The old German empire was thus dissolved. Soon after, the Emperor Francis formally renounced his title of emperor of Germany, and assumed the title of Francis I, emperor of Austria and of his other hereditary states.

It must be observed that the position of Napoleon after the battle of Austerlitz in the heart of Moravia, the winter having set in, and a fair part from the Austrians and from his reinforcements and supplies, the Russians, who were expecting reinforcements, in his front, Prussia wavering on his flank, Boehme untouched, the Archduke Charles and the Hungarian insurrection in his rear, was extremely critical. In contrast, this situation induced him to grant Austria better terms than what she appeared to have a right to, on a mere superficial view of the condition of the two powers. The Austrian empire was not overthrown because Vienna was in the power of the invaders, but, rather, because the conduct of the campaign was such as to make the Russians the victors. The consequence of the Prussian defeat was the destruction of the confederation of the Rhine and the annihilation of the old German empire.
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(28th of Dec.), in which the French experienced a severe check retired towards the Vistula. The French, on the 29th, 1807, passed without any engagements, but on the 8th of February the great battle of Eylau was fought between the two grand armies. General Bennigsen commanded the Russians. The French made repeated and furious attacks on the Russian infantry, which stood like walls of brass, and the French never lost sight of the enemy. The battle lasted till near ten o'clock at night. The loss on both sides was dreadful; it has never been correctly ascertained, but has been roughly estimated at 50,000 men. After the battle Napoleon withdrew again to the line of the Vistula, and his supreme council of war retired to Königsberg. There was much more fighting between the two armies for more than three months after. The French meantime besieged Danzig, which was defended by the Prussian General Kalkreut, and surrendered at the end of May, 1807. Napoleon has this year renewed his attempt, but has, as yet, made no further progress towards the Russians. On the 13th of June the battle of Friedland took place, in which, after an obstinate struggle, the Russians were at last worsted, and driven beyond the river Aller. They did not lose however either cannon or baggage, and they effected their retreat upon Tilsit near the Russian frontier. (Sir Robert Wilson's Sketch of the Campaign in Poland in 1806-7; and Geschichte der Feldzüge Napoleonos gegen Preussen und Russland in 1806-7; Leipzig, 1809.)

The French, at this period, wished for peace, an armistice was made, and a personal interview took place between the two emperors on a raft in the middle of the river Niemen on the 25th of June. The two sovereigns after this took up their residence in the town of Tilsit, where the treaty of peace was finally signed. The king of Prussia was restored to the loss of his former gains, and added, as far as the Elbe. The duchy of Warsaw was given to the elector of Saxony, who was made a king, and became the faithful ally of Napoleon. The principal Prussian fortresses and sea-port towns were to remain in the hands of the French; and all the provinces of the Holy Roman Empire, on the contrary, she obtained a part of Prussian Poland. But there were secret articles to the treaty, by which France allowed Russia to take Finland from Sweden, and Russia, on her part, promised to close her ports against British vessels. On the 15th of July Napoleon left Tilsit, set sail for Paris, where he received the usual tribute of service addresses and fulsome flattery. (See specimens of these addresses in the Moniteur.)

On the 19th August a Senator Consulta suppressed the Thun, not only in the national department of the body in France. It had been previously reduced to one-half of its original number. 'The Tribunal,' said Napoleon at St. Helena, 'was absolutely useless, while it cost nearly half a million; I therefore suppressed it. I was never myself in the Thun, for the violation of the law; but I was strong; I possessed the full confidence of the people, and I considered myself a reformer. I did every thing for the best. Had I been hypocritical I should have maintained the Tribunal, for who can doubt that it would have been adopted and sanctioned, when required, my views and intentions?' And speaking of the alleged servility of the Senate, he informs us that 'in almost every important measure many of the senators, before they gave their vote, came to communicate with him privately, and stated, sometimes very decidedly, their objections to the bill, either by his arguments, or by the necessity and urgency of affairs.' (Las Cases, vol. i.)

Necessity and the urgency of circumstances were mighty words with Napoleon; they generally concluded all his arguments on matters of morality and politics. Where there were not his own creating or seeking is a point which he seems not to have stopped to examine. Three committees of administration, of legislation, and of finances, taken from the legislative body, discussed the projects of law in lieu of the Tribunal, and the committees of the three sections, the local boards, the Thun; but the deputation of the insurgents, under the plea that he had not joined them in the war against Prussia, as well as the duke of Brunswick of his, on the ground that the duke had joined Prussia against him, Napoleon created out of these and other districts the king's representative, the Thun; and then attempted to substitute Jerome, who took up his residence at Casell. Soon after, the Prince Regent of Portugal having refused to enforce the decrees against England, Napoleon sent Junot with 30,000 men across Spain to take possession of Portugal. At the same time he published in the Moniteur that 'the House of Braganza had consented to the marriage of Don Jose Junot entered Lisbon without opposition, November 30th, 1807, the Prince Regent and his court having just before embarked for Brazil. In December of the same year, Napoleon having gone to Milan, sent for the queen of Saxony to join him, and after some time the queen was promised compensation in Portugal, which she never obtained. On the 17th December, 1807, Napoleon issued from Milan a decree by which all merchant vessels which should submit to the British orders in council were declared to be lawful prizes by the French. In the following year (1808) a number of American vessels were seized and confiscated in the French and Italian ports. The pope was next to feel Napoleon's displeasure. The French troops had for some time occupied Ancona and Civita Vecchia, in order to keep away the English and the Russians; but Napoleon now insisted on the pope declaring war against England. The pope answered that he was a sovereign of peace, and could not declare war against any Christian power. Napoleon said that as the successor of Charlemagne he was emperor of the west, the king of Italy, and Suzerain of the Pope, and therefore the pope should respect the holy see, and that the donation of Charlemagne had been made to defend the holy church against its enemies; that if the pope did not comply with his wishes, he, Napoleon, would take back Charlemagne's grant. We cannot go further into this subject, as it involves a most interesting controversy and controversy between Napoleon and the court of Rome, which were carried on for several years, and which form an interesting episode in the general history of those times. (Compendio Storico sul Pio VII, Milano, 1824, Bott, Serviti d'Italia, Coppi Annali d'Italia, and Memorie storiche del cardinale Antonio Pericoli, Cardinali 1639-1729, a cura di Giovanni Battista De Boni, Rovigo, 1867.) Napoleon annexed the Marches or Adriatic provinces of the Roman state to his kingdom of Italy. There were other points of dispute between the pope and Napoleon on matters concerning the Concordat with the kingdom of Sardinia. (See a note in letter 386, note 7, of the letter books of the convent of Beauharnois, to Pius VII, in the subject in the already quoted work, Amministrazione del Regno d'Italia.) About the same time (February, 1808) a French force under General Miotto entered Rome, occupied the Castle of St. Angelo, and began to do military duty in that city. In February, 1808, the general took the papal troops under his own command. The pope remained in his palace with the mere shadow of a civil power, which he had no means to enforce.

We now come to another and most important transaction, the invasion of Spain. At the time of the invasion, the populace was the humble and submissive ally of Napoleon; her navy, her army, her treasures were at her disposal. She was at war with Great Britain; she had allowed a free passage to the French troops through her territory to Portugal. Other French divisions had entered Spain as friends in the beginning of 1808, and seized by stragglers the forresses of St. Sebastian, Pamplona, and Barcelona. At the same time the internal administration of Spain was carried on in a most corrupt and profligate manner. Charles IV was the humble and submissive ally of Napoleon; he was at war with Great Britain; he had been exalted to a king; and Charles was induced to abdicate. Napoleon founded upon this a pretence for interference. He invaded father, mother, son, and favourite to Bayonne, where he himself repaired in April. Charles and his queen went readily; Ferdinand hesitated; but Napoleon sent Savary, who with many assurances of his master's honourable and friendly intentions, induced him to yield the crown from stage to stage until he was fairly in the Spanish territory. A scene of duplicity and dishonesty, of indecent and unnatural retributions now took place between Napoleon, the old king, the queen, and her son, which for moral turpitude has no parallel in history. (Don Pedro de Alcega, Alcega, vol. ii, p. 559. A History of the Peninsular War. London, 1842.) Napoleon had so completely changed the character of the king, stigmatized Ferdinand as a rebellious son, the queen joined in reviling and disgracing him at the expense of her own and her husband's honour,
and Ferdinand, overwhelmed by insults and threats, renounced his claim to the crown of Spain on the 8th May. (Concerning the real sentiments of Ferdinand expressed at the time of his departure, see Baudr. Mémoires anecdotiques sur l'intérieur du Palais.) Charles likewise resigned all his rights 'in favour of his friend and ally the emperor of the French.' Napoleon now issued a decree, appointing 'his dearly-beloved brother Joseph Napoleon, king of Naples and Sicily, king of Spain and the Indies.' By a subsequent decree, 15th July, he appointed his 'dearly-beloved cousin, Joseph Murat, grand duke of Berg, to the throne of Naples and Sicily, which remained vacant by the accession of Joseph Napoleon to the kingdom of Spain and the Indies.' In compensation for his various dominions are signed Napoleon, and countersigned by the minister secretary of state, Maret.

The memorable events which resulted from these nefarious transactions, the occupation of Madrid by Murat, the revolt and subsequent massacre of the people of that city on the 2nd of May, the insurrection which broke out simultaneously in all parts of the Peninsula against the invaders,—the heroic though often unfortunate resistance of the Spaniards,—the atrocities committed by the French troops, and the cruel retaliations by the Spanish guerrillas,—the long, murder war of seven years, from 1808 till 1814, in which the British army acted a conspicious part,—all these may be read in the numerous works written expressly on the subject of the Peninsular war. For the military transactions, see Naper, General Natasha Vacani, and the Annales of the Peninsular Campaigns, by Captain Hamilton. For the Spanish view of the subject, see Count Toreno, Historia del Levantamiento, Guerra, y Revolución de España, Madrid, 1833; and Canga Arguelles, Observaciones sobre Historias de Carlos y Napier. For a general, historical, and political view of Spain during that period, see Southey's History of the Peninsular War. But the work that perhaps gives the best insight into the feelings and conduct of the Spaniards in the various provinces throughout that memorable struggle is the Histoire de la Révolution d'Espagne, by Colonel Schepeler, a Prussian officer, who was himself in the Spanish service during the whole time.

During the seven years of the Peninsular war 600,000 Frenchmen died at different times by the two great roads of Bayonne and Perpignan. There returned into France at various times about 250,000. The other 350,000 did not return. Making full deduction for those who remained prisoners in the hands of the Spaniards and the number of deaths that occurred at the period of 1814, the number who perished during that war can not be estimated at less than 250,000, if it does not approach rather 300,000. (Schepeler and Foy.) The loss of the Spaniards, soldiers and peasants, who were destroyed in the Peninsula, is not capable of exact calculation, but it must have been greater than that of the French.

In the year 1808 Napoleon re-established titles of nobility in France. Lefèvre, who had taken Dunois the year before, was the first duke that he created. Many others, both military and civilians, received titles from towns in Italy and Germany, with an income charged upon the revenues or national domains of the conquered countries. Both the titles and the incomes attached to them were made hereditary.

In September, 1808, Napoleon repaired to Erfurt to hold conferences with the Emperor Alexander. The subject of these conferences remained a secret, but it would seem that the question of Turkey was agitated. Napoleon says that the principal obstacle to a partition of that country was Constantinople. It seems however that he consented to Russia encroaching on the frontier provinces of Turkey, as the Russian troops invaded Moldavia and Wallachia soon after the conference. On returning from Erfurt, Napoleon told his chief that the Emperor of Russia were irreconcilably united in a bond of alliance.

The English in the mean time had reconquered Portugal, and were advancing to the assistance of the Spaniards. King Joseph had been obliged to leave Madrid, and the French army had withdrawn behind the Ebro. Napoleon resolved to set out for Spain himself. On the 25th October he opened in person the session of the legislative body with one of his characteristic speeches:—'The hideous presence of the English leopards contaminates the continent of Spain and Portugal. I go to place myself at the head of my armies, to crown my brother at Madrid, and to plant the French flag upon the ramparts of Lisbon. Two days afterwards he set off for Spain.

On the 23rd November, 1808, Napoleon defeated the Spanish troops at Tudela, and on the 4th December Madrid capitulated. He told the Spanish delegation that their children would bless his memory. He then set off for Astorga, expecting to intercept Sir John Moore in his retreat. In this however he did not succeed, and leaving the task of pursuing the English to Soult and Ney, he suddenly quitted Astorga, and returned in great haste to France in January, 1809.

The next great event of this war was on the point of breaking out. This time Austria came single into the field. She had made astonishing exertions to recruit her armies to the number of nearly half a million of men. Austria had apparently no personal subject of complaint, but the Mannheim Convention, though signed by France in 1806, caused considerable dissatisfaction, but on the 26th of May, 1808, 4 vols. 8vo, Paris, 1824-26.) On the 12th May the French entered Vienna. The archduke now collected his army on the left bank of the Danube. Bonaparte crossed the river to attack him, and the great battle of Aspern took place, 21st May, 1809. The Archduke was defeated, but on the following day it was renewed with fury on both sides, when, in the midst of the action, Bonaparte was informed that the bridge in his rear, which communicated with the right bank of the Danube, had been carried off by a flood. He then ordered a retreat, and with the loss of the island of Lobau in the middle of the Danube. The loss of the French was very great: Marshal Lannes was among the generals killed. Napoleon remained for six weeks on the island. Having re-established the bridge, and received reinforcements, he crossed the Danube on the 14th June, and he fought the battle of Wagram, 6th July, in which he defeated the Austrians, with a tremendous loss on both sides. Still the Austrian army was not destroyed or dispersed, and the Archduke Charles was for continuing the struggle. Other battles were fought, and the campaign was prolonged to the 13th of October, when the armistice was concluded at Znain, and this led to the peace of Schönbrunn, which was not signed however till the 14th of October. Napoleon had entertained some idea of disemboweling the Austrian empire; he had even addressed an invitation to the Hanoverians to form and elect a federal, union, under a prince, but this address produced no effect. Germany began to be agitated by a spirit of popular resistance against him; bands of partizans under Schill, the Duke of Brunswick, and others, had appeared; Tyrol was still in arms, and he was not quite sure of Russia. The war in Spain continued with doubtful success, and the English had landed a considerable force at Flushing. He thought best therefore to grant peace to Austria on moderate conditions. The Archduke Charles disapproved of the peace, and gave a hostile reception to the Austrian statesmen. As a part of Croatia, Salzburg, Cracow, and Western Galicia, and several other districts, to the amount of about two millions and a half of inhabitants. The brave Tyrolese were abandoned to their fate. Hofer and others of their chiefs were seized by the French, taken to Munich, and there shot. (Life of Andreas Hofer, by Hall and Inglois's Tyrol.)

Whether the subsequent marriage of Napoleon with a daughter of the Emperor Francis was in course of negotiatiion, is a question of which the authenticity is doubted, but soon after his return to Paris he made known to his wife Josephine his determination to divorce her. A painful scene took place on this occasion, which is well described by De Bossuet, prefect of the imperial household, in his Mémoires, vol. ii., p. 12. Josephine is reported to have said that Napoleon himself seems to have been sincerely affected at Josephine's grief, but his notion of the necessity of having an heir to the empire subdued his feelings. It is known that from the time of the conferences of Erfurt, and perhaps of
Tilsit, he had had in view a marriage with one of Alexander's sisters, and the project had been communicated to the Russian court, but the empress-mother had always objected to it on the plea of difference of religion. The divorce being consented to by Josephine in presence of commissions from Napoleon, this document was registered in Paris on the 16th of December, 1809. On the 11th of March, 1810, Napoleon married by proxy the Archduchess Maria Louisa, who soon after set off for Paris. The marriage ceremony was performed at Paris by Cardinal Fesch. They were the couple of the greatest power. There is an interesting report made by Count Montalivet of the situation of the French empire in 1810, which displays the gigantic extent of its dominions. One passage which refers to Holland is curious. That country, it must be observed, felt really anxious for the welfare of his Dutch subjects, and did not enforce very strictly the continental system, as it was styled, against English trade. This led to frequent reproofs from his imperious brother, who at last resolved to enforce his prerogatives by uniting Holland to the French empire. (Louis Bonaparte's Historical Documents and Reflections on the Government of Holland.)

Count Montalivet in his report made use of a curious argument to prepare the people's minds for this measure:—'Holland is an island situated in latitude a little superior to that of Sicily; it may be defined as being formed out of the alluvia of the Rhine, the Meuse, and the Scheldt, which are the great arteries of the empire.' And Champaigny, minister for foreign affairs, in a report to the emperor said:—'Holland is an emanation of the French empire. In order to possess the rest of the world, you have to possess that country.' But even the Zuyderzee was not far enough. By a Senatus Consultum, 13th December, 1810, Holland, Friesland, Oldenburg, Bremen, and the line of coast to Hamburg, and the country between that town and Lubeck, were joined to the French empire, and the territory formed ten additional departments. The French empire now extended from the frontiers of Denmark to those of France, for Napoleon had finally annexed Rome and the southern papal provinces to France. The pope lauded French communication against Napoleon, upon which he was arrested in his palace on the Quirinal in the middle of the night of the 5th July, 1809, by a party of gendarmes who escaladed the walls, and was carried off to Savona, where he was kept prisoner until he was removed to Fontainebleau. (For an account of these proceedings see Memorie del Cardinal Pacco, with the Relation de l'Entente du Pape Pie VII. et de son Voyage jusqu'à Florence, par le Baron Radet, in the Appendix.)

Radet was the colonel of gendarmes who seized the person of the pope. The next day the Pope, by a decree of the French empire, called of Rome and of the Tyrrhenian, of which last Perugia was the head town. Napoleon gave his 'good city of Rome' the rank of second town in the French empire.

Besides the French empire, which, thus extended, reckoned 130 departments and 42 millions of people, Napoleon held under his sway the kingdom of Italy, which included Lombardy and Venice, Modena, Bologna, and the other legations and the marches, with above six millions of inhabitants; and to the French empire, excluding Dalmatia, Carniola, and part of Croatia, which formed a separate government. The kingdom of Naples, with about five millions more, was also dependent on his will, as well as the kingdom of Westphalia, the grand duchy of Berg, &c. The policy of the kingdom of Italy was also to be directed by his brother Lucien, and to the other relations was plainly stated by himself to his brother Lucien, in an interview at Mantua in 1811. 'In the interior, as well as the exterior, all my relations must follow my orders: every thing must be subordinated to the French empire; every thing must be in your respective states for the advantage and support of my crown. I should otherwise act against my duty and my interest. No doubt you would like to act the part of a Medici at Florence' (there had been some talk about this), 'but the moment you undertake to do so, it is clear that 'Tuscany, happy and tranquil, would become an object of envy to the French.' He would not allow his brothers to identify themselves with their subjects, and to strengthen themselves on their thrones, because he foresaw that it might suit him some day to remove them on the occasion of a general peace, or upon some new scheme of his own. He sacrificed the people of those countries and their interests, as well as the happiness and the greatness of his brothers, to what he conceived to be the interest and the glory of France. (Résponses de Lucien Bonaparte aux Mémoires de Lamarque.) But even his brothers were restive. They had written to him that he should not annex Holland; Murat was in continual disputes with his brothers-in-law (Colletta, Storia dei Reame di Napoli), and Lucien would not accept any crown under such conditions.

As Protector of the Confederation of the Rhine, Napoleon dealt under his brother Joseph, and held the grand duchy of Baden, Württemberg, the Grand Duke of Baden, and the other German princes. He had also under his protection the Helvetic Confederation, which was bound to furnish him with troops, and to follow his policy. Prussia, humbled and discouraged, had no power to resist his will. He could thus dispose of more than eighty millions of people. Never since the fall of the Roman empire, had so great a part of Europe been subject to the will of one man. Austria was his ally through fear as well as by family connexion; Russia through prudence and self-interest. In Sweden, General Bernadotte had been chosen Crown Prince, and, after obtaining Napoleon's consent, had repaired to Stockholm. Spain, bleeding at every pore, struggled hard, and apparently with little hope of ultimate success. Britain alone continued to defy his power, and held Sicily and Portugal under her protection, till March of that year, when Britain and Sovereignty and of Spain at the beginning of 1811. In the month of March of that year Marie Louisa was delivered of a son, who was saluted by Napoleon as 'King of Rome,' an ominous title to those Italians who still fancied that the crown of Italy was to be, according to Napoleon's promise, separated from that of France.

In 1811 the first symptoms of coolness between Alexander and Napoleon manifested themselves. The complaints of the Russian landholders against the continental system, which their emperor had sanctioned, were a fore- foreboding of their vast estates, had induced Alexander to issue an ukase, 31st December, 1810, by which colonial and other goods were allowed to be imported into the ports of Russia, unless they appeared to belong to subjects of Great Britain. At last relieved by that communication against Napoleon, upon which he was arrested in his palace on the Quirinal in the middle of the night of the 5th July, 1809, by a party of gendarmes who escaladed the walls, and was carried off to Savona, where he was kept prisoner until he was removed to Fontainebleau. (For an account of these proceedings see Memorie del Cardinal Pacco, with the Relation de l'Entente du Pape Pie VII. et de son Voyage jusqu'à Florence, par le Baron Radet, in the Appendix.) Radet was the colonel of gendarmes who seized the person of the pope. The next day the Pope, by a decree of the French empire, called of Rome and of the Tyrrhenian, of which last Perugia was the head town. Napoleon gave his 'good city of Rome' the rank of second town in the French empire.

Besides the French empire, which, thus extended, reckoned 130 departments and 42 millions of people, Napoleon held under his sway the kingdom of Italy, which included Lombardy and Venice, Modena, Bologna, and the other legations and the marches, with above six millions of inhabitants; and to the French empire, excluding Dalmatia, Carniola, and part of Croatia, which formed a separate government. The kingdom of Naples, with about five millions more, was also dependent on his will, as well as the kingdom of Westphalia, the grand duchy of Berg, &c. The policy of the kingdom of Italy was also to be directed by his brother Lucien, and to the other relations was plainly stated by himself to his brother Lucien, in an interview at Mantua in 1811. 'In the interior, as well as the exterior, all my relations must follow my orders: every thing must be subordinated to the French empire; every thing must be in your respective states for the advantage and support of my crown. I should otherwise act against my duty and my interest. No doubt you would like to act the part of a Medici at Florence' (there had been some talk about this), 'but the moment you undertake to do so, it is clear that 'Tuscany, happy and tranquil, would become an object of envy to the French.' He would not allow his brothers to identify themselves with their subjects, and to strengthen themselves on their thrones, because he foresaw that it might suit him some day to remove them on the occasion of a general peace, or upon some new scheme of his own. He sacrificed the people of those countries and their interests, as well as the happiness and the greatness of his brothers, to what he conceived to be the interest and the glory of France. (Résponses de Lucien Bonaparte aux Mémoires de Lamarque.) But even his brothers were restive. They had written to him that he should not annex Holland; Murat was in continual disputes with his brothers-in-law (Colletta, Storia dei Reame di Napoli), and Lucien would not accept any crown under such conditions.

As Protector of the Confederation of the Rhine, Napoleon dealt under his brother Joseph, and held the grand duchy of Baden, Württemberg, the Grand Duke of Baden, and the other German princes. He had also under his protection the Helvetic Confederation, which was bound to furnish him with troops, and to follow his policy. Prussia, humbled and discouraged, had no power to resist his will. He could thus dispose of more than eighty millions of people. Never since the fall of the Roman empire, had so great a part of Europe been subject to the will of one man. Austria was his ally through fear as well as by family connexion; Russia through prudence and self-interest. In Sweden, General Bernadotte had been chosen Crown Prince, and, after obtaining Napoleon's consent, had repaired to Stockholm. Spain, bleeding at every pore, struggled hard, and apparently with little hope of ultimate success. Britain alone continued to defy his power, and held Sicily and Portugal under her protection, till March of that year, when Britain and Sovereignty and of Spain at the beginning of 1811. In the month of March of that year Marie Louisa was delivered of a son, who was saluted by Napoleon as 'King of Rome,' an ominous title to those Italians who still fancied that the crown of Italy was to be, according to Napoleon's promise, separated from that of France.

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The capital of the world. There must be all over Europe but one code, one count of appeal, one currency, one system of weights and measures. Am I to blame if the great power will try to force these measures upon me? I desire to be master of the world; but when I become such, my son will have nothing to do but to retain my place. In calmer times, and after the full experience of disappointment, we find him confirming the sentiments he had expressed on the former occasion and many others. After his return from Elba, he said to Benjamin Constant, 'I desired the empire of the world, and who in my situation would not? The world invited me to govern it; sovereigns and subjects vied with each other in biding before my sceptre. I have rarely found any opposition in France. And later at St. Helena, 'If I have been on the point of accomplishing the universal monarchy, it was without any original design, and because I was led to it step by step. The last effort wanting to arrive at it seemed trifling, was it unreasonable to attempt it? But I had no ambition distinct from that of France, her glory, her ascendancy, her majesty, with which my own were identified. Had I lived in America, I should willingly have been a Washington; but had Washington been in France, exposed to_dissent within and attack from without, I should have been the hero of America.' (Las Cases, vol. i.) 'I have been spoiled by success. I have always been in supreme command; from my first entrance into life I have enjoyed high power; and circumstances, and my own energy of character, have been such that I have had the opportunity of exercising that authority, I acknowledged neither masters nor laws. (Las Cases, vol. iv., part iv.).

The events of the memorable Russian campaign of 1812 are known to the world. We can only refer our readers to the works of Segur, and of Colonel Boutinon, aide-de-camp to the Emperor Alexander; to the memoirs of Goggin; and to the Italian account of Captain Laugier, Of Italian in Russia. By consulting these various authorities, a sum of very correct information concerning that stupendous catastrophe may be derived.

Before Napoleon set off from Paris for the Russian expedition, he directed Maret, Duke of Bassano, to write a letter to Lord Castlereagh proposing negotiations for peace, on the basis of the Act Positivus. He was willing this time to let Spain, Portugal, and the two Sicilies remain independent, and to impose a heavy indemnity on the House of Braganza, but he insisted on Spain being secured to his brother Joseph. It must be observed that Lord Wellington had just taken possession of Badajoz and Ciudad Rodrigo, and was advancing into Spain towards Madrid, which was then held by the combined forces of the Spanish and the French at Salamanca. The English minister immediately replied, that England's engagements with the Spanish Cortes, acting in the name of King Ferdinand VII., rendered the acknowledgment of Joseph impossible.

The Russian minister, Prince Kourakin, still remained at Paris. Early in May he presented an official note to the Duke of Bassano, stating that the matters in dispute between the two empires might easily be made the subject of amicable negotiations, provided the French troops should evacuate the territory of both. A Dutch expedition against Russia could be for no other purpose than that of threatening the frontiers of Russia. Napoleon pretended to be exceedingly angry at this demand, which he said was insolent, adding that he was not used to be addressed in such a style, and to have his movements dictated by a foreign sovereign; and he sent Prince Kourakin his passports. On the 9th of May he himself set off with his army for Dresden, where he had invited the kings of his own creation, Bavaria, Württemberg, Saxony, Westphalia, and his other tributaries, to meet him; and his own troops, except those on his three sides, to Dresden with his emperor. The king of Prussia came too, as he had just signed a treaty with Napoleon, by which he placed 20,000 men at his disposal in the approaching campaign. Austria agreed to furnish 30,000 men to set against Russian Poland. But Napoleon, on his departure from Dresden, where the emperor Alexander then was, to invite him to come to Dresden, but Alexander declined. After brilliant festivals, Napoleon quitted Dresden for Thorn, where he arrived on the 2nd of June. His immense army was assembled chiefly between the Vistula and the Niemen, which latter river formed the boundary of the Russian empire. There were 270,000 French, 80,000 Russians, 80,000 Poles under Prince Poniatowski, 20,000 Italians under Eugene, and 20,000 Prussians. On the 22nd of June Napoleon issued a proclamation to his soldiers, saying that the second war of Poland had begun. The fate of Russia must be fulfilled. Let us be a Hannibal and make a breach, lay our hands on our own territory, &c. On the 24th and 25th of June Napoleon's army, in three large masses, crossed the Niemen, and entered Lithuania without meeting with any opposition. The Russian army, under General Barclay de Tolly, 120,000 strong, evacuated Wilna, which Napoleon, in the confidence of his strength, had retired to for the winter quarters of the army. Another Russian army, 80,000 strong, under Prince Bagration, was stationed near the Dnieper. On the 28th of June Napoleon entered Wilna, where he remained till the 16th of July. He there received a deputation from the diet of the duchy of Warsaw, warning him to proclaim the union of Russia and Poland. Napoleon's answer was still cold and cautious: he told them that he had guaranteed to the emperor of Austria the part of Poland he still retained; that for the rest they must depend chiefly on their own efforts. (De Pradt, Ambassade de Pologne.)

In the meantime, the French soldiers treated Lithuania as an enemy's country. The provisions ordered by Napoleon to follow his army not having arrived, and the Russians having removed all the stores, the French and German soldiers were driven to feed upon the horses of the nobility and the huts of the peasants, feeding their horses on the green corn, violating the women, and killing those who resisted such treatment. (Ougiinski and Segur.) Lithuania, a poor and thinly-inhabited country, in the latter part of the year (1811), was utterly devastated. At the same time, disorganization and demoralization spread fearfully through the enormous masses of the invaders; disease thinned their ranks; 25,000 patients were crowded within Wilna in a few weeks, where there was not accommodation for one-third of the number; heavy rains rendered the roads impassable, and 10,000 horses were lost.

After partial engagements at Mohlow and Witepsk, the Russians continued their retreat upon Smolensk, in the interest of fairs and pacific policy. On the 12th of June, 'Forward marchs alone,' he observed, 'can keep such a vast army in its present condition together; to halt or retire would be the signal of dissolution. It is an army of attack, not of defence; an army of operation, not of position. We must march, we must march, if we wish to obtain peace, or resting quarters and supplies.' (Segur.) He crossed the Dnieper, and entered Russia Proper with about 150,000 men, leaving a body of reserve at Wilna and the corps of Macdonald on the Dwina, towards Riga. In the march, the French army had dropped off from his ranks, and were either dead or sick, or had been taken prisoners by the Cossacks, or were straggling and marauding about the country.

On the 16th of August the two hostile armies met under the walls of Smolensk. But the Russians, after carrying off or destroying the provisions, and allowing time to the inhabitants to remove themselves, evacuated Smolensk, which their rearguard set on fire. They continued their retreat upon Moscow, and Napoleon followed them. The French army report was 250,000 men, and the river Moskva, fought on the 7th September. The two armies were nearly equal in numbers, 120,000 each. After a dreadful slaughter on both sides, the Russian general sounded a retreat, and the French were left in possession of the bloody field; but the French took hardly any prisoners - 15,000 Russians, and about 10,000 Frenchmen lay dead. Next day the Russian army continued its retreat; and on the 14th September it traversed the city of Moscow, which most of the inhabitants had already evacuated. On that same day the fire broke out in the coopers' street, and it was put down in the night. On the next day, 15th, Napoleon took up his quarters at the examining college, or in the ancient palace of the Tsars. On the following night the fire broke out again in different quarters of the city, and no exertions of the French could stop it: the wind spread the flames all over the city, and on the third day Napoleon was obliged to leave the Kremlin.
inn, where he stood in imminent danger. The fire raged till the 19th, when it abated, after destroying 7682 houses, about four-fifths of the town. This burning of Moscow has been attributed to a premeditated plan of the Russians; but Count Rostopchin, the governor, has denied this positively. "I am an individual," he says, "set fire to their own houses, rather than see them fall into the hands of the French soldiers seeking for plunder, or for wine and spirits in the cellars, where they got intoxicated, did the rest." (La Périn sur l’Incendie de Moscou, par le Comte Rostopchin, Paris, 1839.)

The marauders of Moscow used to be supplied, not from the immediate neighbourhood, but from a considerable distance in the interior, and especially from the southern districts towards Kaluga, where the Russian army was now posted. The French therefore could get no provisions, and they were only able to support their men chiefly on the flesh of their horses, which was salted down.

Napoleon remained among the ruins of Moscow for five weeks. He had sent Lauriston to the Russian head-quarters with a letter for the Emperor Alexander; the letter was forwarded to Petersburg, but no answer was returned. Napoleon was deceived in his calculations upon the temper of Alexander, and of the Russian people. At last, on the 19th October, seeing no chance of making peace, Napoleon began his retreat. The weather was fine and moderately cold; he was resolved to retreat before it was too late, when he expected to find provisions, but the stout resistance he met at Malo Yaroslavets induced him reluctantly to turn again to the road by Vareia and Viazma to Smolensk, by which he had advanced. He was closely followed by the Russian army; he was pursued not only by the Cossacks under the Hetman Platoff. His rear divisions had sharp engagements at Viazma and at the passage of the Wop. (Of Itallian in Russia.) His army dwindled away space, through fatigue, privations, and the constant attacks of the enemy. He had lost 20,000 horses, but was now reduced to one-half that number of fighting men: the rest formed a confused and disorderly mass in the rear, with an immense train of baggage and artillery. In this condition they were overtaken on the 6th November by the Russian army, which had arrived in time to prevent the greater part of the Cossacks under the Hetman Platoff. His rear divisions had sharp engagements at Viazma and at the passage of the Wop. (Of Itallian in Russia.)

This series of battles were fought about Dresden on the 24th, 25th, and 27th August between the Austrians and Russians on one side and the French on the other, in which the latter had the advantage. But in pursuing the allies into Bohemia, Vandamme, with a corps of 30,000, crossed the Jizera, and surrounded the Russian army. After much fighting, he had no longer an army. At Smorgoni, where he arrived on the 5th December, he took leave of his generals, left the command of the army, such as it was, to Mura, and set off in a sledge with Count Cami- laucourt to return to Paris. He arrived at Warsaw on the 18th December, and proceeded with some officers to De Pradt, where the latter has so humorously related. Continuing his route, he passed through Dresden on the 14th, and arrived at Paris on the 15th December at night. The remains of his unfortunate army were collected at Msz, on the line of the Vistula. On the 14th December, Berthier, dated 16th December, gives a dismal picture of the state of the troops after Napoleon left them:—"The plunder, insubordination, and disorganization have reached the highest pitch." The loss of the French and their auxiliaries in this campaign is reckoned by Boussuignat at 125,000 slain, 120,000 dead of fatigue, hunger, disease, and cold, and 133,000 prisoners, including 3000 officers and 49 generals. The "St. Petersburg Gazette" stated that the bodies burnt in the spring after the thaw, in Russia Proper and Lithuania, amounted to 308,000, of which course a considerable proportion were Russians. In the Berezina the French lost 7000 men, and in the ravines north of Warsaw about 9000, according to the Romanov, said to have been found. The French left behind 900 pieces of cannon and 25,000 wagons, caissons, &c.

Napoleon, after his return to Paris, exerted himself to recruit his army by fresh conscriptions, by drafting the national guards into his skeleton battalions, by recalling all the men he could spare from Spain, and by sending the sailors of his fleet to serve on land. He thus collected again in Germany, in the spring of 1813, an army of 350,000 men. The King of Prussia had now allied himself to Alexander, and his army of 300,000 men was neutralized; the Allies remained neutral; she offered her mediation, but Napoleon would hear of no cession on his part, in either Germany, Italy, or Spain. He soon after repaired to Germany, where he fought and won the battle of Lotzen, 2nd May, 1813, from the Russians and Prussians united. On the 21st he attacked them again at Bautzen, and obliged them to retire. But these victories led to no decisive results; the Allies retired in good order, and lost few prisoners and no guns, Bonaparte bitterly complained of this, and his generals—obliged to follow the Allies, could not prevent the French from losing Marengo, Austrolitz, Jena, when one battle decided the fate of the war. On the 22nd May, in another engagement with the retreating Allies, Duroc, his old and most faithful companion, who was one of the few personally attached to Napoleon, was killed. The dying man was taken to the house of a clergyman near the spot. Napoleon went to see him and was deeply affected. It was the only instance in which he refused to attend to the military reports which were brought to him. 'Every thing is far better,' he said, 'answer to his aides-de-camp.' He had a few days before lost another of his old brother-officers, Bessieres.

An armistice was now agreed to on the 4th June, and Bonaparte returned to Dresden, where Metternich came to him fresh on the 5th. The Allies, led by Austria, Austria proposed, as a principal condition, that Germany should be evacuating the French arms, and the boundaries of the French empire should be fixed at the Rhine, as Napoleon himself had repeatedly declared. But Napoleon would not hear of giving up the new acquisitions, nor was he anxious as far as Hamburg and Lubeck, nor would he resign the Protectorate of Germany. This led to a warm discussion, in which Napoleon said he only wished Austria to remain neutral while he fought the Russians and Prussians, and he would divide the spoils after the war was over; he was not afraid of the price of her neutrality. Metternich replied that things would go to that pass that Austria could no longer remain neutral; she must be either with France or against France; that Germany had been long enough tormented by these wars, and it was not to he left to the Canadians and Americans to national independence. The conferences however were carried on at Prague, without coming to any agreement; and in the midst of this the armistice expired 19th August, and Austria joined the allies. The
great superiority in numbers, and the French were driven close upon the ramparts of the town. The 17th passed without fighting; on the 18th the battle was renewed, the French divisions lost ground, and a body of 10,000 Saxons left them and went over to the enemy. Napoleon now marched to Geneva from the north-east, crossed the Rhine, and joined the 19th, the allies forced their way into the town after a desperate resistance, and the bridge being blown up, 25,000 Frenchmen were obliged to surrender prisoners. The retreat from Leipzig was nearly as disastrous to Napoleon as that from Moscow. His army was completely disorganized. He was, however, able to fight his way to Hanau, 30th October, through the Bavarians, his late allies, who now deserted him. He crossed the Rhine, and, passing over the 70,000 or 80,000 men, all that remained out of an army of 350,000, with which he had begun the campaign, he placed them on the left bank while he set off for Paris, where he arrived on the 9th November. (For the particulars of this hard-contested campaign of 1813, see Oebelein's narrative.) About 80,000 men left in the Prussian garrisons Magdeburg, Danzig, Stettin, &c. surrendered to the allies.

The enormous losses and reverses of the French armies, and the approach of the allies to the frontiers of France, produced a strong feeling of dissatisfaction in that country. The legislative body showed for the first time a spirit of opposition to the headlong system of Napoleon. A committee was appointed to draw up a report on the state of the country, which, maine, fisher, who had a character for independence, were of the committee. The report which they laid before the legislative body 28th December, 1813, expressed a desire for peace consistent with the honour and the welfare of France, and in a very moderate form expressed the sentiments of the nation. It was so desirable an object, and it ended by saying that 'while the government will take the most effective measures for the safety of the country, his Majesty should be entreated to maintain and enforce the entire and constant execution of the law, and to the French citizens the rights of liberty, property, and security, and to the nation the free exercise of its political rights.' The legislative body by a large majority ordered the report to be printed. This was a language which Napoleon had not been used to. He immediately ordered the doors of the hall of the legislative body to be closed and guarded by soldiers, and the copies of the report to be seized at the printer's. On the 31st an imperial decree adjourned the legislative body. On the 1st of January, 1814, several members of the legislative body having written to the emperor, he granted them an audience in a violent and coarse address, told them that they were not the representatives of the nation, but only the representatives of the individual departments; that he was the only representative of the people; that their report and the addenda which they had not had time to consider, were not not publicly to have commented on his conduct; and he ended by saying—'France stands more in need of me than I stand in need of France.' The senate, more subservient, had already passed a decree for a new constitution of 300,000 men, including all those who had escaped the conscriptions of former years. The taxes were at the same time ordered to be doubled; but the people were weary of these never-ending sacrifices, and in many departments it was found difficult to collect either men or money. Napoleon was driven to rock the nation to the bottom, to go more to no more than from 70,000 to 80,000 men. He had to contend with twice that number, besides numerous reinforcements which were hastening through Germany. Peace conferences were held at Châtillon, in which the allies proposed to fix the limits of France as they were in 1792, that is to say, with the exclusion of Belgium; but Napoleon would not listen to this. It was his last chance of peace. At the end of January, 1814, Napoleon began the campaign, which has been considered by tacticians as that in which he must be regarded as the victor. In his army he formed four fortifica-
tory combinations, fertility of resources, and quickness of movements. For more than two months he held at bay the various armies of the allies, now beating one corps and then flying to attack another; his troops, however, gave him his success. (See Mémories de la Campagne de 1814.) But the odds were too many against him. While he by a bold movement placed himself in the rear of the allies, the latter marched upon Paris, and after a hard-fought battle, 30th March, took possession of the whole line of defence which protected that city. He then left the town, and joined Blücher and Joseph Bonaparte, after the battle of the 30th, quitted Paris also. Marshal Marmont asked for an armistice, and this led to the capitulation of Paris, which the emperor Alexander and the king of Prussia entered on the 31st, amidst the loud acclamations of the people. He declared that they would no longer treat with him. Meanwhile a decree of the senate declared that Napoleon Bonaparte, in consequence of sundry arbitrary acts and violations of the constitution (which were specified and classed under various heads in the preamble to the decree), and by his refusing to treat with the allies upon honourable conditions, had forfeited the throne and the right of inheritance established in his family, and that the people and the army of France were freed from their oath of allegiance to him. A provisional government, consisting of Talleyrand, Bourbonville, Delberg, and others. Upon this, Bonaparte, after much reluctance, and upon his generals refusing to join him in a last desperate attempt upon Paris, which he mediated, signed the act of abdication of the 20th April, 1814; a former memorandum of 4th March declared that there was a reservation in favour of the rights of the empire and of his son. By a second act however he renounced unconditionally for himself and his heirs the throne of France and Italy. The emperor Alexander proposed that he should remain in Russia, and retain the title of emperor of the sovereignty of the island of Elba, and a revenue of six millions of francs to be paid by France. This was agreed to by Prussia and Austria; and England, though no party to the treaty, afterwards acceded to it. On the 20th April, Napoleon left Paris, after aCoding and the departure of 200,000 of his guards, left Fontainebleau for Elba. He ran some danger from the populace in passing through Provence, but arrived safe at Frejus, where he embarked on board the British frigate the Undaunted, and on the 4th of May landed at Porto Ferro, in the island of Elba. (See also the history of all these transactions in France, Baron Fain, Manuscrit de 1814. See also the Narrative of Napoleon Bonaparte's Journey from Fontainebleau to Frejus in April, 1814, by Count Truchses Waldburg, attendant Prussian at the court of Napoleon, 1815.) The army, which was under Gereau, who had issued an abusive proclamation against him, and other curious particulars concerning Napoleon's conduct on his journey, are contained in the latter work.

Napoleon remained in the Island of Elba about ten months. During this time all his plans for making roads, improving the fortifications, &c., but after some months, he was observed to become more reserved, gloomy, and frequently absent and lost in thought. He was, in fact, at the time, engaged in secret correspondence with his friends in France and Italy. During so many years of supreme power, attended by most splendid results, he had formed, of course, many adherents; men whose fortune was dependent on his; most of whom had lost their emoluments and prospects by his fall: the bold and aspiring, the confident in their future prospects of conquest and new organization of foreign states, who saw in Napoleon's disposal thousands of offices and situations with which to reward his old servants. The old soldiers, to whom the camp had become a home, regretted him who used to lead them from victory to victory, affording them free quarters, a continual change of scenes, and the pleasure of forming movements in the finest cities of Europe. His brothers, sisters, and other relatives, all rich, some still powerful, as Murat at Naples, felt that by his fall they had lost the main prop on which they rested. On the other side, the restored Bourbons had committed faults, and had alienated themselves to the old emigrants by whom they were surrounded; and lastly, France in general had been too long in a state of violent excitement to subside at once into quiet and contented repose. Many of the subordinate agents of the police, post office, and other departments, were in Napoleon's interest. A wide conspiracy was formed, the old republicans
joined the Bonapartists, and Napoleon was invited to return to France. (See, in Fleury de Chabulon's History of the 100 Days, an account of the intrigues carried on with Elba.)

On the 26th of February, 1815, Napoleon embarked with about 12,000 men on the island of Elba, and landed on the Ist of March at Cannes, not far from Frejus. At Grenoble, the first defection of the army took place: Colonel Labedoyere, commanding the 7th regt. of the line, joined Napoleon; the rest of the march to Paris was made by the army and the葆热将军 and Marshal Ney, the whole army; and Marshal Ney, sent by Louis XVIII, to stop Napoleon’s progress, went over to him; Macdonald and Marmont, and several other Marshals remained faithful to the oath they had taken to the King. Augereau also kept his post on the field. All information obtained in the country could depend upon Napoleon. Napoleon arrived at the Tuileries on the 20th of March, Louis XVIII having left the capital early in the morning by the road to Flanders. Napoleon’s return to Paris was accompanied with the declarations of the military, and the popular clamours in the suburbs; but the great body of the citizens looked on, astounded and silent: and he was recalled by a party, but evidently not by the body of the nation.

The Congress of Vienna was still sitting, when Talleyrand laid before them the news of Bonaparte’s landing at Cannes. They immediately agreed to join again their forces, in order to frustrate his attempts, and to maintain entire the execution of the treaties of Paris, of the 30th May, 1814, made with France under the constitutional monarchy of the Bourbon dynasty. The Austrians, Russians, and Prussian armies, who had evacuated France, resumed their march towards the frontiers of that country.

Napoleon, on his return to Paris, that he could not resume the unlimited authority which he had before his abdication. The republicans and constitutionalists sated, or not opposed his return with Carnot, Fouché, Benjamin Constant, and his own brother Lucien at their head, would support him only on condition of his resigning as a constitutional sovereign: he therefore proclaimed a constitution under the title of Acte additionnel aux Constitutions de l’Empire, 1814, 24 men and women, signed with the signature of Louis XVIII the year before. There were to be an hereditary chamber of peers appointed by the emperor, a chamber of representatives elected by the electoral colleges, and to be renewed every five years, by which all taxes were to be voted; ministers were to be responsible; judges irremovable; the right of petition was acknowledged, and property was declared inviolable. Lastly, the French nation was made to declare, that they would never recall the Bourbons; deputies from the departments came to Paris to swear to support the Napoleonic Constitution, although held on the 1st of June. The Emperor and his brothers were present at the ceremony.

The chambers opened on the 4th of June, while Napoleon prepared to march towards the frontiers of Flanders, where the allied armies were decided to carry out their ratification of the Treaty of Paris. He assembled an army of about 125,000 men, chiefy old troops, of whom 25,000 were cavalry, and 350 pieces of cannon, with which he advanced upon Charleroi, on the 15th June. Ney, Soult, and Grouchy held commands under Napoleon. On the 16th Napoleon, Bonaparte in person Marshal Blücher, who was posted with 80,000 men at Igelny, and drove him back with great loss. At the same time he sent Ney against part of the English army at Quatre Bras, which, after sustaining a severe attack, retained possession of the field of Quatre Bras, vol. 1, 1815. In consequence of Blücher’s retreat, fell back with his army to the position of Waterloo. Napoleon followed him, after dispatching, on the 17th, Grouchy, with a body of 30,000 men, to follow the retreat of the Prussians. (Grouchy’s Observations, 1815, par le General Gourgaud, Philadelphia, 1818.) On the 18th the famous battle of Waterloo took place. Napoleon’s army on the field was about 75,000, and Wellington’s force opposed to him consisted of 54,000 men actually engaged at Waterloo, of which the rest, about 16,000, being stationed near Hal, and covering the approach to Brussels on that side. There were 32,000 British soldiers, including the German Legion; the rest was composed of Belgians, Dutch, and Nassau troops. The events of the battle are well known. The battle of the 17th of June was fought with much cavalry upon the British line, gained some advantages, took possession of La Haye Sainte, but all the efforts of their cavalry could not break the British squares. In these repeated attacks, the French cavalry was nearly destroyed. At six o’clock, Bulow’s Prussian corps appeared on the field of battle, and soon after, Blücher came in person to join the Emperor. In his effort to break the English line, before the Prussians could act: he directed his guard, which had not yet taken part in the action, to advance in two columns against the English. They were received with a tremendous fire of musketry and grape, the charge of the guard was checked, but in so doing became confused, and at last gave way. Napoleon, who was following with his eye, through a spy glass, the motions of his favourite guards, turned pale and exclaimed, ‘They are mixed together!’ and galloped off to the field. The English, after a terrible battle, the battle of Waterloo, by English, French, and Prussian military writers; among the rest, Captain Pringle, of the Engineers; Captain Batty; Baron Muffling, under the assumed initials of C. de W., Histoire de la Campagne de l’Armée Anglaise et de l’Armée Prussienne en 1815, Gavarni, 1817; Gourgaud’s Narrative of the War of 1815, with Grouchy’s important comments upon it; Foy, Campagne de 1815; Napoleon’s own account in Montholon and Las Cases, and in the Memoires Historiques, published by O’Meara; Ney’s Letter to the Duke of Otranto, Paris, 1815; Rogniat’s account of the battle, and the account in Sir W. Scott’s life of Napoleon.)

The French accounts are evidently inaccurate as to several circumstances of the battle. One thing is certain, that Napoleon attacked the English repeatedly with all his force, and was repulsed with the loss of the flower of his troops: that after the last attack by his guards, at seven in the evening, which also failed, he had no reserve left; when the arrival of Blücher, with fresh troops on the field of battle, changed the whole issue into a total defeat. The astonishing firmness of the British infantry, to which several French Generals, and Foy among the rest, have paid an eloquent tribute of praise) gained the day; Bonaparte’s army fled in dreadful confusion, pursued by the Prussians, and lost cannon, baggage, and all. The loss of the English was about 2000 men and 200 officers. Of these, Grouchy was engaged at Wave, thirteen miles distant, with one division of the Prussian army, which gave him full employment, while the other Prussian divisions were marching on to Waterloo. His orders were to follow the Prussians, and attack them wherever he could meet them. (Grouchy’s Observations.) Napoleon seems to have underrated the strength of the Prussians, when he thought Grouchy’s corps sufficient to keep in check the whole of their army.

The battle of Waterloo finally closed a war, or rather a succession of wars, which was in process of an interruption for twenty-three years, beginning with 1792. As to these wars, Napoleon is only strictly accountable for those that took place after he had attained supreme power in France: in some of them, such as those of Spain and of Russia, he had no direct connection with them. In others, he gave sufficient provocation to those which Austria, England, and Prussia waged against him, the reader must judge for himself. His determination to be the dictator, the umpire of all Europe, left no chance of national independence to any one country; he had subdued all Europe, he would have reverted to his old scheme of the conquest of the East. Even his peace establishment, supposed him ever to have been at peace, was to consist of an army of 800,000 men, besides 400,000 of reserve. (Montholon’s Memoirs of Napoleon, vol. 7.) The events of the 18th were raised by conscription two millions one hundred and seventy-three thousand men, of whom two-thirds, at the least, perished in foreign lands, or were maimed for life. See the Memoirs of Laroy, one of the chief surgeons of his army, about this frightful waste of human beings. After the defeat of Waterloo, Napoleon having given his brother Jerome directions to rally the remains of the army, hurried back to Paris. The house of representatives declared itself permanent, and demanded his abdication. He was again placed in the situation of the former times, the former services of his brother, and of the claims which he had on the gratitude of France. ‘We have followed your brother (answered Lafayette) over the sands of Africa, and through the frozen deserts of Russia; the whitened bones of these battles you have left behind you, prove your triumphs were due to our long fidelity to him.’ Lucien made no impression on the assembly. He advised his brother to dissolve the cham-
The house of peers had adopted the same view as the lower house. There was but one man, it was said, who opposed Bonaparte on this question and that was his second abdication on the 22nd of June; but this time it was of his own accord, and against the advice of his intimate friends, Carnot, Luce, &c. (Résponse de Lucien aux Mémoires de Lamarque.) The abdication was in favor of his son Joseph, and Bonaparte was appointed by the chambers, and they required that Napoleon should leave France, and embark at Rochefort for the United States. General Beckler was appointed to escort him to Rochefort, where he arrived on the 3rd of July. All this did not take place, however, without controversy; an altercation occurred in the chambers, and much reluctance on the part of Napoleon; for which, see Hobhouse's Letters from Paris during the last reign of Napoleon, and Chabrol's History of the 100 Days. The allies, who entered Paris on the 7th of July, refuse to acknowledge Napoleon's right to abdicate in favor of his son, and on the following day Louis XVIII. re-entered the capital, and resumed the government.

Napoleon at Rochefort, seeing that the whole country around him was denouncing to the Bourbons, and finding that he had no chance of escaping by sea, through the vigilance of the English cruisers stationed along the coast, sent Count Las Cases and Savary to Captain Mainland, who commanded the English ship Bellerophon, to ask for leave to proceed to America, either by land or by sea, as a neutral vessel. Captain Mainland replied, 'That his instructions forbade this, but that if Napoleon chose to proceed to England, he would take him there on board the Bellerophon, without, however, entering into any promise as to the reception he might meet with as soon as he arrived in the port of London.' Napoleon was under the impression that the British government would receive him as the head of the government of the British crown, as to his future disposal. (Captain Mainland's statement of the whole transaction.) This offer was made by Captain Mainland, in his second interview with Las Cases, on the 14th July, and Napoleon, before he accepted it, addressed a letter immediately, repeating at the same time to him 'that he was not authorised to stipulate as to the reception of Bonaparte in England, where he must consider himself at the disposal of the Prince Regent.' On the 15th Napoleon left Rochefort and came on board the Bellerophon with his suite; as Captain Mainland was on the committee, to meet him on the forecastle, Napoleon said to him, 'I come to place myself under the protection of your Prince and your laws.' On the 24th the ship entered Torbay. On the 31st of July Admiral Lord Keith and Sir Henry Bunbury, under secretary of state for the navy, and Bonaparte met on board the Bellerophon, the final resolution of the British government,—that the Island of St. Helena should be his future residence. Napoleon protested against this determination, said he was not a prisoner of war, that he had come as a voluntary passenger on board the Bellerophon, that he wished to be allowed to remain in England as a private citizen, &c. On the 6th of August however Napoleon frankly acknowledged to Captain Mainland, that 'he had certainly made no conditions on coming on board the Bellerophon, that he had only consented to take the Bellerophon, as the price of the captain's conduct, which had been that of a man of honour.' On the 7th Napoleon removed from the Bellerophon to the Northumberland, Sir George Cockburn's flag ship, which was appointed to carry him to St. Helena. (For the particulars of Bonaparte's voyage, his landing at St. Helena, his residence, first at Briare and afterwards at Longwood, of his alternations first with Sir G. Cockburn, and afterwards with Sir Hudson Lowe, we must refer our readers to the minute work of Count Las Cases.)

By a convention signed at Paris, 20th August, 1815, between Great Britain, Austria, Russia, and Prussia, the custody of Napoleon's person was intrusted to the British government, and commissioners were appointed by Russia, Austria, and Prussia to combine with the British to secure his safe detention. In July, 1816, General Sir Hudson Lowe arrived at St. Helena as governor of the island. From the very first interview Bonaparte behaved uncivilly, or rather insultingly, to that officer, and this treatment was received with aggravation at every subsequent opportunity. One of Napoleon's great grievances was being styled General by Bonaparte; he not only detested Bonaparte, but detested the island unattended by a British officer. He was allowed a space measuring eight and afterwards twelve miles in circumference round Longwood, through which he might range at his pleasure; beyond these limits he was to be accompanied by four or five of his servants, and if he were ever detained as a prisoner at all. The governor however had no power to remedy these subjects of complaint. Various minor matters of dispute with the governor were laid hold of by Bonaparte and his attendants, as if with the view of keeping alive an interest in the public mind in favour of the exiles of St. Helena. We cannot enter into the particulars of this petty system of warfare, in which, as it generally happens, both parties may have occasionally been in the wrong. But it is impossible to read even Napoleon's statements, made through Las Cases, Santini, and Antoniochichi, without receiving that there was a determination on his part not to be pleased with any thing the governor could do for him, unless he had disobeyed his orders. Napoleon's mind was in a state of irritation whenever it recurred to the subject of his confinement, which made him irritable. He seems also to have had, almost to the last, some latent hope of making his escape. In other respects the particular of his life and conversations at St. Helena are highly interesting. He could be very agreeable towards visitors, and was always ready to listen to their complaints. He would see from Mr. Ellis's and Captain Hali's accounts of their interviews with him. In September, 1818, Napoleon's health began to be visibly affected, but he would take no medicines. He also refused to ride out, as advised, because he could not bear the attendance of a British officer. In September, 1819, Dr. Antoniochichi, of the University of Pisa, came to St. Helena as physician to Napoleon. Two clergymen came also from Italy to act as his chaplains. Towards the end of 1820 he grew worse, and remained in a weak state until the following April, when the disease assumed a malignant character. Bonaparte said that he believed it was the same disorder which killed his father, namely a scirrhus in the pyriform; and he desired Dr. Antoniochichi to examine his stomach after his death. He made his will, leaving large bequests to his friends and attendant. (Testament de Napoleon), and on the 3d of May, 1821, the chaplain Vignali administered to him extreme unction. Napoleon stated 'that he believed in God, and was of the religion of his father: that he was born a Catholic, and would fulfill all the duties of his religion, and that he desired his body to be buried in the cemetery of St. Helena.' On the 8th May his remains were interred with military honours in St. Helena's Valley, near a fountain overhung by weeping willows. This had been a favourite spot with Napoleons. The procession was followed to the grave by the governor, the commander, his attendants, and all the civil and military authorities. The grave was afterwards enclosed by a railing, and a sentry is kept on duty to guard the spot.

For the acts of Napoleon's internal administration see Bulletin des Lois de l'Empire and the Exégèse of his ministers; for the state of the finances see the various Comptes rendus, or report of the duke of Gaudin, and also Brezen, Histoire Financière de France; for the military institutions and organization of the army, see Tablons Politique et Militaire, which precedes Pélissier's History of the Peninsular war. Also Mémoires sur l'Empire, by Thibaudot, which is a continuation of his 'Mémoirs sur la Consulat,' the duchess of Abrantes' Memoires, and the numerous Memoirs of Napoleon's generals and ministers. See also JONAS. These Memoirs, 2 vols. 8vo, 1812, son of the emperor and of Maria Louisa of Austria, was born at Paris March 20, 1811. From his birth he was styled 'King of Rome.' After his father's first abdication in 1814 he went with his mother to Vienna, where he was brought up in the court of Francis, and was made Duke of Reichstadt. His education was carefully attended to, and he was early trained up to the military profession. After passing through the various subor
dinate grades he was made a lieutenant-colonel in June, 1831, and he took the command of a battalion of Hungarian infantry then in garrison at Vienna. He was extremely assiduous in his military duties, but his constitution was weak; he had grown very tall and slender, and symptoms of consumption developed in his system. When he learned that the physician advised a removal to Schönbrunn, which had at first a beneficial effect, but a relapse soon followed, and after lingering for several months young Napoleon died on the 22nd July, 1832, in the palace of Schönbrunn, atten-
ed by his mother, who had come from Paris to visit him. He seems to have been generally regretted at the Austrian court, especially by his grandfather, the emperor, who had always behaved to him with paternal kindness.

There is an interesting account of this young man's short career written by the third duke of Vincennes, Marie de Reastaud, Paris, 1852.

BONA/SIA (zoology), a subgenus of the true Tetramidae (grouse family), separated by Charles Lucien Bonaparte, Prince of Muscignano, and thus characterised:—Lower portion of the tarsus or Shank and the toes naked; tail long and rounded; the head adorned with a crest, and the sides of the neck with a ruff. The plumage of the female nearly the same as that of the male, and varying but little throughout the year; the flesh white.

Swainson retains the Linnaean name for the bird, and makes it the typical group of the subgenus, into which he divides the other species, and which, however, considerable doubt on the value of the types.

The Ruffed Grouse, Bonasia Umbellus of Bonaparte; Tetrao Umbellus and Tetrao toagus of Linnaeus; Tetrao Umbellus of Linnaeus and Swainson, is the Shoulder-Knot. The true grouses rivers of North America are divided into two groups:—Grouse and Grouse;—La Gélinote, a group of the Canadian Grouses;—La Gélinote de Canada and Le Coq de Brugière à fraises de Buffon;—the Pheasant of the Pennsylvanians, and of the inhabitants of the southern States; the White Fisher and Pheasant of the Anglo-Americans generally, and the Pusquaque of the Cree Indians.

Audubon says that to the west of the Alleghanies, and on these mountains, the term pheasant is generally used to designate the bird, and that the same appellation is employed to the whole group of the subgenus, till the state of Connecticut is entered, where the name of partridge prevails. Lawson uses the term pheasant. The pheasant of Carolina differs some small matter from the English pheasant, being not so big, and having some difference in feather; yet he is not as wise inferior in delicacy, but is as good meat, or rather finer. He haunts the backwoods, and is seldom found near the inhabitants. Wilson calls it throughout 'pheasant,' except in one place, where he terms it the 'pheasant or partridge of New England.'

According to the author last quoted, this bird is known in almost every quarter of the United States; is common at Moose Fort, on Hudson's Bay, in lat. 51°; frequent in the upper part of Georgia, and very abundant in Kentucky and Indiana. In the lower parts of Carolina, Georgia, and Florida, according to the same authority, it is very seldom observed, but on advancing inland to the mountains it again makes its appearance; and though it is occasionally met with in the lower parts of New Jersey, its occurrence there is much more northerly than the rest of the country; for even here they are far less numerous among the mountains than among the mountains.

Captains Lewis and Clarke found it in crossing the Rocky Mountains which divide the basin of the Columbia from that of the Missouri, and extended as far as the 49th parallel, from a measurement, from the mouth of the latter river. Dr. Richardson says that it exists as far north as the fifty-sixth parallel; and that it is very plentiful on the banks of the Saskatchewan; adding, in a note, that Mr. Drummond procured his first head of a pheasant in the valleys of the Rocky Mountains, which do not differ from those killed on the Saskatchewan. The limit of its southern range has been stated to be the Gulf of Mexico. Audubon found these birds most numerous in the States of Pennsylvania and New York, and he says that they are to be met with as far south as the Gulf of Mexico and the Choctaw territory; but that as you approach the city of Natchez they disappear; nor had he ever heard of one of these birds having been seen in the State of Louisiana.

'The manners of the pheasant,' says Wilson, 'are soli-
tary; they are seldom found in coveries of more than four or five together, and more usually in pairs or singly. They leave their sequestered haunts in the woods early in the moring, and seek the path or road to pick up gravel, and glean among the droppings of the horses. In travelling they are so quiet that the horseman who is riding with them is always able to furnish himself with an abundant supply of these birds every morning without leaving the path. If the weather be foggy or lowering, they are sure to be seen in such situations. They generally move along with great caution, with their breasts drawn close together, so that there were no hills nearer than fifteen or twenty miles. The lower parts of the State of Indiana, and also those of Ken-
tucky, were amongst the places where he so discovered them. The following is his account of the autumnal mi-
gratulations, which he seems to have first observed:

'The ruffed grouse, although a constant resident in the districts which it frequents, performs partial sorties at the approach of autumn. These are not equal in extent to the migrations of the wild turkey, our little partridge, or the pinnated grouse, but some sorties are no less obser-
vable during the seasons when certain portions of the mountainous districts which they inhabit become less abundantly supplied with food than others. These partial mov-
ings might not be noticed, were not the birds obliged to fly to their new haunts rivers away. Audubon noticed that the bands of these grouses are as numerous as those which attempt these migrations; but on the north-west banks of the Ohio and Susquehanna rivers, no one pays the least atten-
tion to the manners and habits of our birds can fail to ob-
serve them. The ruffled grouse, in the State of Ohio, in par-
ties of eight or ten, now and then of twelve or fifteen,
and, on arriving there, linger in the woods close by for a week or a fortnight, as if fearful of encountering the danger to be incurred in crossing the stream. This usually happens on the beginning of October, and is a very good order for the table, and at this period great num-
bers of them are killed. If started from the ground, with or without the assistance of a dog, they immediately alight on the nearest trees and are easily shot. At length, how-
ever, they resolve upon crossing the river: and this they accomplish with so much ease, that I never saw any of them drop into the water. Not more than two or three days elapse, after they have reached the opposite shore, when they at once proceed to the interior of the forests in search of places containing the generative plants of the ground.

They now resume their ordinary manner of living, which they continue until the approach of spring, when the males, as if leading the way, proceed singly towards the country from which they had retreated. The females follow in small parties of three or four. In the month of October, 1839, I observed a larger number of ruffled grouses migrating thus from the States of Ohio, Illinois, and Indiana into Kentucky, than I had ever before remarked. During the short period of their lingering along the north-west shore of the Ohio during the month of October, I observed a number of these birds, which they sold in the Cincinnati market for so small a sum as 12 cents each.

Wilson says that the ruffed grouse is in the best order for the table in September and October. At this season they feed chiefly upon the ripe partridge-berries, and the wild cherries, partridge-berries, the last of which give their flesh a peculiarly delicate flavour. With the former the mountains are literally covered from August to November; and these con-
stitute at that season the greater part of their food. During a deep snow they have been known to devour the horned alder, and the tender buds of the laurel. He frequently found their crops distended with a large handful of these latter alone; and adds, that it has been confidently as-
serted, that after having fed for some time on the laurel buds, their flesh becomes highly fiendish, and is not to be taken in taking of the poisonous qualities of the plant. The same has been asserted of the flesh of the deer, when in severe weather and deep snow they subsist on the leaves and bark of the laurel. 'Though,' concludes Wilson, 'I have myself eaten freely of the flesh of the pheasant, after emptying it of
large quantities of laurel buds, without experiencing any bad consequences, yet from the respectability of those, some of them eminent physicians, who have particularized cases in which it has proved delerious, and even fatal, I am inclined to believe that in certain cases where this kind of food is given, or where an illness is followed, it may be main undrawn for several days, until the contents of the crop and stomach have had time to diffuse themselves through the flesh, as is too often the case, it may be unwholesome and dangerous. Great numbers of these birds are brought to our markets at all times during fall and winter, some of which are brought from a distance of more than a hundred miles, and have been probably dead a week or two, unpicked and undrawn, before they are purchased for the table. Regulations prohibiting them from being brought to market unless picked and drawn, were probably suggested by prudence and prudence from all danger. At these inclement seasons, however, they are generally lean and dry, and indeed at all times their flesh is far inferior to that of the quail or of the pinnated grouse. They are usually sold in Philadelphia market at from three-quarters of a dollar to a dollar and a quarter a pair, and sometimes higher.

Most of our readers will remember the incident in Miss Edgeworth's admirable story of "To-morrow," where it is related that, in consequence of Basil's procrastination, Mr. Hubert took a pair of his fine ducks, and when they were suddenly seized with convulsions after eating of a pheasant, in whose crop Basil had seen what he believed to be, and what turned out to be, the leaves of Kalmia latifolia. Audubon, however, corroborates Wilson on this point, and states that the fear was ungrounded; and he adds that they have fed for several weeks on the leaves of the Kalmia latifolia it is dangerous to eat their flesh, and adds his belief that laws have been passed to prevent their being sold at that season, he states that he has eaten them at all seasons, and that he never found their crops distended with those leaves, he has never felt the least inconvenience after eating them, nor even perceived any difference of flavour in their flesh. He suspects with Wilson that it is only when the birds have been kept a long time undrawn and un-plucked that the horse is likely to get the taste of these leaves. But Audubon entirely differs from Wilson: in opinion with regard to the merit of these birds as food; for the former places them, in that respect, above the pin-nated grouse, and prefers their flesh to that of every other land-bird in the United States, except the wild turkey when in condition. Nuttall agrees with Audubon in the praise of the flavour of the bird; and Bonaparte says of it, 'Carnea biana excelle.' Audubon observes that they are brought to the market in great numbers during the winter months, from different parts of the west and in the eastern cities. At Pittsburgh he bought them some years ago at 124 cents the pair. Nuttall says that they are now greatly thinned throughout the more populous parts of the Union, and that they sell in Philadelphia and New York for 15 and 20 cents the pair.

The food of the ruffed grouse consists commonly in the spring and fall, according to the author last quoted, of the buds of trees, the catkins of the hazel and elder, even fern buds, acorns, and seeds of various kinds, among which he detected the capsules, including seeds, of the common small Canadian Cistus. * At times he has seen the crop almost entirely filled with the buds of the apple-tree, each connected with a portion of the twig, the wood of which appears to remain a good while undigested; cinquefoil and strawberries he has found in the stomach, also the leaves and boughs of Kalmia, with the favorite partridge berries. + Ivy berries, $ and gravel pebbles are also some of the many articles which form the winter fare of the bird. In summer they seem often to prefer berries of various kinds, particularly dewberries, strawberries, grapes, and whortleberries.

We will now lay before the reader the modes of capturing the bird. The following is Wilson's account:—

The pheasant generally springs within a few yards, with a loud noise, and flies with a peculiar noise from the woods beyond reach of view, before it alights. With a good dog, however, they are easily found; and at times exhibit a singular degree of infatuation, by looking down from the branches where they sit on the dog below, who, the more noise he keeps up, seems the more to confuse and stupify them, so that they may be shot down one by one.


In such cases those on the lower limbs must be taken first, for should the upper ones be first killed, in their fall they alarm those below, who immediately fly off. In deep snows they are usually taken in traps, commonly dead traps, supported on branches, in colloids, and the stomach is immediately alarmed, they frequently dive into the snow, particularly when it is newly fallen, and coming out at a considerable distance, again take wing. They are pretty hard to kill, and will often carry off a large load to the distance of two hundred yards, and still keeping a towering and crowing. Sometimes in the depth of winter they approach the farm-house and lurk near the barn, or about the garden. They have also been often taken young and tamed, so as to associate with fowls; and their eggs have frequently been hatched under the common hen, but they are not hatched. The only exception is the exceedingly fond of the seeds of grapes; occasionally eat ants, chesnuts, blackberries, and various vegetables. Formerly they were numerous in the immediate vicinity of Philadelphia; but as the woods were cleared and population increased they retreated into the interior. At present (1812) there are very few to be found within several miles of the city, and those only singly, in the most solitary and retired wooded recesses.'

Some parts of this account are impugned by Audubon. HisAYS, however, that the notion which exists in almost every district where these birds are numerous, that on firing at the lowest bird perched on a tree, the next above will not fly, and that by continuing to shoot at the lowest in succession the whole may be killed, is contradicted by my experience. At least I have been generally certain several times in this manner on the same tree, my efforts have proved unsuccessful, unless indeed during a fall of snow, when I have killed three and sometimes four. Audubon adds that it is a prevalent opinion among sportsmen and naturalists, that the peculiar sound which is made by the wings of this genus is a necessary effect of their usual mode of flight. 'But that this is an error,' he continues, 'I have abundantly satisfied myself by numberless observations. When this bird rises from the ground when pursued by an enemy or at the sound of the guns; or rather by the voice resembling that of the whole tribe, excepting the Black Cock + of Europe, which has less of it than any other species. In fact, I do not believe that it is emitted by any species of grouse, unless when surprised and forced to rise. I have often been lying in the bushes or the woods or the fields, for hours at a time, for the express purpose of observing the movements and habits of different birds, and have frequently seen a partridge or a grouse rise on the wing from within a few yards of the spot on which I lay unobserved by them. But I have never heard the noise in question from the bushy shrubs, and without producing any whirring sound.' The same author speaks of the difficulty of shooting when a covey of these birds is raised from amongst laurels, + or the largest species of bay, $ and of the necessity for having a quick eye and ready trigger to avoid their wheeling in the bushes or the intersecting shrubs. The second is very uncertain; for on being sprung a second time they fly lower and dodge among the bushes so effectually that the sportsman is completely baffled.

The pairing time of these birds is marked by a curious and sonorous act on the part of the male. Most of the grouse family gestate considerably at this period, and some produce very peculiar vocal noises: but the ruffed grouse makes the woods echo with the vibrations of his wings. The male, when he becomes acquainted with this peculiarity by the statement of eye and ear witness, will, according to Wilson's account is very good; but, as Audubon's is more particular, and our limits do not permit us to give both, we select the latter:—

+ In the article 'Black-cock,' 'Darztmore and Sedgmoore in Deovshire' are given among the localities (vol. iv. p. 402). The expression occurs in both editions of Montague (who resided in Devonshire) and in Selby, but there can be little doubt that Sedgmoore in Somersetshire, where the Duke of Monmouth was defeated, is the locality intended.

++ Kalmia latifolia. + Placobaeovium maximale.++

* Early in April,' says this indefatigable observer, 'the ruffed grouse begins to drum immediately after dawn, and again towards the close of the day. As the season advances, the drumming is repeated more frequently at all hours of the day; and where these birds are abundant, this curious sound is heard as far as the brightness of the woods in which they reside. The drumming is performed in the same drug manner:—The male bird, standing erect on a prostrate de...
The following is Dr. Richardson's description of a male killed on the 4th May, on the Saskatchewan plains:

**Colour.** Back, rump, and upper tail-coverts chestnut-brown, motteled and finely undulated with blackish-brown; the broad tips and a cordiform central mark on each feather pale-grey. Back of the neck, scapulars, and wing-coverts having the same colours, but the grey tips very narrow, the blackish-brown in large blotches, and instead of central marks, stripes along the shafts of orange-brown and brownish-white. Top and sides of the head, the tertiaris, and outer edges of the secondaries, motteled with the same. Eye stripe from the nostrils whisht. Shoulder-tuffs velvet-black, glossed with dark-green. Quills liver-brown, the outer webs barred near the base and motteled towards the tips with cream-yellow. Tail grey, finely undulated, and also crossed by about nine narrow bars and a broad subterminal one of blackish-brown. **Under plumage.**—throat and breast yellowish-brown, belly and vent brownish-white; all remotely barred, but most broadly on the sides of the belly, with blackish-brown, which also forms a band across the upper part of the breast between the ruffs. Inner wing-coverts and axillaries close-brown, barred and tipped with white. Bill and nails dark horn-colour. A male killed at the same time with the preceding, and of equal dimensions, shows more of the chestnut or orange-brown in its plumage, and the ground colour of its tail is yellowish-brown, the extreme tips and a bar next the broad subterminal dark one being grey.

Female has less of the blackish-brown colour; the shoulder tufts are orange-brown instead of black; and the subterminal bar on the tail is chestnut-coloured.

Young birds. In these orange-brown is the prevailing tint of colour.

**Form.**—Short crest on the top of the head: a fringed comb over the eye in the male. Shoulder tufts consisting of about fifteen fan-shaped feathers. Fourth quill the longest, slightly exceeding the third and fifth. Tail fan-shaped, of eighteen feathers, the central pair more than half an inch longer than the outer ones: the individual feathers nearly square at the end. Tarsi feathered more than half-way down anteriorly, and about half an inch lower posteriorly. All the toes strongly pectinated.

The dimensions, on an average, may be taken as eighteen inches in length, and twenty-three or twenty-four in extent.
Dr. Richardson states that, after a careful comparison of the specimens of Mr. Douglas's Tetrao Subisom, deposited in the Edinburgh Museum, they appeared to differ in no respects material in the Tetrao Bonasia (Bonasia), and that the characters by which Mr. Douglas distinguished his bird * are equally applicable to the latter.

Douglas, whose premature and violent death we have to deplore in common with all who are interested in the progression of natural history, has advised me to publish a paper on Bonasia Umbellus, by which he meant the Red Partridge, from the Rhone Mountains, 23° 4' N., and a few miles northward, near the sources of Peace River, a supposed variety of Bonasia Umbellus. On comparing his specimens from that country with some which he prepared in the States of New York and Pennsylvania, and on the shores of the lakes of New Jersey, he found it to be not in the least identical with the first, the northern bird was constantly one-third smaller, of a very light speckled mixed grey, having little of that rusty colour so conspicuous in the southern bird;—secondly, the ruffle consists invariably of only twenty feathers, short, black, and with but little azure glossiness; the crest feathers were few and short. 'Should these characters, adds the author, 'hereafter be considered of sufficient importance for constituting a distinct species, it might perhaps be well to call it Tetrao umbelloides.'

It is described as variety or species, it would certainly belong to Bonaparte's subgenus Bonasia.

We cannot conclude his article without earnestly pressing upon the consideration of those who are interested in such subjects, the ease with which the ruffled grouse might be made to produce the most desirable effect, provided that they were cultivated with Audubon, that in England and Scotland there are thousands of situations perfectly suited to the habits of this noble species of game. Audubon even goes so far as to say that he has not a doubt that a few years of attention will render this bird as numerous in these parts as the grey partridge; and we hope that this hint will not be lost on the sportsmen of Great Britain.

BONASONI, GIULIO, a native of Bologna. The precise date of his birth is unknown, but it was probably about 1498; the date of his death is equally uncertain; we only know that he was alive in 1572. It is conjectured, but without sufficient authority, that he studied painting under Lorenzo Subbattini. The few of his productions that remain do not exhibit any extraordinary power. As an engraver he is excelled by few, for though we should now consider him very defective in the mechanical treatment of the plate, he worked with the gusto of a genuine artist. He wrought almost entirely with the burin; and if he fails occasionally in the outline, he always catches the spirit of his original. His copies are so free, and yet so delicate and eating away of the landscape, he doubtless reduced his work to a point. His back grounds are flat and hard, his drawing sometimes uncertain, and his handling frequently very harsh; but there is so much grace and delicacy in his females and children—so much activity in his young men and majesty in his old—so much authority in his execution, that the expression of the great works which he copied are more valuable than those of many later and more dexterous artists. He has engraved from the works of Raphael, Michel Angelo, Titian, Parmignan, and many of the great painters; for he displayed his taste as much in the choice of his subjects as in the execution. He has left many engravings from original designs which are characterized by much grace and agreeable simplicity, but are wanting in force, and rather scat-tered than connected; any of his works are very scarce. (Malvasia; Lani; Strutt; Cumberland.)

BONASSUS. (Bison.)

BONAVENTURA, ST., was born at Bagnores in 1221. At twenty-one years of age he became a friar of the Order of St. Francis, and was sent by his superiors to Paris. He, as well as Thomas Aquinas, of the Dominican Order, became involved in contentions with the University of Paris, which denied the acaulemous honours, as well as the exercise of public professorship, to individuals of the mendicant order. But a bull of Papal V., being against individuals of the same species often very memorable in their markings.

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cause. The pope gave sentence in their favour but still the Parisian university refused to grant the laures to Bonaventura and Thomas Aquinas, and Gerard of Abbville from the theology of the Rhone, 23° 4' N., a few miles northward, near the sources of Peace River, a supposed variety of Bonasia Umbellus. On comparing his specimens from that country with some which he prepared in the States of New York and Pennsylvania, and on the shores of the lakes of New Jersey, he found it to be not in the least identical with the first, the northern bird was constantly one-third smaller, of a very light speckled mixed grey, having little of that rusty colour so conspicuous in the southern bird;—secondly, the ruffle consists invariably of only twenty feathers, short, black, and with but little azure glossiness; the crest feathers were few and short. 'Should these characters, adds the author, 'hereafter be considered of sufficient importance for constituting a distinct species, it might perhaps be well to call it Tetrao umbelloides.'

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They are employed instead of promises by word, or by unsealed writing, for the following reasons. First, a bond (like every covenant) to pay a sum of money may be enforced against the obligor, although no legal motive or consideration existed for making it (which is not the case with a verbal promise or a promissory note for its payment), for a debt made payable by the law to be in writing and sealed will, in many cases, be enforced against him, at the suit of the obligee, by a decree for specific performance of the agreement, or by an injunction against its breach; and thus, even where the penalty in a bond is insufficient, the obligee is not always without remedy.

The courts of Law do not consider that an implied covenant is created by the condition of a bond, so as to allow the obligee to bring an action upon it; but they, as well as those of equity, so far take the condition to be evidence of a contract upon which the bond is founded, as to hold it void, if the condition is unlawful. For though, as before said, a bond without consideration may be valid, yet a bond made for an unlawful consideration, or upon an unlawful contract, is void, like every other deed so circumstanced.

Penal bonds have almost superseded, in general use, bonds without condition, or single bonds. Even when a bond is intended to secure the payment of money, the constant practice is to make it in the form of a bond for money, and thus a condition of a penalty attached to it, which is really to be paid, with a condition of making the bond defeasible upon the latter sum being duly paid with interest. The chief advantage of such a bond over a single bond was, not that any more money than was fairly due to the obligee was secured under it (for the stat. 4 and 5 Ann. c. 16, forbids that), but that full advantage could be taken, from which the debt was satisfied, might be obtained, if within the penalty; whereas, under a single bond for payment of the principal and interest at a certain day, no interest beyond that day could be claimed. That defect of the single bond, however, is supplied by stat. 3 and 4 W. IV. c. 42, s. 28.

A bond is sometimes made by or to several persons together. In such case, the bond may have different effects, according as it is prepared, as either a joint bond, a several bond, or a joint and several bond. In a joint bond, the several obligations are not applicable equally to covenants, and is noticed under that title. [Covenant.]

The several modes in which a bond may be discharged (when not actually satisfied) may also be learned by referring to the same of the laws by which the binding or the discharge of covenants, which equally apply to bonds, are mentioned.

BONE, a living organ of complex structure, forming in the higher animals the basis of the fabric of the body. The human body is composed of bone, and bone is composed of soft gelatinous matter and buoyant in water, need no solid support; but all animals that possess solid organs, and whose body rests upon particular points, must have some substance of a dense and inflexible nature to afford to those various tissues and structures the requisite resistance and support. Throughout the animal kingdom the substances that serve this purpose are the salts of lime, sometimes the carbonate, sometimes the phosphate, and at other times both combined in different proportions. When in the bone the proportion of lime is preponderant, it is called lime predominates, it contains the substance called shell; when there is a greater proportion of the phosphate it is called a crust, as in the coverings of the lobster, the crab, and so on; but when the earthy matter consists almost wholly of the phosphate it constitutes bone.

When an animal possesses bone as the solid support of its fabric, it indicates a high degree in the scale of organization. Bone is an elaborate structure found in no class below the vertebrata. Even the lowest order of this, which is the lowest class of animals, is wholly destitute of it; for it is not found in large tribes of fishes, the shark, the sturgeon, the ray, &c. In these, the least highly organized substance called cartilage is substituted, and accordingly these fishes are called cartilaginous, in contradistinction to the bony fishes. The class in which we find bone as the dense and inflexible substance which sustains the soft parts of the body, and which affords points of resistance for the action of those parts, consists either of shell or crust, or of some modification of these inorganic matters, and not of true organized bone.
In general the inorganic matter which performs the office of bone in the lower animals is placed on the exterior of the body, and often indeed forms its external envelope; true bone, on the contrary, is always placed in the interior. Even when it approaches the surface, bone is always covered by some soft part, as muscle, membrane, skin, &c. Crust, also, as is well known, is composed in part of the bone, which is an inferior animal, is thus external, the soft parts being internal; but in the higher animals the skeleton is always internal, and the soft parts, which are sustained by it, and which re-act upon it, are external.

The structure of the animal economy is chiefly mechanical, and the mechanical purposes to which it is subservient require that it should be of different sizes and forms. In the human skeleton there are commonly enumerated 260 different bones, which present every variety of size, form, and structure. It is from this diversity that they are divided into three classes: the long and round, as the bones of the upper and lower extremities: the broad and flat, as the bones of the skull; or the short and square, as the separate bones that compose the vertebral column. The long bones are adapted for motion, the flat for protection, and the square for motion combined with strength. Accordingly the long bones, which are adapted to communicate a free range of motion, are moulded into lengthened cylinders, and form so many levers, constituting organs of locomotion, exerting a force of participation in the performance of their office, as is seen in the fin of the fish, in the wing of the bird, and in the limbs of the quadruped. In the employment of the flat bones for the covering of some of the more tender and delicate organs, as the brain and spinal column, the bones are thick in proportion to their strength, as it is manifest in the vaulted roof of the skull; while in the construction of the vertebral column, composed of the short and square bones, which are so adjusted as to afford a limited range of motion with a great degree of strength, so many and such opposite purposes are in conflict, by means so simple yet so efficient, that no fabric constructed by human ingenuity approaches the perfection of this admirable piece of mechanism.

The structure, formation, and connexion of the individual bones accomplishes in the most perfect manner the following mechanical uses:—1. By their hardness and firmness they afford a support to the soft parts, forming pillars to which the more delicate and flexible organs are attached, and kept in their relative positions. 2. By the same properties of hardness and firmness they defend the soft and tender organs, by forming solid and strong cases in which such organs are lodged and protected, as the case formed by the bones of the cranium for the lodgment and protection of the brain; and also the bones of the vertebral column for the lodgment and protection of the spinal column; and the bones of the thorax, for the lodgment and protection of the lungs, the heart, and the great vessels connected with it. 3. By affording fixed points for the action of the muscles, and assisting in the formation of joints, they aid and are indissolubly connected with the muscles in accomplishing the function of locomotion.

Bone is a complex organ, and the arrangement and combination of its constituent parts are highly curious. It is composed essentially of two distinct substances, an animal and an earthy matter. The animal matter consists of organic substances, both in its nature and in its arrangement, to cellular membrane; the earthy matter consists of phosphoric acid combined with lime, forming phosphate of lime. The cellular membrane is aggregated into plates or laminae, superimposed one on another, leaving between them intercellular spaces or cells, in which is deposited the earthy matter, phosphate of lime.

This structure of bone is rendered manifest by subjecting it to fire. If bone be placed in a charcoal fire, and the heat be gradually increased, it appears, on cooling, as white as chalk; it is extremely brittle; it has lost very much of its weight, yet its bulk and shape are little changed. This is such a warm substance that it is consumed by the fire, while the earth is left unaltered. Over the surface of a bone which has been treated are visible a number of minute crevices, the spaces which were filled, in the natural state of the bone, with the animal matter; and on breaking the bone across, the size and shape of the cavities which contained the marrow become manifest. If, on the other hand, the same bone be placed in an acid sufficiently diluted to prevent its injuring the animal membrane, and yet strong enough to dissolve the phosphate of lime,—if for this purpose it be macerated in dilute nitric or muriatic acid,—every particle of the phosphate of lime may be removed, and the animal matter alone will remain perfectly uninjured and unaltered. Accordingly, the remaining substance retains the exact figure and dimension of its organic constituents, and the same material properties and mechanical properties. It is so soft and flexible, that if either of the long bones of the human arm, that for example called the radius, be treated in this manner, it can with the utmost ease be bent into a knot. By the first process the earth is obtained, depoited of its animal constituent; by the second, the membranous matter free from the earth. In the bone both are combined; in every constituent atom of there is an earthy in intimate combination with an animal matter. The first gives it hardness; the second tenacity; the two together give it strength. But by analysing the bones, the various qualities, which in unorganized matter are scarcely compatible, are combined. By increasing the proportion of phosphate of lime any degree of hardness can be obtained: the bony portions of the ear, the bony portions of the teeth, for example, are as hard as flint, or even flint; but substances so hard would not do for the ordinary purposes of bone, because they would be brittle in proportion to their hardness, and would be productive of fatal mischief whenever they were subject to any sudden and violent concussion. But bone is made compact and strong by the elastic matter which is the basis of the structure, and not only acts as a strong cement interposed between the calcareous particles, but, by the increase of its relative proportion, is capable of modifying the rigidity of the thinnest bone. Bones not only differ so much from one another in their comparative hardness, according to the office which each has to serve, that no two bones possess the same degree of rigidity, but no bone is equally hard in its entire substance. When a section of a bone is made in such a way as to show its structure throughout, it is seen to consist of two varieties, a hard or compact, and an alveolar or spongy substance. In general the compact forms the external and the spongy the internal portion of the bone: the compact part of the bone possesses a more or less scarcely any visible arrangement, without apparent fibres and laminae; but towards the inner part of the bone the substance becomes less and less dense, until at length it presents the appearance of minute and delicate fibres, which intersect each other in every direction, forming the cells termed canaliculi (lattice-work). The transition from the compact to the spongy or cancellated part is not marked by any distinct boundary; the one passes into the other by insensible degrees, showing that there is no essential difference between them; and indeed it is evident, when examined in the densest part of the bone there is scarcely any trace of specific organization, it is made up of fibres and plates perfectly similar to those of the spongy or cancellated part, differing from it principally in its greater degree of condensation. Often in the centre of the bone there is scarcely even of the spongy matter, but a hollow space is left, which is filled up with a series of membranous cells in which the substance called marrow is lodged.

In the arrangement of the fibres in different bones, so as to adapt them to the specific purposes of each bone as an exquisite mechanism. Where the principal object is either extensive protection, or the provision of broad surfaces for the attachment of muscles, the osseous fibres are so disposed as to form flattened plates, as in the bones of the skull. When the bone is composed in a very small part, as in the limbs which have to sustain the weight of the trunk, and to confer extensive powers of locomotion, the bones are modelled into lengthened cylinders, generally somewhat expanded at the extremities for greater convenience of muscular connection, but the bone itself is almost constituted to resist the forces applied transversely, that is, tending to break the cylinder across; it has been often stated that a given quantity of materials could not possibly have been disposed in a manner better calculated for such resistance than those in the form of a tube or hollow cylinder. The hollow stems of vegetables derive their chief strength from
possessing this form. Bones also are rendered both lighter and stronger by being made hollow than if the cylinder had been solid; and as it is in the middle of the shaft that the strain is greatest, so it is here that the cavity is largest and the resistance most effectual.

The chemical composition of bone may be easily understood from the word itself. The earliest deposit is a white substance which contains the phosphates of lime; the animal matter is condensed albumen. Albumen constitutes the basis of membranous matter of all descriptions. As it actually exists in bone, it bears a close resemblance to cartilage, and is probably identical with it. Into the composition of bone there likewise enters a quantity of jelly, which may be extracted from it by boiling, and the younger the animal the larger is the proportion of jelly.

It has been stated that the central cavities of some of the larger bones are filled with a gelatinous or jelly-like colloidal matter contained in a series of membranous cells, which, like those in which the fat is deposited [Adipose tissue], do not communicate with each other. Even the pores and canals of bone also contain a kind of jelly matter, which is supposed to differ from marrow only in possessing a greater degree of fluidity. This jelly matter is secreted in longitudinal canals, which pass through the solid substance of the bone, together with its nutrient vessels. The use of the marrow, and of the modification of it which constitutes the jelly matter, is not well understood. Without doubt it serves the same purpose on an economy as the other oily secretions. [Adipose tissue]

All bones are covered by a membrane named, on account of its affording them an external envelope, periosteum. The outer surface of this enveloping membrane is connected to the periosteum of the surrounding cells by means of strictures, by means of which the outer layer of the periosteum is firmly adherent to the substance of the bone. This adhesion is effected by innumerable fibres or threads, which on examination are found to consist of blood-vessels. The periosteum is in fact the membrane on which the nutrient arteries of the bone rest, divide, and ramify in order to enter the osseous substance. These threads are much more numerous in the child than in the adult; and accordingly the adhesion of the periosteum to the bone is much firmer in the former than in the latter, as the quantity of blood distended by the arteries is greater. Moreover, in general, the inner surface of bones is also lined by a fine and delicate membrane, commonly termed the internal periosteum, the continuation of which forms the membranous bags in which the marrow is contained.

Great attention has been paid to the phenomena attending the growth of bone, and the facts ascertained relative to its progressive development are not only interesting and important in their own nature, but afford a singular confirmation of the correctness of the preceding statements as to its growth. The bone is composed of two portions. The one, of very early period of its existence, that is, about the seventh or eighth week after conception, the parts destined to become bone are found soft, gelatinous, and semi-fluid; but the figure of several of the larger bones can already be distinctly traced. As yet there is not a particle of bone contained in these gelatinous masses, nor anything approaching the consistence of a solid compact substance. It is merely a semi-fluid matter contained in a delicate membrane. The newly-formed arteries of the system, by the agency of which the different structures are to be developed, gradually penetrate the organized membrane, the arteries which are to form bone at length arrive at these pulpy masses. By degrees these masses are observed to acquire more consistence; and at length pass from a soft and semi-fluid state into that of a solid and firm substance, which assumes the appearances which resemble the properties of cartilage. This cartilage, at first transparent and colourless, after some time exhibits in different parts of its surface opaque whitish spots. These spots, when examined by the microscope, are found to consist of a number of delicate lines, which progressively increase in thickness, and form the bone. The bone is dispersed through them, indicating that the blood-vessels of the parts are so much enlarged as to be capable of admitting the red particles of the blood; and now particles of bone are copiously and rapidly deposited, inasmuch that the parts are increasingly formed and rigid, and this rigidity increases to such a degree that the blood seems to be scarcely capable of forcing a passage through its vessels, compressed as they are by the dense matter which accumulates around them in all directions.

Thus the first animal matter that forms the basis of bone appears to be jelly; for jelly, alburnum, a more highly organized substance, is soon substituted; as the process of ossification advances, the proportion of jelly gradually diminishes, while that of alburnum increases. The first deposition of bony particles takes place in cartilage; this cartilage, and a few particles of jelly matter are deposited, and this first-formed cartilage is replaced by a totally new deposition of animal matter, namely, the membranous substance which subsequently forms a constituent part of bone.

Such is the process of ossification, in regard to which it has been justly and beautifully said by Dr. Rogert, that as sculptors, before working upon the marble, first execute a rough model of an elastic material; so the first business of the arteries is to prepare a model of the bone, constructed, not with the same material of which it is afterwards to consist, but with another of a simpler and softer nature, namely cartilage. Until the other parts of the fabric have proceeded so far in their development as to have acquired a certain degree of fluidity, and to bear as well as to require the support of more massive and rigid structures, this flexible and elastic cartilage may be employed with great advantage as its substitute. A hard and unyielding structure would, in the early stages of its formation, be unsuited to the purposes of a frame, and as the fabric is enlarged, the necessity for mechanical support increases, and further provision must be made for resistance to external violence. The removal of the cartilage may be compared to the taking down of the scaffolding which has been employed for the support of a building. When the scaffolding is not taken down at once; each part is carried away piece by piece, as the operation of fixing in their position the beams and pillars of the edifice proceeds. The way is cleared at first by the absorption of the central part of the cartilage, and the earlier portion of the fibres are deposited in its room. Greater activity is now displayed in the arteries, which rapidly enlarge in diameter, assume more active functions, and hasten to execute their task by depositing granules of calcareous phosphate: these are laid down in the cartilage, and the part is afterwards arranged in well-marked regular lines, so as to form continuous fibres. When a great number of these delicate fibres are gathered together, and connected by other fibres, which shoot in various directions across them, a texture composed of an assemblage of long spicula or thin plates is constituted. In the cylindrical bones the spicula prevail, and are arranged longitudinally, parallel to one another and to the axis of the bone. In the flat bones the fibres have a radiated arrangement, shooting out from the spot where the first deposit took place as from a common centre. The fibres from different centres is not indiscriminate, but is regulated by definite laws. Each distinct bone is formed from a certain number of ossific centres, which altogether constitute a system appertaining to that bone only, and not extending to the adjacent bones. These pieces unite together and are united by a natural affinity, and they refuse to unite with the bony fibres proceeding from neighbouring centres and belonging to other groups.

Were this the whole of what takes place in the formation of bone, not much would remain to be ascertained, but it proceeds mainly from that by which a shell is produced; for a shell is the result of successive depositions of calcareous matter, forming one layer after another, in union with a corresponding deposit of animal membrane. But the subsequent changes which occur are in the constitution of the bone totally dissimilar to that of shell; for the addition of the parts that are once formed and have not been removed is subject to any further alteration. It is a dead though perhaps not wholly inorganic mass; appended indeed to the living system, but placed beyond the sphere of its influence. But bone is a living organ, and may be an integral part of the system, partaking of its changes, modified by its powers, and undergoing continual alterations of shape, and even renewal of substance, by the actions of the living vessels.

The form which had at first been rudely sketched slowly advances towards perfection in the course of its growth, and the general proportions of the parts are still preserved, the finished bone exhibiting prominences and depressions in the same relative situation as at first, and not only having
similar internal cavities, but being frequently excavated in parts which had before been solid. During all these gradual alterations of shape, however, there is no stretching of elastic parts, for all the osseous fibres and laminæ are rigid and unyielding, and in this respect retain an analogy with the walls of an amphitheatre. The bone is so formed as to lend itself in no other way than by the actual removal of such parts of the young bone as had occupied the situations where vacuities are found to exist in the old bone. We find, for instance, that in the early state of a bone there are no internal cavities; but the whole is taken up by collagenous tissue. At a certain stage of ossification cells are excavated by the action of the absorbent vessels, which carry away portions of bony matter lying in the axis of the cylindrical or in the middle layer of the flat bones. Their place is supplied by an abundant cellular tissue which grows over the hollow and when this exceeds, while new layers are deposited on the outside of the bone and at the end of the long fibres, the internal layers near the centre are removed by the absorbent vessels, so that the cavity is further enlarged. In this manner the outermost layer of the young bone gradually changes its relative situation, becoming more and more deeply buried by the new layers which are successively deposited, and which cover and surround it; until by the removal of all the layers situated nearer to the centre it becomes the innermost layer, and is itself destined in its turn to disappear, leaving the new bone without a single particle which had entered into the composition of the original structure.

It has been found that, by mixing certain colouring substances with the food of animals, the bones will soon become dyed with the same substance. This was first done by Mr. Belcher, who gives the following account of the circumstances that led him to notice it. Happening to be dining with a colico-printer on a leg of fresh pork, he was surprised to observe that the bones, instead of being washed, were not paved with a coating of the dye; and on inquiring into the circumstances he learned that the pig had been fed on the refuse of the dyeing vats, which contained a large quantity of the colouring substance of madder. So curious a fact naturally attracted a good deal of attention among his friends. He therefore took pains to ascertain the time required to produce this change, and to determine whether the effect was permanent or only temporary. The red tinge was found to be communicated much more quickly to the bones of growing animals than to those which had already attained their full size. Thus the bones of a young pig were tinged of a rose colour in twenty-four hours, and of a deep scarlet in three days; while in the adult bird fifteen days were required merely to produce the rose colour. The dye was more intense in the small bones, especially those in which the heart, the centre of circulation, while in bones of equal solidity, but more remote from the heart, the tinge was fainter. The bone was of a deeper dye in proportion to the length of time the animal had been fed upon the madder. When this diet had been continued for some time it became gradually more tinted, till it entirely disappeared.

From the whole of what has been stated it is manifest that bone possesses blood-vessels, nerves, absorbents, and all the parts that form the essential constituents of an organized and living body. It is as much alive as the heart or the brain. In its natural and healthy state it has indeed but few blood-vessels, and still fewer nerves, and the existence of absorbents is rather inferred than demonstrated, these vessels being too minute to be visible; but their existence is apparently implied from many of the phenomena which have been detailed, and which are wholly inexplicable but upon the supposition of the existence and action of these vessels. Moreover, bone is subject to all the diseases of living parts, inflammation, tumefaction, suppuration, and gangrene, and when diseased it often becomes quite insensible. There is indeed no difficulty in supposing that the animal matter is alive, but how is it possible for life to be attached to an earthly salt? Yet on a careful examination of this subject, as has been forcibly very recently pointed out by Mr. Belcher, it may be fairly said that there is no point out any essential difference between the earthly and the animal substance. Both are derived from the blood; both are deposited by vessels connected with the arterial system; both possess a specific determinate arrangement; both are capable of the most exquisite sensitivity, and again carried into the mass of the circulating fluids; both, before they are ultimately expelled from the system or are again applied to any other use in it, undergo decomposition, in order that part of their elements may be employed in forming new compounds, while the remainder may be rejected by some of the excretory passages. 'I should be inclined therefore,' says this physiologist, 'to say that the blood is not the producer of the bone, but that both are formed by different processes, entirely distinct from each other.' This opinion is, as is well known, also arrived at by the physiologist, who says that 'the bone is not the mere residue of the blood, but that the blood is necessarily a living substance, and that bone is not a dead, but a living substance, because the bone is so generally; but the phlosphate of lime or its elements while they are circulating in the blood or passing off by the kidney or alimentary canal, cease to be so, in the same manner as the carbon which is expelled from the lungs, and which in the mouth are not considered as being alive, although they may perhaps a short time before have been employed in the composition of a muscle or nerve. This view of the subject will lead us to reject the mechanical idea which has been so much entertained of the growth of the bone, which matter of the bones is simply deposited in the interstices of the membrane, and has its particles kept together merely by the cells in which they are lodged. I conceive that the earthy particles have an affinity for each other, and perhaps for the membrane by which they are combined in a form that belongs to them as necessarily as to any of the soft parts, although it produces in them a peculiar arrangement which may not be found in any other substance.' (Monro's Outlines of the Anatomy of the Human Body; Bostock's Elements of Physiology; Roger's Animal and Vegetable Physiology; Sir Charles Bell's Lectures on the Hunterian Preparations in the Museum of the Royal College of Surgeons, in Illustration of Anatomy and Physiology; Abernethy's Physiological Lectures; Southwood Smith's Principles of Physiology.)

BONES have been of late years very extensively used as manure, especially on poor and dry sands and gravels. Many cargoes from abroad have been imported for this purpose into the eastern parts of Britain. Bones have thus become probably the most valuable article of commerce with Germany, Belgium, and Holland; so much so that the governments of some of these countries have had it in contemplation to subject them to an export duty.

Experiments on bones as a manure were made long before their use was thought of for this purpose. Many experiments were made, and many bones in general, were not attended with a very favourable result, in consequence of the bones not being broken into sufficiently small pieces, or being put upon the land too fresh a state. But since mills have been erected to crush them to a smaller size, and the proper use of them has been ascertained, the advantage of this manure, in distant and uncultivated spots, where the carriage of common stable or yard manure would have been too expensive, and where it could not be made for want of food for cattle, is inacculable. By means of these mills bones have been broken down into small pieces and the bones, half-inch bones, and dust. Most of the bones procured from London and the manufacturing towns have undergone the process of boiling, by which the oil and a great part of the gelatine which they contain have been extracted.

At first sight we should be led to imagine, that having lost much of the rich animal matter which they contained, they would be proportionately less effective in the soil. This, however, does not seem to be the case from the comparative experiments which have been made. The bones do not, however, as a matter of fact, produce the same effects of oiling and boiling, and those which were quite fresh. All those who have used bones extensively report, that little difference can be observed between them; some even give the preference to those from which the oil and glue have been extracted. But oil and glue form exceedingly little of the bones, and this being so, is it to be explained? It appears, from the result of many experiments, that bones do not furnish much nourishment to the roots of plants until they have undergone a certain degree of decomposition. The fat and the gelatine, being intimately bound up with the bones, and which latter being not decomposed, may remain a long time in the earth without decomposition. As a proof of this, it has been found that bones which had lain in the earth for many centuries, on spots where ancient battles were fought, aforesaid, or on analysis, are found not to have undergone any great decomposition, even in the earthy parts, as fresh bones would have done. Bones analysed by Pourceroy and Vauquelin were found to consist of
It would seem, then, that the great effect of bones, as a manure, must depend on the phosphate of lime; and the effect of the bones in the cases of which I speak is founded on the exactness of the analysis. A close examination of the fields and pastures to which the bones have been added or ploughed in, has led us to surmise, that much of their importance depends on the mechanical texture of the bone, and on its power of absorbing and retaining moisture; for if a plant, which vegetates with bones, is cut down in a field manured with bones be pulled up, it will be almost invariably found that small pieces of bone are attached to the roots; and when these are minutely examined, the smaller fibres of the roots will be found to have grasped them, and to pervade their cavities, which will always be found more or less moist. The moisture, then, and a small portion of the remaining gelatin dissolved in it, forms the food on which the plant has thriven. The more the bones have undergone fermentation, the more soluble the gelatin will be. In its fresh state, it is only soluble in very warm water, and the oil rebels to the attacks of many of the stronger acids; but at the expense of a large part of the superiority of boiled bones. They have undergone a fermentation. The residue, although not deprived of all its animal matter, is much more porous, and will imbibe and retain moisture in its pores. The food of the plants is here readily prepared and dissolved, and kept in such wise as to prevent the danger of being washed through a porous soil or evaporated by the heat. The solid substance, which is chiefly phosphate of lime, has a stimulating effect, and assists that of the more soluble parts. But phosphate of lime is not soluble in water, and does not conduce to the growth of vegetation in the earth; its effect therefore is not so great as to account for the general result. The universal experience of all those who have used bones as a manure proves that they are of little or no use in very stiff or wet soils. In stiff clays the pieces of bone do not rot down, and in these soils, phosphates are necessary for their decomposition, and in very wet soists the advantage of these small but numerous reservoirs of moisture is lost. Hence it is easily seen why bones are of less use in such soils.

But it is ascertained that the effect of bones on the crop is much increased when they have been previously mixed in heaps with ashes, burnt clay, or light loam, or made into a compost with the dung of animals, and with vegetable substances. In this case, the fresh bones will evidently become more soluble. For bones when thrown into holes and left unboiled for fermentation will extract and decompose the oil and a great part of the gelatin, which, mixed with the other ingredients of the compost, will much enrich them; while the bony residue will be in the same state as it would have been if put out to rot. By this process, bones are mostly converted into manure. By comparing all the facts, we naturally come to the conclusion, that the most economical use of bones is to extract from them the oil and gelatin, which, if not of sufficient value for the manufacture of glue or of ammonia, may be used as a supplementary food for pigs, in the form of a broth or pot liquor, which, mixed with meal, will greatly accelerate their growth or increase their fat. For this purpose the bones should be broken in the mill to a moderate size, like those called natch bones; they should then be boiled a few hours to extract the lipoids; and by the addition of this, on cooling, will be found to form an animal jelly of more or less strength, which may be thickened by boiling, and finally dried into a glue or digestible powder, which will keep for a considerable time.

The price of fuel and attendance being calculated, it will be seen whether this operation is a real economy or not; if not, the bones may be allowed to ferment in a heap, being mixed with sand or coal-ashes. In this case, they may be ground at once to the size called half-inch; in the other, they must be passed again through the mill after having been boiled.

The mode of applying bone manure to the land is either by sowing from twenty to forty bushels of them per acre by the hand broadcast, as is done with corn, and harrowing them in with the seed; or by putting them into the drills by a machine made for the purpose, which is an addition to the common drilling machine. This is the most ap

proved method, and the crop for which they are best adapted is turnips, after the land has been well cleaned and tilled. About twenty-five bushels per acre is sufficient to produce a good crop on poor light sands, and it does not appear that beyond this number they have a proportionate effect. It is better therefore to repeat the dressing than to put on much at once. When used as a top-dressing for grass-land, they have, in some instances, produced a great and very durable improvement, when the quantity was large; but in most cases, a medium portion is advantageous to reserve them for turnips or corn. Bones have been drilled with wheat, at the rate of thirty bushels of bones and two and a half of wheat per acre, and a good crop (twenty-four bushels per acre) has been obtained on very poor soil: while they have produced almost no effect on any bones, in order to ascertain the effect, did not produce sufficient plants to cover the ground or return the seed.

When bones are compared with farm-yard dung the result has been various, and chiefly owing to the seasons and the nature of the land. In strong loams or in very moist seasons the farm-yard dung, put on at the rate of from ten to fifteen tons per acre, has decidedly the advantage, not only for the turnips but for the subsequent crops. On very dry gravelly soils and in dry summers the bones produced more turnips; and when the comparative cost is taken into consideration, bones may have added almost to any amount, if bespoken in proper time. Many farmers in England have, by bringing into cultivation by means of bones, as the only manure which could be procured, and without which they must have remained in a barren state. Bones have also been compared with rape cake and mild dust, but there has not been a sufficient number or proper spread of manure to test the result, but it is probable that these last, when they can be procured sufficiently cheap, would greatly assist the effect of bones if mixed with them, and would reduce the success of a crop of turnips more certain under such circumstances. Of this subject the practical farmer knows that a good crop of turnips is the foundation of all the subsequent crops in the course. A great advantage of manuring land with bones is that they introduce no weeds, which farm-yard dung inevitably does. This is probably the reason why they have never been used on land which has been fallowed; and turnips being the usual crop first sown on such light lands as are most benefited by bone-manure, the greatest number of experiments have been with this crop. That they are an excellent addition to the list of ammonia manures is well known. It is shown by the answers to queries made by the Donecator Agricultural Association, of which an interesting report has been published. Whatever difference there may be in the opinion of some of the numerous agriculturists who have sent their results on this subject to the editor, bones on different soils, all who have tried them to any extent have continued the use of them. This simple circumstance says more in favour of bones than the most elaborate argument, and the only question will be, at what expense they may be procured, and on what lands they have the best effect. When the immense quantity of bones from the cattle daily slaughtered is considered, and the readiness with which any commodity for which there is a demand is procured in commerce, there can be no great fear of a de
deficiency of them, for their price is likely to be increased by a great demand as to make it a matter of nice calculation, whether their use may be attended with profit or not. If once they are very generally used, their price will arrive at a maximum, and find its natural level. At present they may be obtained in London and at the principal ports for about 2s. per bushel coarsely ground, and 2s. 6d. to 3s. when in a finer state; and at that price, with a small addition for carriage, they will be found the cheapest manure that can be purchased for dry, gravelly, and sandy soils.

To which it will be observed that the grind bones consists of two iron or steel cylinders, with grooves cut transversely. The circumstance, the projections being cut so as to form strong teeth. These turn upon another by means of machinery, so that the teeth of one run in the groove between the teeth of the other, as may be seen in the annexed cut.

An instrument has also been invented for distributing
bones, ashes, rape-dust, and similar dry manures in the drills at the same time with the seed. It consists of a very simple addition to the common drilting machine, and is described under the word DRILL.

The cut represents Bonellia viridis, which is found in the Mediterranean.

BONET (JOHN PAUL), is said to have been attached to the secret service of the king of Spain; he was also secretary to the constable of Castile, out of friendship towards whom he undertook the instruction of his brother, who had been deaf and dumb from the age of two years. Only one person is known to have approached to success in the art of instructing deaf-mutes, previous to Bonet. This was Peter Ponce, also a Spaniard, and a monk of the order of St. Benedict, who must be regarded as the first instructor of the deaf and dumb. It does not appear that Bonet had any acquaintance with the means pursued by his predecessor; he represents himself as the inventor of the methods which he describes. (De Gerando, De l'Education des Sourds-Muets, tom. i. p. 312.) ‘Great knowledge and uncommon learning,’ says the translator of De l'Epée’s method of instructing the deaf and dumb, ‘qualified Bonet for the province of tuition; in which he succeeded beyond every hope. The work which he published at Madrid in 1620 is now very rare: it is entitled Reducción de las Letras, y arte para enseñar a hablar los Mudos. It commences with showing that the deaf-mute must be made to distinguish and to form the letters of the alphabet, which for this purpose are reduced to their most simple elements. Having remarked that the deaf are only mute by reason of their deafness, he explains how various kinds of knowledge may be imparted to them by means of sight, to which they are unable to arrive by the ear. These means are indicated by nature, the language of action being a natural language. The deaf and dumb who have never associated together would very soon come to understand each other by the use...
The other works of Bonet attest his industry, but are of less utility: 'Mercurius Compilatus, seu Index Medico-Practicus,' Geneva, 1683, fol.; 'Medicina Septentrionalis Historia,' Geneva, 1685, 2 vols. fol.; 'Polyalthia,' 3 vols. fol. Geneva, 1690, 1691, 1693. This is a bulky commentary on Johannitana Syntagma Nosocomia.

Bonet being made a baronet died on the 29th of March, 1659, in the seventeenth year of his age. He possessed great knowledge, and was distinguished for his modesty and modesty. (Eloy, Dictionnaire Historique.)

BONFADIO, JACOBO, was born in the beginning of the sixteenth century at philosopher, was born on the bank of the lake of Garda. He studied at Padua, and afterwards proceeded to Rome, where he became secretary to Cardinal di Bari, with whom he remained three years, which he mentions in his letters as the happiest of his life. He was then established in Padua, where he died, Bishop of Cardinal Ginucci, but here he met with an enemy in the person of another dependant of the Cardinal, on whose account Bonfadio left. He was on the point of going to Spain with an envoy of the Duke of Mantua to Charles V. when the envoy suddenly died. He then went to Naples, where he became intimate with Pietro Cardesecchi, who was afterwards burnt at Rome for heresy. From Naples Bonfadio wandered about several parts of Italy, until he was invited by Bembo, who was then living at Padua, to come to his house and take the habit of a Jesuit. In 1537 he became assistant to the Tructor. Bonfadio appears to have remained at Padua five years. From Padua he now and then visited the banks of his native lake, and also occasionally Coloniosa, a villa of his learned friend Marc Antonio Flamino. He has praised, in his letter to the Duke of Mantua, the scenery of those places. At one time he had the idea of founding an Academy on the banks of the lake of Garda, and he applied to Count Martimengo and other noblemen of Brescia to counteract his project. Having accepted in 1543 the project of the professor of Bologna, who was also said to have been in the service of the prince of Carignan, and to have continued his employment as a teacher of the deaf and dumb for many years.

BONET, THEOPHILUS, an eminent physician, was born at Turin, near the end of March, 1629. His family was originally Italian and of noble rank, but his ancestors had removed from Rome to the south of France about a century previous, in order to enjoy the free exercise of their religion. His grandfather being compelled to have recourse to some means of gaining a livelihood, chose the profession of medicine, and obtained such eminence, that he was invited to Turin to become physician to Charles-Emmanuel, Duke of Savoy. But he appears to have possessed too much independence of mind to have retained the court favor. Of the period of his life, particularly from 1556, Andrew Bonet was born. He also practised medicine, and after losing his first wife he removed to Geneva, where, having married a second time, he had two sons, John and Theophilus. The hereditary celebrity of the family determined his son to study medicine, and though the son arrived at great eminence, he left no work to testify his ability. Theophilus, after having visited many of the most celebrated universities, took the degree of doctor of medicine in 1645. Soon after this the Duke of Longueville appointed him to private practice, but he quickly rose to eminence by the success of his practice.

During the course of his practice he was diligent in collecting observations on the progress and terminations of diseases, which formed the basis of his subsequent publications. His earliest work was 'De Morbis Medicorum, id est, Diagnosticon, Animadversiones et Observationes Practicas,' Geneva, 1668, 2 vols. 12mo. Each time this work was reprinted he enlarged it and altered the title, so that the edition of 1697 was called 'Lavabitius Medicus extensius,' 4to. Geneva; and that of 1687, 'Methodus Vitandorum errorum qui in Praxi occurrunt,' 4to.

Incurable deafness having compelled him to retire from practice, he devoted his time to digesting his observations, and published his celebrated work, in 1679, entitled 'Bonet's Practica,' which a large part of medical men used to consult. It appeared in 1700, 3 vols. folio. This formed the basis of the great work of Morgagni, 'De causis et sedibus morborum,' which highly esteemed the labours of his predecessor. Littauud also availed himself of this valuable repertory of facts in morbid anatomy.

No. 291. [THE PENNY CYCLOPAEDIA]
able opinion of his character and learning. He asserted the authority of the Roman see over the churches of Illyricum, which was then in a state of political anarchy, and his letters were consequently written from Boniface to Rufus, bishop of Thebolonia, and also between the two emperors, Arcadius and Honorius. Boniface died A.D. 423, and was succeeded by Celestine I.

BONIFACE II. succeeded Felix IV. in 530. It is recorded of him that, although a native of Rome, he was sent by Ostrogoth Alaric to become a deacon of the Roman clergy assembled in the Basilica Julia chose Dioscorus, while the rest met in the Basilicas of Constantine for the election of Boniface. The schism lasted only twenty-eight days, when Dioscorus fell ill and died. Boniface was then elected without opposition, and in the elections of bishops, and he also condemned the practice of a bishop appointing his own successor. Platina, Vita Pontifici.

He died in 532, and was succeeded by John II.

BONIFACE III. was elected in March, 607, and died in November of the VI. year. He obtained the imperial Phocas the acknowledgment of the supremacy of the see of Rome over all other churches. This circumstance renders his pontificate remarkable. He was succeeded by

BONIFACE IV., who consecrated the Pantheon, having first removed the images of the heathen gods, and dedicated it to the Virgin Mary and all the martyrs. He transformed his paternal house in the country of the Marsi into a monastery, on which he bestowed all his property. He died in 615, and was buried in St. Peter's church. Boniface IV. was canonized by the church, and his body was later transferred to the basilica of Rome. He was succeeded by Benedetto, who was himself succeeded in 619 by

BONIFACE V., a Neapolitan, who died in 622, and was succeeded by John III., the native of Tuscany, and son of the Bishop Adrian, succeeded Formosus in 625, and died fifteen days after his election. He was succeeded by Stephen VII.

BONIFACE VII. Cardinal Franco or Francone, was elected in a popular tumult, when Benedict VI. was seized and strangled in 974. Boniface himself was expelled from Rome in the following year, having incurred general detestation through his licentiousness and cruelty. Boniface is not considered a legitimate pope, though his name is registered as such in most chronological tables. He returned to Rome in 985, and put John XIV. in prison, where he died of hunger, as it is reported. Boniface again assumed the papal dignity, which he retained a few months, till August of the same year, when he died, and John XV. was elected pope.

BONIFACE VIII. Cardinal Benedetto Gaetani of Anagni, succeeded in January, 1294, Celestine V., whom he had persuaded to abdicate on the ground of incapacity, and whom he afterwards confined in the castle of Fumone, where Celestine died a few months after, under suspicious circumstances. Boniface interposed between Charles II. of Anjou, king of Naples, and the French at the election of Albert of Orléans to the see of Rome. He made the latter consent to give up Sicily to Charles. But the Sicilians would not be surrendered to their hereditary enemy; they proclaimed Frederic, James's brother, their king, and resisted both the arms of Charles and the intrigues and the threats of Boniface, who launched his excommunications against them without effect. In 1297 James of Aragon came to Rome and was induced by Boniface to turn his arms against his brother Frederic, on which condition the pope granted him the investiture of the crown of Sicily.

In the contest about the succession to the German empire, after the death of Rudolf of Hapsburg, Boniface took the part of Adolf of Nassau against Albert of Austria, Rudolf's son. At the same time Boniface waged a war of destruction against the Colonna, a powerful feudal family, which held possession of several towns and estates in the countries of Rome and Naples. The origin of this quarrel is not clearly ascertained. It appears that two cardinals of the house of Colonna had opposed Boniface's election, and although no papal letter ever came from Boniface accused them of having dissipated the treasures of the church, of holding correspondence with Frederic of Sicily, and other charges. The two cardinals wrote to the French and other kings against Boniface, complaining of his disputed election, which they considered as his own affair. Upon this the pope excommunicated the whole family of Colonna and their adherents, calling them heretics, and declaring that they had forfeited their honours and estates and property of every sort. Further, he proclaimed a crusade against them, besieged Preneze, which he took and put to the sword, and banished the whole house of Colonna, relics of the same family. The two cardinals escaped to France, and Sciarra their uncle was obliged to conceal himself in the forests near Anzio, whence he afterwards escaped by sea only to fall into the hands of pirates.

Boniface proclaimed the first jubilee in the year 1300, granting by a bull a plenary indulgence to all those who should visit the sanctuaries of Rome in that year. This attracted an immense multitude of foreigners to Rome. The pope, from his house in Rome, which he himself, recogins the number of strangers at 200,000 at one time, had the number of 700,000, in the circle of Asti states the number of all those who visited Rome during that year at two millions. This jubilee brought to Rome a vast quantity of money. Before Boniface the plenary indulgence had been granted only to those who went to the crusades for the deliverance of the Holy Land.

Boniface, still aiming at the reduction of Sicily, sent for Charles de Valois, brother of Philip le Bel, king of France. On arriving at Florence Charles supported the faction of the Nejet, by which Dante and many others were exiled. He then went over to Sicily, but after a desultory warfare peace was made, and Frederic was acknowledged as king of Trinacria in 1303, on condition of his paying to the Roman see a tribute of 3600 onza, or 15,000 florins. A merchant travelled from France to Rome in the year 1305, to carry to King Philip le Bel. The pope pretended to share with the king the tithes levied on the clergy; he also created the new bishopric of Pampures without the king's consent, and he appointed the bishop his legate in France. The bishop behaved insolently to the king, who ordered hym in charge to the Archbishop of Narbonne. Upon this Boniface excommunicated the king, placed his kingdom under interdict, and wrote to Albert of Austria, confirming his election and inviting him to make war against France. Frederic assembled the states of the kingdom and laid before them twenty-nine charges against the pope, accusing him of simony, of heresy, of licentiousness, and even of sorcery, and appealing to a general council of the church. Some of the charges were either invented or exaggerated by Philip, who was a most unprincipled man, although at the time Boniface's conduct was far from irreproachable. The next measure of the pope was to proclaim all Philip's subjects released from their allegiance. The king resolving to put an end to this, his dangerous struggle, sent Guillaume de Nogaret, a notary, with unceasing letters for the partizans of the Colonna and the other enemies of the pope. Nogaret was joined by Sciarra, who had escaped from captivity. The pope was at Anagni, when Nogaret and Sciarra suddenly entered the town followed by a strong body of horsemen, and arrested Boniface himself. Nogaret was for taking him to Lyons, where the council was to assemble; but Sciarra insisted upon Boniface abdicating, abused him, and even struck the old man with his gauntlet. Boniface behaved with dignity and firmness; he was kept three days in confinement, during which it is said he would not take any food. At last Cardinal del Fesco induced the people of Anagni to rise and deliver the pontiff, and Sciarra and Nogaret were obliged to leave the town. Boniface returned to Rome, but his health had received so much injury that he was unable to sit up for about nine years of a most turbulent pontificate. F. Dupuy and A. Baillet have written the history of the quarrel between Boniface and Philip le Bel. Boniface was one of the most strenuous assertors of the apostolical supremacy of the pope over princes and nations, and in spiritual matters. He was an invertebrate persecutor of the Guibelines, for which Dante has alluded to him at length in canto xxvii. of the "Inferno."

BONIFACE IX., Cardinal Pietro Tuscanelli, a Nepos of Boniface VIII., was elected in 1399 by the cardinals at Rome after the death of Urban VI. This was the time of the great Western schism as it is called, which began between Urban and Clement, styled the VItth, who held his court at Avignon. Clement having died in 1394, the cardinals then elected another, that of Benedict XIII. Boniface however continued to exercise the papal authority at Rome, regardless of the Avignon popes and conclaves. Endeavours were made by several
souvereigns to assemble a council and put an end to the schism, but both Boniface and Benedict were averse to this measure.

Boniface died at Rome in 1404, and was succeeded by Innocent VII. The church of Rome has ever since acknowledged Urban and Boniface and their successors as legitimate popes, and considered Clement and Benedict as anti-popes. [Benedict, Anti-pope.]

During his pontificate of nearly fifteen years Boniface was involved in petty quarrels, but afterwards recognised the more fortunate Ladislaus as king. Perugia and other towns of Umbria and the Marches acknowledged the pope as their suzerain in 1378, and the province of the Marches, being addicted to a worldly policy, having seized upon the ecclesiastical revenues for temporal purposes, and enriched his brothers and nephews.

BONIFACE, SAINT, a native of Devonshire, was born about A.D. 866. He became a monk, and resided for a time in a convent at Southampton, where he acquired reputation for learning and piety. When thirty-six years of age he set out for Rome, where he expounded to Pope Gregory II. his wish to preach the gospel to the heathen nations of Germany. Pope Alexander IV. and Pope Urban II. supported his scheme and appointed him the bishop of Mainz, from Northumberland, as well as Kilian, an Irish bishop, had preceded him. The pope having sanctioned his vocation, Boniface joined Willibord in Frisia, from whence he repaired to Thuringia, Franconia, and other parts of Germany. There he was met with the acrimony of idolatrous and Christian rites, and the people plunged in ignorance and barbarism. For more than thirty years he laboured in converting and civilizing the rude natives, and he well deserved the title which has been given him of 'the Apostle of Germany.' He founded four cathedrals, Erfurt, Bamberg, Aichstadt and Würzburg, with a school attached to each, and he established numerous monasteries both for monks and nuns. These monasteries were generally built upon uncultivated grounds, which were cleared and tilled, and the monks, a whole community, kept in close contact with the diffusion of Christianity. The monastery of Fulda, founded by Sturm, one of Boniface's disciples, was the means of reclaiming a vast tract of ground which had been till then covered by forests. In discussing in our days the question of the use and abuse of monastic institutions, we ought not to overlook the fact, that monks were the great civilizers of modern Europe in the dark ages which followed the destruction of the Roman Empire. Boniface was made archbishop of Mainz, and metropolitan of all the new dioceses on the right bank of the Rhine. He was despatched to Rome in another capacity as his arduous task, and Willibald, Wunibald, Burchard, Luillus, Lebin, Willhaid, and the nuns Lioba, Thecla, Walberg and others, obeyed his summons. Boniface was supported by Carloman, and afterwards by Pepin, sons of Charles Martel, who, by authority or influence, placed a garrison in his hands. 

Without the protection of the Frank prince (he observes in one of his letters to his friends at Winchester) I could neither govern the people nor protect the priests and virgin consecrated to God; without his prohibitions, without the penalties which he denounces on those who refuse to obey me, vain would be the attempt in this country to abolish heathen ceremonies or idolatrous sacrifices. (Epistolæ S. Bonificati, quoted by Dunham in History of the Germanic Empire, vol. i.)

In reading the regulations of Boniface for the order of the monks included in his garrison, we are struck with the low state of morality which he found in Germany, of the difficulties he had to encounter, not only on the part of the heathens, but from the converts themselves, and of the beneficial effects which his injunctions and example must have had on the people at large. In 753 Boniface again visited Frisia, a country still in great measure pagan.

Having assembled a multitude of converts he pitched tents in a field for the purpose of giving them confirmation, when a band of heathens fell upon the encampment, and killed or ate the bishop and several of the sacred procession. In the year 757, Joannes, a disciple of Boniface, was sent to Frisia to propagate the gospel, and he returned much mazed and killed. (Vita S. Bonificati in Malbon, tomo iv., and Dunham's History of the Germanic Empire.)

BONIFACIO, a town of Corsica, on the S. extremity of the island, facing the coast of Sardinia. It is a fortified town, has a good harbour, and about 3,000 inhabitants. The town is built on a hill which projects into the sea. Bonifacio was originally a colony of the Genoese in the 14th century. The country near Bonifacio is one of the most fertile and pleasant districts of Corsica. It produces corn, fruit, and has good pastures. Bonifacio is 44 m. S.E. of Ajaccio, in 18° 57' 40" W. lat. (BONIFACIO, STRAITS OF, dividing Sardinia from Corsica. The narrowest part between Longosardo in Sardinia and the southernmost point of Corsica, E. of the town of Bonifacio, is about 10 m. wide. At the E. entrance of the Straits are several clusters of islands, the principal of which is the island of Cargese, belonging to Sardinia. North of this Corsican coast is the island of Cavallo, and between that and Maddalena is Santa Maria, with several other islets and rocks, which make the Mediterranean sailors in general avoid passing through the Straits, unless they are compelled. The islands are arranged in a straight line along the coast. The islands in these Straits were noted for contraband trade during the maritime war in the time of Napoleon.

BONIN, or ARZOBISPO ISLANDS, a group of islands in the North Pacific, lying about N. by E., extending from 32° 44' N. lat., as seen to the southward to 26° 39', and probably running much farther in that direction. In longitude the kohn portion is comprised by 143° and 144° E. long. The only account of them is from the visit of the Blossom in 1877; and Captain Beechy in Observations in the Solomon Islands, gives the description of a group called Yolas del Arzobispo in a work published many years ago at Manilla (Navegacion Especulativa y Pratica), as to leave no doubt of their being the same. They had been expunged from the chart all but three, called Holy Baby, Holy Cats, and Holy Soil; the Shaloo, one of the first, had passed to the N. and S. without seeing any other than these; but in 1823 they reappeared in Arrowsmith's map.

They consist of three distinct groups: the northern, called Parry's Group, are mostly small islands and rocks. The central and southern, called Beechey's Group, are larger, separated from each other by narrow and deep channels. In the southern group the islands appear to be still larger and higher, but of this portion little is known, as Captain Beechy had not time to examine them. It appears that in 1850, three small islands were anchored among this southern group, and that Mr. C. gave his name to the port, and was the first who furnished any certain information concerning this archipelago.

The islands are of volcanic formation, and smoke is seen to issue from some of them: they are steep and high, and wooded to the shores. The coast is broken, and full of grottoes. They: in many places basaltic columns of a grey or greenish hue appear, resembling the Giant's Causeway in miniature; olivine, hornblende, and chalcedony are found. The shores are surrounded with sharp rugged rocks, and often with coves: the sea is generally calm and deep. They are quite uninhabited, but at the time of the Blossom's visit two of the crew of a whaler which had been wrecked in Port Lloyd were living on one of the islands, and had got a piece of ground under cultivation. The rest of the crew of three men and ten dogs, and two preferred remaining. The islands abound in the cabbage and fan palms, the former of which is an excellent vegetable, areca, pandanus, tamanu of Otaheite, and various other trees; the sea also contains abundance of turtle, ray, eels, cray-fish, and a great variety of others, of the most beautiful colours. Of birds, there are brown herons, plower, rails, snipe, wood-pigeons, crows, and small birds: also a species of vamara bat, some of which measured three feet across the extended wings, with a body eight inches long. These islands are not marked on the charts, but are shown on the map, is derived from Japanese accounts of a group called Bon-In Sima; but setting aside the geographical inaccuracy of the position there assigned them, it appears from the description given by M. Abel Remusat, in the Journal des Scavans, Long, 1824, and the chart of the English Discovery, that they appear to abound in good harbours, and are now frequently visited by whalers, who go to them for turtle, fish, and the cabbage palm. (Beechy's Voyage to the Pacific and Bering's Strait.)

BONN, one of the eleven minor circles of the circle of Cologne, which forms that part of the Rhenish provinces belonging to the crown of Prussia, which is designated the

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province of Cleves, Juliers, and Berg." It consists of a portion of the former possessions of the archbishops of Cologne, and contains within an area of about 105 square miles, 1 town, 55 villages, and 28 hamlets, 76 churches and other places of worship, 98 public buildings, 2,376 houses, and 6,898 dwelling-houses. The Rhine, with the exception of the burgomastership of Villingen, which lies on the right bank of that river, is its eastern boundary. The soil is throughout productive, and favourable to the growth of all descriptions of grain; the average annual produce of wheat in good years is estimated at about 392,800 Berlin bushels, or 72,800 British imperial quarters. Wine and tobacco are also raised. The population, which was 35,203 in 1816, 36,952 in 1825, and 42,447 in 1831, is at present about 44,800. Exclusive of the city of Bonn, the universal university circle contains one gymnasium, and one Protestant and forty-four Roman Catholic national or elementary schools. In every forty inhabitants there is not more than about one Protestant. The burgomastership of Bonn, one of the nine into which the circle is divided, contains the town and university of the same name, a place of some antiquity, situated on a gentle eminence, in a pleasant and fertile country, on the left bank of the Rhine. In records of a remote date it was called Bunna, a word which Arndt derives from the Celtic Bahn, a spot containing productive fields, pastures, and meadows. Bonn became head-quarters of the sixth Roman legion, and, according to Antoninus's 'Itinerary,' was afterwards kept up as one of the Roman strong-holds on the Rhine. It rose ultimately to be a place of some note, and was the residence of the bishops of Bonn, whose see was confined ad 70. According to Tacitus (Hist. iv. 20), the Roman troops under Herennius Gallus were defeated near Bonn by the Batavians under Claudius Civilis; the ditches of the place were filled with dead bodies, and numerous were the arrows from the arrows of their brother combatants. Bonn and Nevigrum, and such are repeatedly mentioned in the subsequent account of the Batavian contest as places where the Roman generals mustered their forces. Bonn is less frequently alluded to it is affirmed by some, though scarcely on sufficient grounds, to have been the place of Christian baptism in the 8th century of the Christian era, in consequence of the preaching of Maternus, bishop of Cologne; and it is known that Helena, the mother of Constantine the Great, about the year 316 built the church in this town, on the site of which the Minister church was afterwards built. In the year 355 Bonn was destroyed by an irruption of German tribes, and in 359 was rebuilt by the Emperor Julian. Under the Frankish sovereigns it is said to have borne the name of Chelles, and in 1240 the Rhine at Bonn, in his second campaign against the Saxon army (1181), it was almost ruined by the Normans. In 1240 it was surrounded with walls and a ditch by the archbishop of Cologne, who conferred a variety of immunities upon it: from the 13th century, it was the chief and only the archbishops of Cologne. The Emperor Charles IV., was scouring the Rhine here in 1346, about which time it had risen into sufficient importance to conclude a treaty of defensive alliance with Cologne and other towns on the Rhine, when it undertook to furnish an auxiliary of 500 men. During the Thirty years' war Bonn was exposed to great sufferings and vicissitudes. In 1673 the French, who had possessed themselves of the place, were besieged in it by the prince of Orange and Montecuccoli, and surrendered after a slight resistance. Having possession of it fifteen years afterwards, they extended and greatly strengthened its fortifications. In 1689 it was taken by Frederick III., elector of Brandenburg, after a three-months' siege; and in 1702 it was captured by the duke of Marlborough, the operations of the siege had been conducted by the famous Marshal Marath Coehorn. The fortifications were razed in 1717; and in 1777 Maximilian Friedrich, elector of Cologne, founded the academy, which was enlarged into a university in 1784. This university was dissolved by the French, and remained in a state of ruin and neglect until Bonn's possession of the town, but was re-established upon a more extensive scale by the presentation of Prussia, on the 18th October, 1818, the twenty-fourth article of the act of the congress of Vienna having transferred it to him as part of the provinces of the Rhine. This renders the Rhine its eastern boundary: it is skirted on the south by the former electoral palace, and on the north and west by the Minster church, and a succession of gardens which stretch as far as the banks of the river. It has at present the appearance rather of a modern than of an ancient town, and though it cannot be termed a well-built place, for several of the streets are narrow and ill-lighted, its appearance at a distance, with its吶the empire of the Rhine 吗● 路 section of the country 吗● 路 the river also renders the atmosphere damp. Bonn forms a circular figure of nearly equal diameter from north to south and east to west: the distance from the Cologne to the Coblenz gate does not exceed ten or twelve minutes' motion, with the current. The river here is navigable in a substantial manner, twenty-nine public edifices, eight churches and chapels, nine mills and manufactories, five gates, and a population of about 12,000 (1789, 9460; 1800, 8833; 1811, 9167; 1823, 10,860; and 1825, 11,526), besides the garrison and between 700 and 800 students. The inhabitants derive the principal means of their subsistence from the university, from their fields, gardens, and vineyards. The chief manufactures in the town are cottons, silks, and sulphuric acid. The buildings without the gate are on the increase, and dispose of their produce through the commission (Verschaffungscommission), as to be the town to the open areas the market-place is the most spacious; but the square planted with trees next the Minster, and thence called the Minster-square, is the finest. There is a remarkable edifice in Bonn to the Minster or church of St. Cassius, an ancient Gothic structure, probably of the twelfth or thirteenth century. In the interior is a bronze statue of St. Helena, kneeling at the feet of the cross, as well as basso-reliev in white marble, representing the birth and baptism of the Saviour. In the church of St. Remigius, there is a fine altarpiece in oils, in which Spielberg the painter has represented the baptism of Clovis, king of the Franks, by the patron saint. The town-hall, which is on one side of the market-place, is a large and imposing edifice, and consists of a double flight of stone steps in front. Bonn also has a gymnasia; is the seat of the superior board of mines for the Rhenish possessions of Prussia, of two tribunals for civil and criminal affairs, and of a central department for taxes and crown revenues; and the associations it possesses an academy of naturalists, styled the 'Leopold-Caroline Academy' (which was first instituted at Schweinfurt in 1652, received extensive privileges from the emperors Leopold I. and Charles VII., was afterwards re-established at Rhoen in 1705, and removed to Bonn in 1818), and the society of the Lower Rhine for promoting the sciences of natural history and medicine. Upon the re-establishment of the university in the year 1818, Frederic- William, the present king of Prussia, appropriated the educational institutions of the university to the southern seminaries; and when the rescript under which it was re-opened his majesty expresses his expectation that 'the university will proceed in the spirit of the act for its endowment, and promote true piety, sound learning, and wholesome morals among the youth resorting to it for study.' It received the title of 'the Rhenish University of Frederic-William,' in the year 1828, and is composed of five faculties, Protestant theology, Roman Catholic theology, medicine, jurisprudence, and philosophy. There are attached to it 12,000 students, three of which, the medical, juridical, and philological, consist of several professors (late Professoren), and four seminaries, viz., one for students of Protestant theology, and another for students of homiletic catechetical Protestant theology, a third for philologial students, and a fourth for the natural sciences. It has a library of about 50,000 volumes, a medical institute for clinic, and another for poly-clinic, with which an establishment for the cure of invalid students is combined, a clinic for surgery and diseases of the eye, another for obstetrics, an anatomical theatre and museum, a cabinet of surgical instruments, botanical gardens, a natural history museum, a museum of natural history, geological collections, an apparatus for natural and experimental philosophy, a museum of antiquities, &c., and an observatory. At a distance of less than fifteen minutes' walk from the town lies the country residence of the former electors of Cologne, Clemens, near the village of Poppelsdorf, which contains the collections in natural history, geology, &c., the chemical and
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Yorkshire, of Ripple in Worcestershire, and of East Dero-
ham in Norfolk, and a prebendary of St. Paul's. Much
of this promotion was due to the favour of Cromwell, whose
schemes for the reformation of religion Bonner promoted.
In 1533 he was appointed one of the commissioners for
students; at the close of 1826 they amounted to 1002;
at that of 1829, to 925; but the numbers at the end of 1834
had declined to 897. There are five elementary schools
in the town, as well as a free-school for 309 poor children,
several private cabinets of coins, engravings, &c., an excel-
 lent library of scientific publications and a mineralogical
collection attached to the board of mining, and several
benefent institutions. The agricultural institute, with
an area of 120 acres devoted to its purposes, and a ma-
nufacturing establishment founded and supported by
Bonnings at Poppelsdorf. Bonn lies in 59° 44' N. lat., and 9° 44'
E. long.

BONNEFOY or BONFIDIO, EDMUND, a writer
on Oriental law, or law of the Eastern Empire, was born 20th
October, 1556, at Chabellin near Valence, in France. Having
applied himself to the law, he was early appointed colleague
to the celebrated Cujiacius, in the chair of law, in the uni-
versity of Valence, in which situation Cujiacius thought so
highly of his virtues, and also of his talents and acquire-
ments, as in one of his works he dedicated to the dead, that he were be on
his death-bed, and asked, like Aristotle, to name his successor,
he could name none but Bonnefoy. Bonnefoy was near
being assassinated in the massacre of St. Bartholomew, and
was only rescued from the fury of the people by his friend Cujiacius. Governor
of Geneva, had appointed a to chair; he lectured three times a week on
Oriental jurisprudence,—a chair for which he was eminently
qualified by his knowledge of the languages, particularly
Hebrew, Greek, and Latin. In 1573 he published *Jura Orientalis*;
and two other books in Latin; in 1576 he published a Greek text was accompanied by a Latin translation by
the author, and was meant to comprise the laws civil and
eclesiastical of the Eastern or Greek empire. The first
book contains the constitutions of the emperors of the East,
from Constantine to MichaelPalaeologus; the second con-
tains the decrees of the archbishops and patriarchs of
Constantinople; and the third the decrees and letters of the
other patriarchs and pontiffs. Bonnefoy died at Geneva,
6th February, 1574, being then about thirty-eight years of
age. The historian De Thou, who studied under him, gives
him an excellent character, calling him *homus probus et simplex.* ('De Thou, Hist. lib. 59; Verdier, Bibl. Francaise,
Malte-Brun.)

BOSS, EDMUND, Bishop of London, died 1569.
He was born at Hanley in Worcestershire, and according
to tradition was the natural son of a priest named Savage
by Elizabeth Fordham, who afterwards married Edmund
Bonner, a Sawyer at Hanley. Strype, who wrote in 1721,
asserts that Boss was of noble birth, and that he was citi-
zening by his authority Baron Lechom, whose ancestor had been
an intimate friend and patron of the bishop. The opinion of
Bonner's contemporaries was that Savage was his father.
An epigram written on the picture of him in Fox's *Acts
and Monuments* 'whipping Thomas Hinsnow, says,

"Nomen nee matris, nee gentis patria.
Qui patre Savage natum, fause que Bonner
Dispelle: hic est Romanos Otiosium.*

In the year 1519 he was admitted a student at Pembroke
College, Oxford (then Broad-Gate Hall), where in 1530 he
took on two successive days the degrees of Bachelor of the
Canon and Civil Laws, and he was ordained about the same
time. In 1535 he was admitted to the degree of doctor,
and had acquired a high reputation. Cardinal Wolsey made him one of his chaplains and mas-
ter of his faculties and jurisdictions. In consequence of
these offices, Bonner was attending on the cardinal at
Cawood, where the latter was arrested; and Stow mentions
that, at the very moment when he had completed the
hearsay, the news came that Cardinal Cawood with the king's warrant for
Wolsey's arrest, the cardinal and his household were at
bed in the hall at Cawood, and his great cross fell on the
head of Bonner and drew blood; wherewith Wolsey said,
shutting his head, ‘Must omne pertinax; quae teneat, cum
draw he a signer, I must stay...’ says Stow, ‘this must
not be taken for a sign or token of that which followed.’

Soon afterwards we find Bonner chaplain to Henry VIII., in-
habituated of the livings of Blaydon and Cherry Burton in

After the death of Edward VI. Bonner was restored by
Queen Mary. His first act was to depose the bishops in
his diocese, and set up three processions in St. Paul's
before the queen's ordinance to that effect. It would be
to tedious to follow him in all the long list of executions
for religious, which make the history of that reign a mere nar-
rative of bloodshed. Fox enumerates 125 persons burned
in his diocese; and his hearth was during this reign; and
a letter from him to Cardinal Pole (dated at Fulham, 26th
December, 1556) is copied by Holinshed, in which Bonner
justifies himself for proceeding to the condemnation
of forty-two persons on the altar the self-same in substance that was hanged and
shod upon the cross, he (Hooper), like an ass (as he is an
ass indeed), falsely changed and turned the word that into
as, like an ass, saying that I had said as it hanged, and as
it was alied upon the cross. At another time he said to one
of his accusers that he spake like a goose, and to another,
that he spake like a woodcock.

When Queen Elizabeth succeeded to the throne, Bonner,
with the other bishops, went to meet her at Highgate (19th
November, 1558) at Whittington, kneeling on their
allegiance, which she very graciously accepted, giving
to every of them her hand to kiss except Bishop Bonner,
who she omitted for sundry severities in the time of his

In the year 1559, he was summoned before the privy council,
and on the oath of supremacy being tendered, and his re-
}anus to take it, he was deprived a second time of his
bishopric and indicted for a prenuniation. He escaped
the penalties attached to this charge, but he was confined for
the rest of his life to the Marshalsea, where he died on
September 5th, 1569.

The public acts of Bonner's life sufficiently show the
character of the man; but there are anecdotes of him which
afford additional proof, if any were wanting, that a certain
amount of tenderness of heart and humanity were
not taken to the Marshalseas from the council where the
oath had been administered to him, a man exclaimed—"The
Lord confound or else turn thy heart!" Bonner answered
"The Lord send thee to keep thy breath to cool thy porridge,"
After his deprivation a man called out to him—'Good morrow, Bishop Quondam': 'Farewell,' answered he, 'knave semper.'

Burnet says of him that he little understood divinity, but was a great master of the canon law, wherein he was excelled by very few in his time.

Besides the authorities quoted above, Wood's *Athenae Oxonienses* and the *Biographia Britannica* contain valuable notices of Bonner; the article in the latter is written with great care and accuracy. For his career and death he settled a pension of 500l. per annum. His superior temper did not permit him to enjoy his good fortune; and his dishonorable conduct in presenting to the Academy of Antient Music a madrigal as his own, though the composition of Lotti of Venice, convinced his executors of its imposturity. In 1733 he then went to reside in Paris, where he wrote much sacred music for the Chapelle du Roi, and at the peace of Aix-la-Chapelle was invited to Vienna by the emperor, to compose music for the rejoicings on that occasion.

The exact period of his decease does not appear, but it is supposed that he almost attained his hundredth year. For the King's Theatre he composed several operas, now entirely forgotten; and in 1721 he published a volume of *Comedie et Duetti*, dedicated to George I., a subscription for two guineas for the privilege that he gained by 100l. These are engraved on copper, and the rank, as well as number, of the subscribers shows by what patronage Bononcini was at first supported.

BONNYCASTLE, JOHN, late professor of mathematics at the Royal Military Academy, Woolwich, where he died May 15, 1821. He was born at Whitchurch in Buckinghamshire, and came to London early, where he married at the age of nineteen. His wife dying soon after their marriage, he became tutor to several noble families, residing at Euston, in Northamptonshire, till he obtained a place at the Woolwich Academy, where he finally became professor. These particulars are all that we find in the periodical publications of the time of his death. He is stated to have been a good scholar, and much attached to poetry; his poetry particularly to Shakespeare.

Bononcini is known by a large number of excellent elementary works, which being still on sale, it is not necessary to enumerate. His *Guide to Arithmetic* has long had a great circulation. His treatises on mensuration and astronomy are very good of their kind; but his *Elements of Algebra* (not the abridgment, but the work in two volumes, octavo, 1813) is a very excellent performance, and shows great knowledge of the state of the science. He had not, it seems, by his death, fallen into partial neglect; for he was the chief architect of the mechanism of algebra, and his almost singular felicity in separating the most striking and powerful parts from the rest, render his work very useful to the reader.

Bononcini passes for the translator of Bossuet's *History of Mathematics*, but a certain confidence in the *Gentleman's Magazine*, for 1821, p. 492, states, as of his own knowledge, that he only wrote the preface, and added the list of mathematicians at the end, the translation being by Mr. T. O. Churchill. His name however is prefixed to the work.

BONPLAND, a planter producing a kind of fever bark called Angoula. [Galipera.]

BONUS HENRICUS, a kind of weed, formerly supposed to possess medicinal properties. [Chenopodium.]

BONZES is the name by which the priests of Buddha are usually designated in Japan, and from whom the name in the Japanese language is bonzen, which word is supposed by Mr. B. H. Hodgson *Journal of the Royal Asiatic Soc.*, 1855, vol. ii., p. 293) to be a corruption of the Sanscrit bandya (vandya, 'laudable, deserving praise?') They go with their head entirely covered, either in the shape of kami-magor, or long-haired men. The highest in rank is the dairi, or spiritual sovereign of Japan, who resides at Mito. Till towards the conclusion of the twelfth century (A.D. 1185) the power of the dairi in Japan was nearly absolute; since then the supreme government has become vested in the dajogun, or secular commander-in-chief of the empire, and the influence of the dairi in temporal affairs is now next to none, though he still continues to enjoy the honours of a merely nominal sovereignty. (Taitting, *Iliad of Japan*). The province is divided and the counties are separated by F. Schaeber, *London, 1822*, 4to. pp. 3, 300, 301.)

The Bonzes are under a vow of celibacy, and form a large corporate body of male and female ecclesiastics. They are divided into two sects, hostile to each other, and externally distinguished by the coloring of their habits, the upper part of the body being in black and the other in grey. They maintain their influence chiefly by the popular belief in the efficacy of their intercession for others by prayer. Once in every fortnight they deliver a public religious discourse in the temples,
usually before numerous congregations. The Jesuit missionary, Gaspar Villa, who attended several public meetings of the higher classes of the preachers whom he heard, and of their impressive and dignified mode of delivery. Even the female Bonzes are said occasionally to preach.

The Japanese priesthood comprises individuals of all ranks of society, and the ranks of priests, the sons of kings, are known to have entered the order of Bonzes, but the majority belong to the lower and poorer classes. Many Bonzes earn their livelihood by superintending funerals. All claim it as the exclusive prerogative of their order to speak upon the religion of BuDdha, the doctrines of which they will not allow to be touched upon by any one else. The principal moral precepts which they inculcate are five, viz.—not to kill, not to steal, chastity, veracity, and abstinence from spirituous liquors.

The birds are common as well as for the female Bonzes, some of which have their own fixed annual revenues, while others are maintained by voluntary contributions from the people. The discipline enforced in these convents is described as rather strict. At different hours during the day the sounding of a bell summons the inmates to their common devotions. In the evening the prefect assigns to every one a special theme for his meditations. After midnight all assemble to sing hymns before the altar. Their meals take in common, and those who conform strictly to the rules get their portion of fish and flesh, as well as wine and all spirituous liquors. Some of the convents are said to contain large libraries.

There is a sect of Bonzes distinguished by the name Iko, the members of which are permitted to marry, but only those who have become familiar with the effects produced by the blows or shot of their persecutors. In the case of most other animals which, from not knowing his power, have suffered man to approach them to their destruction, alarm has been so often taken, the idea of danger has been so strongly associated with those safety has been sought in flight; but the wings of the booby are so long and its legs so short, that, when once at rest on level ground, the bird has great difficulty in bringing the former into action, and, when so surprised, will make no resistance to man, but put on a show of resistance with its beak, which is, to be sure, generally despised by the aggressor.

In the cases recorded by Bligh, the birds were probably fatigued by wandering too far from the rocky shores, which forms their ordinary haunts. They have been seen constantly on the wing over the waves which beat at the foot of the crags, intent on fishing. Though so well furnished with claws, they are said to swim but seldom, and never to dive. Their mode of taking their prey is by dash- ing down from on high with uncaring aim upon those fishes which frequent the surface, and instantly rising again into the air. They walk with difficulty, and, when at rest on land, their attitude is nearly vertical, and they lean on the stiff feathers of the tail, like the cormorants, as a third point of support. The ledges of rocks or cliffs covered with herbage are the places generally selected for the nest, and there, in great companies, they lay their eggs, each hen bird depositing from two to three. The young birds, for some days after their exclusion, are covered with a down so soft and thick, that they resemble powder puffs made of swan's down.

The boobies seldom wander more than twenty leagues from land, to which they usually return every evening, and their appearance is considered by mariners as a sure token of their vicinity to some island or coast.

**GANNETS OR BOOBIES OF WARM CLIMATES.**

The state of our information as to this division of the genus is by no means satisfactory; for the species are not well determined, and we may, by the example of the above alluded to, Sula fusca of Brisson, and others, Pelecanus Sula of Linnéaus, Le Pou brun of the French, the Booby of Sloane and Ray.

The colour of this species is blackish-brown or ashy-brown above and whitish beneath; the head and the naked skin about the face is reddish; the orbits and base of the bill are yellow, and the point of the bill is brown; the legs are of a straw colour.

In length the brown booby is about two feet five inches, the bill measured between the nostrils and a half inch or thereabout and the tail ten: the young birds are spotted with white and brown.

It is almost impossible to open the pages of the old voyagers who have fallen in with these boobies without finding some interesting accounts of their habits, of which the latter are subjected by the frigates or man-of-war birds. [FRIGATE] LESSON, indeed, doubts this. He says, 'the boobies have been so named because it has been supposed that the frigates compelled them to dispense with the fish which they had taken; but this appears to us to be
erroneous. The booby is warlike, he lives fearlessly near the frigate, and swallows the fish which he has captured in peace. Buffon, Cuvier, and Temminck, on the contrary, evidently give credence to the narratives of the frigate persecution, and indeed it is difficult to believe that so many eye-witnesses should be mistaken.

Peuliffe says, 'I have had the pleasure of seeing the frigates give chase to the boobies. When they return in bands towards evening from their fishing, the frigates are in waiting, and dashing upon them compel them all to cry for succour, as it were, and, in crying, to disgorge some of the fish which they are carrying to their young ones. Thus do the frigates profit by the fishing of the boobies, which they then leave to pursue their route.' Leguat, in his voyage, thus writes: 'The boobies come to repose at night upon the Island Rodriguez,* and the frigates, which are large birds, so called from their lightness and speed in sailing through the air, wait for the boobies every evening on the tops of the trees. They rise on the approach of the latter very high in the air and dash down upon them like a Falkon on his prey, not to kill them but to make them disgorge. The booby, struck in this manner by the frigate, gives up his fish, which the frigate catches in the air. The booby often shrieks and shows his unwillingness to abandon his prey, but the frigate mocks at his cries, and rising, dashes down upon him anew till he has compelled the booby to obey.' William Dampier observes that he remarked that the man-of-war birds and the boobies always left sentinel near their young ones, especially while the old birds were gone to sea on their fishing expeditions; and that there were a great number of sick or crippled man-of-war birds which appeared to be no longer in a state to go out for provision. They dwelt not with the rest of their species, and whether they were excluded from their society or had separated themselves voluntarily, they were dispersed in various places waiting apparently for an opportunity of pillage. He adds, that one day he saw more than twenty on one of the islands (the Alcanres), which from time to time made sorties to procure booty. The man-of-war bird that surprised a young booby without its guard gave it a great peck upon the back to make it disgorge (which it instantly did) a fish or two as big as one's wrist, which the old man-of-war bird quickly swallowed. He further speaks of the persecution of the parent boobies by the able-bodied frigates, and says that he himself saw a frigate fly right against a booby and with one blow of its bill make the booby give up a fish just swallowed, upon which the frigate darter with such energy that he seized it before it reached the water. Cocker and others mention similar occurrences. Nuttall says, 'the boobies have a domestic enemy more steady, though less sanguine in his persecutions, than man; this is the frigate pelican or man-of-war bird, who, with a keen eye desiring its humble vassal at a distance, pursues him obliquely down into the sea, and obliterates all its wings and bill to surrender his flabby prey, which the pirate instantly seizes and swallows.' * * * The booby utters a loud cry, something in sound betwixt that of the raven and the goose; and this quaking is heard more particularly when the birds are parading in the air, or, when assembled together, they happen to be seized by any sudden panic.'

Their nests, according to Dampier, are built in trees in the isle of Aves, though they have been observed in other places to nestle on the ground. They always associate in families in the trees. The young are covered with a very soft and white down. Nuttall says that they abound on rocky islets off the coast of Cayenne, and along the shores of New Spain and Caracas, as well as in Brazil and on the Bahamas, where they are said to be very numerous. In summers he adds, they are not uncommon on the coasts of the Southern States. The flesh he describes as black and unsavoury.

GANNETS OR BOOBIES OF COMPARATIVELY COLD CLIMATES.

The Gannet of the English; the Solan* Goose, or Solan-Goose, of the Scotch and English; Sula of the Fâroe Islands; Nannau of the Germans; and of the ancients, Canna or Canna are the only recorded names of this bird. The French call it the Pou de Bassan and Oie de Bassan; the Germans, the Solen-Gans, or Schollen-Gans; the Dutch, Zwaan of Gent; the Danes, Gans and Gann of the ancient British; Der Bassanische Pelikan of Bechstein; Wetzer Tolpeck of Meyer; La grande Pou and Le Pou tacheté of Buffon; Anser Bassanus of Sibbald, Gesner, and others; and Anser Scoticus, Sula Bassana, and Sula Maj or of Brisson; Sula Holmeri of Celsius; Sula alba of Meyer; Pelecanus Bassanus of Linnaeus; Pelecanus Bassar优us and Pelecanus fuscus of Gmelin; and Gannet Corvorni of Penn.

Its geographical distribution may be stated, as a general proposition, to be over the arctic regions of the old and new world, for it is one of those marines birds which is found on each side of the Atlantic, though in its migrations to the north it is said to have been seen plunging for sardines as low as the mouth of the Tagus. In Europe the strongholds of the solan-goose seem to be in Norway and the Hebrides. St. Kilda, and the Bass in the Firth of Forth, are favourite haunts. Pennant observed their northern migrations in Caithness, and say they were passing the whole day, in flocks of from five to fifteen each. They appear migratory on the shores of Holland, and are seen on the coast of Cornwall at the end of the summer, arriving with the pelican, and disappear with the terns. They are recorded according to Pennant; but Montagu observes that they have been frequently seen in the English Channel during the winter, and then as late as the month of April. In Ireland they breed, and are numerous; and they are occasionally seen in Greenland. Oddly enough, Pennant observed that they appear on the coasts of the United States, especially to the south of Cape Hatteras. On考察 the eastern coast of America, and the neighbouring coast they are seen in numbers in the month of October, associating with the velvet ducks and scoters. Bonaparte (Prince of Musignano) notes it as rare and occasional at Philadelphia.

To give the idea of the multitudes of these birds, we will select one or two accounts from the many that might be quoted. The surface of the Bass island, according to Dr. Harvey, is almost entirely covered in the months of May and June with their nests, eggs, and young; so that it is scarcely possible to walk without treading on them. When in flight they overshadow like clouds, and make such a stunning noise, that it is scarcely possible to bear your next neighbour. The sea all around is covered with them, and

* These may have been the species known in the island by the name of Gannen-bay, apparently referrible to Sula candida, Brisson, and Pelecanus Fis ciger, Linnaeus, Zoö, Præct. 1816, p. 39.
† Nuttall observes that these separatists were probably the males after incubation.
the flocks in the distance can only be compared to vast swarms of bees. Martin states that the inhabitants of the small island of St. Kilda consume annually upwards of 22,000 young birds of this species, in addition to an immense quantity of their eggs, which form their principal support.

The same author says that at the small isle of Boreas the hounds were capable of capturing and killing the geese, and their excrements were in such quantity, that they gave a tincture to the sea, and at the same time suffused the boat and clothes of the party. The Gannet Rock in the Bay of the St. Lawrence is about 400 feet in height, and of several acres in extent. In the last decade of June, according to Audubon, this rock was covered with innumerable gannets upon their nests, so crowded or closely arranged as to give the appearance of a huge mass of snow, while the hovering crowds seen around that inaccessible mass seem to be only occasionally presented at a distance the appearance of a snow-storm.

Before we enter into a description of the habits of the gannet, it may not be uninteresting to give a sketch of its organization, which is somewhat peculiar, and admirably adapted to promote the buoyancy of the bird and the rapidity of its descent on its prey. Montagu's observations on this part of its economy (the situation and connection of the air-cells, see Supplement to Ornithological Dictionary, article 'Gannet') are very interesting, but as the researches of this and many other descriptions from which we will be sufficient to refer to the former; and we proceed to give Mr. Owen's notes of the examination of a gannet that died in the garden of the Zoological Society of London in 1831. It will be seen, on reference to Montagu's statement, that the air-cell with which the animal is so abundantly supplied, the skin could not be artificially inflated through the lungs.***

*** It is also clear that there is no direct communication between the sides.

In the examination, writes Owen in the Proceedings of the Zoological Society, the body was opened directly from the head to the air-cells, which, in this bird, as in the pelican, have a most extensive distribution. We commenced by a gentle but continued inflation through the trachea, a pipe having been introduced into the upper larynx: in a short time the integuments of the whole of the lateral and inferior parts of the body exploded, and the integument of the body) especially that which is situated in front of the os foricinum. Being thus satisfied that they all had a free communication with the chest, we next proceeded to see at what points these communications took place, and in what degree the air-cells communicated with each other. For that purpose the air-cells on the left side of the body were laid open, and, shortly after, those of the opposite side collapsed, indicating the existence of apertures of communication, although the septum which ran along the middle line of the body appeared to be complete. Communication between the lateral air-cells of the same side of the body from the os foricinum to the side of the pelvis; but the air-cell in front of the os foricinum remained still tensely inflated. The lateral air-cells had a free communication with the cavity of the chest at the axilla, at which part the air had entered these cells during the inflation. The pectoral muscles and those of the thigh presented a singular appearance, being, as it were, cleanly dissected, having the air extended above and below them; the axillar and inguinal parts were likewise draped by any surrounding substance through these cavities. We traced the air-cells down the side of the humerus, ulna, and metacarpal bone, into all of which the air entered, and even into the bone corresponding to the first phalanx, which agrees with what was observed by the author (cf. Aeronaut, 1835, p. 92). As none of these proceedings had any effect on the air-cell in front of the os foricinum, which still continued distended, it was evident that inflation by the humerus could not have filled it except through the medium of the air-cells. We observed that the feathers of the integument from this air-cell to see its shape and extent: this required to be done with great care, as it adhered very closely to the skin and roots of the feathers; it was of a globular form, about four inches in diameter, and communicated with the pelage in such a manner that it could not be easily detached. Numerous strips of muscular fibres passed from various parts of the surface of the body, and were firmly

attached to the skin; a beautiful fan-shaped muscle was also spread over the external surface of the air-cell anterior to the os foricinum. The use of these muscles appeared to be to produce instantaneous expulsion of the air from these external cells, and by thus increasing the specific gravity of the bird, to enable it to descend with the rapidity necessary for the purpose of its living prey while swimming near the surface of the water.

This is a beautiful adaptation of means to an end. The descent of the bird on its prey has been not unaptly compared to that of an arrow, the beak of the bird forming the arrow-head, and the body and wings the feathered shaft of the weapon; we here have the secret of its heavy fall; the same machinery restores the buoyancy at the proper moment, and the bird rises with its fish aloft.

Some idea will be formed of the rate of the gannet's descent from the following note by Pennant:- 'About four years ago* one of these birds flying over Penzance (a thing that rarely happens), and seeing some pike-harls lying on a fl-panck in a cellar used for curing fish, darted itself down with such violence, that it struck its bill quite through the board (about an inch and a quarter thick) and broke its neck.' To this Pennant adds that these birds are sometimes taken at sea by a deception of the like kind. The fishermen fasten a pike-harld to a board and leave it floating, and the gannet is decoyed to strike its bill in it. The gannet has immortalized this mode of booby-catchings in those droll lines with which our readers are doubtless familiar.

There are some parts of Aristotle's description of his 


careßovóδεος (catacarrata) (Hist. Anim. ii. 17. i. 12.) that lent themselves to the writer's suggestion. Bochart and Michaelis both leave the question in doubt, and Cambus seems to the opinion that it is a gull (La-


urus Cataractarum, Linn.); but no gull precipitates itself into the sea with the violent plunges described by Aristotle (ix. 12.).

Pennant hints in the catacarrata of Juba (Pliny, x. 44) some characters of the gannet, but gives no more than its habits. Bochart and Michaelis both leave the question in doubt, and Cambus seems to the opinion that it is a gull (La-


urus Cataractarum, Linn.); but no gull precipitates itself into the sea with the violent plunges described by Aristotle (ix. 12.).

The bird hardly deserves the reputation which its alliance with the other seabirds has in some places procured for it. Its habits and its struggles for liberty show that the self-preserving instinct is as strong as in other birds except at the breeding-season when every other feeling seems to be merged in the ardour of incubation. Thus it has been stated that some of their number always keep watch at night, and that the sentinel, by varying his intonation, apprizes the flock of the approach of danger. The specimen sent by Dr. Borlase to Pennant was killed at Chantre, near Mountbay, but not till after a long struggle with a water-paniel, assisted by the boatmen, for it was strong and pugnacious. * The person who took it, adds the doctor, observed that it had a transparent membrane under the skin, with a globular mass of air beneath it, without obscuring the sight or shutting the eye; a grand provison for the security of the eyes so weighty a creature, whose method of taking its prey is by darting headlong on it from a height of a hundred and fifty feet or more into the water.

The organization above alluded to gives the gannet great buoyancy when swimming, and it swims high like a gull. When one which Montagu kept alive was placed on the water of a pond, nothing could induce it to attempt to dive; but Dr. Borlase, from the observation of its feeding habits, noticed that it was often seen diving, the whole head under water, as if searching for fish, it appeared to Montagu that the prey is frequently taken in this manner.

Withered grasses and sea-weeds, 'blessed by nature, a sun and shadow form the nest, which is placed on the ledges of the overhanging precipice, or in the fissures of the rock. Martin says that they frequently rob each other, and that one which had pilaged a nest flew out towards the sea with the spoil, and returned again as if it had digested the stomach of the new victim. A parent bird, though at a distance from his nest, had observed the robbery, and waited the return of the thief, which it attacked with the utmost fury. 'This bloody battle,' adds the narrator, 'was fought above our heads, and proved fatal to the parent, who fell into the sea, and our men took him up, and presently dressed and set him free.'

* From a note in the letter of Dr. Borlase, to whom it appears that Pennant was indebted for his communication, the time alluded to must have been about 1750.

* The gannets are possessed generally by fly coastwise.

* The cicatizating membrane. [Birds.]

No. 292.

[THE PENNY CYCLOPAEDIA]
The number of eggs are stated at one, two, or even three, if the two first laid are taken. Temminck gives two as the number, others three, where none have been abstracted. They are white, equally pointed at each end, rough on the surface, and less than those of a goose. These birds sit close together. It is said that the male and female hatch and fish by turns, and that the fisher comes back to the nest with five or six herring in its gorged, all entire and undigested, which the hatchet pulls out from the throat of its provider and swallows, making at the same time a loud noise.

The young birds are a favourite dish with the North Britons, and Pennant observes that, during the season they are constantly brought from the Bass Isle to Edinburgh, where they are sold roasted, and served up as a what. Our readers will remember that the relishing Solan goose, whose smell is so powerful that he is never cooked within doors, formed a part of Mr. Oldbuck's dinner, though the same in which the odoriferous offering was presented excited the antiquary's just indignation.

The proprietor of the Bass is said to derive a considerable profit by taking the young and sending them to market, and by an old Scottish law he has a right, it is said, to visit the neighbouring isles and drive away his wandering gannets to his own domain.

The variations in the plumage of the gannet are very great, and, as in the instances of many other birds, the changes have given rise to the record of species which have no foundation but the natural alteration in the feathers covering it.

Old birds at the age of three years. Summit of the head and occiput of a clear ochreous yellow. The rest of the plumage milk-white, with the exception of the quills and the bastard wing, which are black. Bill of an ash grey at the base, but white at the point. Naked membrane surrounding the eyes bluish, and that which forms the prolongation of the opening of the bill and extends to the middle of the throat, dusky blue. Iris yellow. Legs dusky, in front bluish-yellow (Temminck says clear green); connecting membrane of the forward toes very strong, and nearly as transparent as glass (Temminck says blackish). Nails white. Tail coniciform, or wedge-shaped. The two exterior quills have the end of the barbs truncated, according to Temminck. Length two feet seven to two feet nine inches. The female is less than the male.

Young, a few days after their exclusion from the egg. The covering is a white and lustrous down, making the nestlings look like powder puffs.

First year. All the plumage of the upper parts spotless, blackish-brown. Lower parts brown variegated with ash-colour. Male, naked or irises brown. Tail rounded.

One year old, or second moult. Head, neck, and breast of an ash brown, covered with small lanceolated white spots very closely approximated. Feathers of the back, rump, and wings of the same colour, and marked with similar tufts of the same, but much more condensed. Lower parts whitish, variegated with ash brown. Tail and quills brown. The first conical with white shafts. Bill ash brown, but whitish towards the point. Naked parts of a bluish-brown. Iris yellowish. Front of legs and upper part of toes greenish-brown. Membranes of an ash brown. Nails whitish.

Two years old, and during the moult. At this age the bird is already partly covered with white feathers, while the rest of the plumage is still brown and spotted with white. The young of the age of one and two years wear the title major of Britain, Pelagia matricula of Gmelin, Le Grand Pou and Le Pou tachét of Buffon, and the Great and Spotted Booby (the head of which is given by Catesby) of Latham.

BOOK-KEEPING. Book keeping is that art by which all the transactions of commerce are so methodically recorded as to exhibit a perfect picture of a merchant's affairs.

When we consider that property embarked in commerce is in a state of constant flux, by which it undergoes perpetual transformations, and reflect upon the intricate nature of many mercantile transactions, and the multifarious nature of joint adventures and foreign exchanges, we cannot hesitate to admire the ingenious though unknown contriver of a system which enables the merchant not only to register with clearness every fact touching his estate, but to ascertain with certainty all those facts whenever he chooses to collect them together.

As an art it is not easy to overrate its value. The wonder indeed is, that both in and out of trade there are any persons who are insensible to its importance. To every man engaged in business the utmost accuracy of accounts is essential, yet it is notorious that in this great trading community the practice of book-keeping, particularly among retailers, is extremely loose and unsatisfactory.

As an invention book-keeping is undoubtedly modern, being with great probability referred to the fifteenth century. Venice is said to be its birth-place, and the first known author was Lucas de Burgo, who published in 1493 a regular treatise in the Italian language. France, England, Italy, and Germany, have subsequently produced a great variety of works, all of which the true principle of an account down with sufficient perspicuity; but students in search of serviceable instruction should consult the most recent authors, who, being either practical men themselves, or in close communication with those who were so, have greatly simplified the plan of their predecessors, and by adopting successive expedients to the real exigencies of trade, have introduced a high degree of elegance and neatness into their methods, combining accuracy with expedition and brevity with clearness and completeness, which is the perfect perfection of the art.

In order to accomplish these objects, every event affecting the property must be recorded in such a manner as to show in the simplest form and with the utmost perspicuity all the essentials of each transaction, that is to say, the subject-matter of it, the date of its occurrence, the person on whose account and the person with whom it takes place, together with the mode of its performance.

It is evident that in very large concerns there must be always a tendency to intricacy and confusion, where concurrent operations are in constant progress, and circumstances of great variety are crowded into a short space of time. Malcolm, who published his New Treatise at Edinburgh in 1718, is therefore justified in declaring it to be a work of no small skill and labour to evolve out of this confusion the least statement which a perfect balance-sheeter presents. Yet it is in large concerns, generally speaking, that fulness and facility are to be found, because the conductors, strongly impressed with the ruinous consequences of obscurity, take effectual means to guard against it by maintaining an establishment and a system commensurate with the extent of their business. The principle of book-keeping is of such inflexible rigour, that it never admits of relaxation under any conceivable circumstances, although it
adapt itself with equal facility to every possible matter of account.

With regard to the particular plans which ought to be put in practice by individuals it would be vain to enter into minute directions, since every person engaged in trade is in some degree versed in book-keeping, and of affording a guide to them it may have occasion to construct a set of books for any particular undertaking.

The outline of the art of book-keeping may be conveniently sketched by the words 'Inwards,' 'Outwards,' 'On Hand.'

Everything brought into the concern, either at its origination or in subsequent dealings, is, of course, property 'Inwards,' but the generic term 'Property' must, in respect to book-keeping, be subdivided into as many species as the nature of the particular business requires. The broad subdivision is into Cash—Bills—Book-debts—Stock, and, in conformity with it, every regular house of business keeps a separate place for the registry of all its transactions under one or other of these heads.

That the phrase is perhaps in its frame, containing on the left-hand page separate spaces for the date—the person who has brought any cash 'Inwards,' and the exact sum, all ranged in a horizontal line. These sums are placed under one another, so as to be easily cast up in a column, at the end of which sum total column, a running balance is kept showing where the amount of each entry has been carried forward into another book to the credit of each payer respectively. On the right-hand page provision is made in the ruling for the same particulars, in the same arrangement, respecting each separate transaction. If a posting column also to shew where each entry has passed onward to the debit of the receiver.

Solomon, according to the city proverb, was a wise man and Sampson was a strong man, but neither could pay away money that he had never received. It follows as an unanswerable argument that the left-hand side of a cash-book, correctly kept, can never amount to a less sum than the right-hand side. The difference, if any, of the totals will so accurately point out the balance remaining on hand, that should any discrepancy appear, the book-keeper has, in that circumstance, a convincing proof of error, and instantly addresses himself to its discovery.

The cash-book being familiar to the generality of persons, is best fitted for exemplification, but, in truth, every account, when well kept, is equally simple and exhibits the very same phenomenon. Whether it be the left-hand side of the account in the book-keeping sense of the term, is a chronological collection of all the events by which the property of a concern has been affected by the person or thing in question, the events 'Inwards' being ranged on one side and contrasted with the events 'Outwards' on the other side. The book-keeper therefore historiographer of the property.

Bills, which form the second head of subdivision, are either receivable or payable, and each description requires a book to itself. They are upon the concern in directly opposite ways, bills receivable being one of the avenues through which debts are collected from the world, and bills payable being one of the channels through which the concern discharges its obligations. From this consideration it is easy to show that as a bill, when it has passed as a bill payable, appears as a bill receivable in the books of the party for whom he accepts it, and this circumstance elucidates the nature of book-keeping in general, since what is true of bills is equally true of all other transactions. The same indistinction takes place universally, so that if two men accurately record their mutual dealings their books must be counterparts of each other, exactly dovetailed at every point of their connexion. It sometimes happens that a man's own acceptance is remitted to him, in which case the events are as receivable and bill receivable. The bills receivable book should contain spaces for all particulars, both inherent and relative. Those inherent in the bill itself are,—the drawer—his residence—to whom payable—on whom drawn where payable—date—time—when due—amount. The relative or contingent particulars are,—when received from whom—on whose account—folio where credited in another book—when and to whom paid away—folio where debited in another book.

On the Continent it is customary with those who negotiate foreign bills to copy into their bill-book the names of all endorsers. With inland bills such minuteness is not necessary and, as a matter of fact, is almost universally neglected. The bills-payable book contains the same inherent particulars, except the name of the drawer, which is in fact the concern itself. The relative circumstances are also recorded, but in a reverse order, to correspond with the opposite character of the transaction. Both books are furnished with a column for a running series of numbers, written also on the face of each bill respectively, by which means it is pointedly referred to in subsequent entries, and readily identified when occasion arises.

Book-keeping makes a personal demand for which no acceptances have been given. The record of each sale being originally made in a sold day-book, with full particulars as to quantities and prices, the sum is carried forward into a ledger to the debit of the buyers, who are respectively charged under their names with the value delivered to them, each account having a distinct folio or division to itself. This constitutes a list of 'debts receivable,' and is called the sold ledger.

The bought ledger, on the contrary, exhibits a list of 'debts payable.' This ledger is under the names of persons from whom goods have been received into the concern, and is founded upon entries, with full particulars, in a book kept for the purpose called 'invoices inwards,' or 'bought day-book.

The remaining subdivision is stock, a term loosely employed, sometimes to signify all the property possessed by a concern and sometimes the surplus property—more strictly called capital—in the concern, after deducting every obligation. Its more definite sense is limited to goods of all descriptions having been manufactured or acquired. With regard to stock, it cannot be denied that its comings and goings are exactly as much entitled to a regular record as any other portion of the property, since that which is stock to-day may become book-debt to-morrow. Stock-receivable is the title given to the case, in which the course of time form part of the balance at the banker's. There can be no reason whatever why the banker's account, the bills receivable, and the sold ledger, should be carefully kept, which does not apply with equal force to the stock account. The method here adopted of giving a summary of the entire range of book-keeping, is simple. Each description of goods, bought or made, should have a piece of its own, either a book or a page as the case may require, for an accurate register of the dates and quantities 'inwards,' or 'outwards,' whether they are purchased or manufactured, enter the denominations 'inwards' or 'outwards,' whether the delivery 'outwards' take place to a buyer or only from one department to another within the concern. For example, in a brewery the account of malt should show the quantity deposited in the malt-room compared with the quantity withdrawn from the same department to give the balance of malt on hand by deducting the smaller from the larger total, exactly as in the instance of the cash-book.

One of the fundamental and indispensable laws in perfect book-keeping is that every account must be specific. When the account is with persons, the discharge answers in value to the charge; but when the account is of things the discharge must answer in kind.

Thus if a brewer receives inwards 1000 quarters of malt his books show that he has received 1000 quarters of malt, and that he accounts to the next man as such. But it follows from this how that quantity was disposed of. By charging to the buyers the quantity resold, and charging to the account of his own mash-tub the quantity actually put into it, he gives himself the means, and the only means, of knowing whether he has had the full benefit of all his malt; and if he finds a deficiency, he can instantly address himself to the discovery of the cause, just as he would have done if his cash had been deficient.

There is one miscellaneous error in some of the more ancient treatises on book-keeping, and that is the assumption that the youthful student should be effectually guarded. It is sometimes stated that among the devices of book-keeping imaginary accounts are raised. Nothing can be further from the truth. The book-keeper, if he understands his duty and adheres to it, knows well that the imaginaries would be altogether out of place, and plods his way from fact to fact, with painstaking perseverance, using his utmost
care to prevent the admission of whatever is false, and the omission of any fact bearing upon the property.

It is customary, even in modern treaties intended for the use of schools, to divide book-keeping into two kinds, under the names of double and single. The fallacious representation of so important a subject cannot be too speedily explicated, as there is reason to think that the absence of system, so prevalent in the book-keeping of retail traders and professional men, may be ascribed to this original vice in their education.

There is this in common between the two, that the transactions, as they occur in business, may be primarily registered in the same way by both methods—that is to say—single entry has its cash-book, its bill-book, its day-book, and its ledger, for personal accounts; but even in these, it is completely the caprice of the book-keeper free from the control of principle, that matters the most distinct in their nature are frequently jumbled together, bills receivable and stock being confused with cash, and the day-book being projected, from its only proper purpose, into a receptacle for all sorts of incongruous transactions.

But here the similarity ends, and here begins the superiority in power and beauty of double entry, historically called the Italian method.

The method, grounded itself upon the scientific axiom that "the whole is equal to the sum of all its parts," is satisfied with nothing less than a perfect equilibrium between the total amount of all the debtor accounts on one side, compared with the total amount of all the creditor accounts on the other. On this principle, at this ultimate, the bookkeeper by examining, at every step of its progress, the same equilibrium between debtor and creditor in each entry; and by suffering no event either inwards, internal, or outwards, to take place without a self-balancing entry, it secures at last its great object of painting a perfect picture of what is going on when all these separate parts are collected together as a whole.

It effects this purpose by resorting to every original entry, that whether that entry relates to the delivery of goods inwards or outwards, or to cash, or to bills, or to wages, salaries, bounties, fees, or any other item, or to any of the numerous labours of body or mind which constitute the ground of debt from one man to another. For these original entries too many treaties unskilfully refer the learner to one general waste-book; but the true theory of a waste-book is, that it is that book where the first entry of a fact is made in the handwriting of the person who was cognizant of that fact; and to preserve the chain of responsibility unbroken throughout any establishment, it is an excellent regulation to make each person answerable, by means of his own particular accurate account, for whatever he does in his own department. In this corrected view, the cash-book is the waste-book for cash, the bill-book is the waste-book for bills, the day-book is the waste-book for goods, and so on through all the original books.

A double entry gives the original particulars are digested into various heads of account, without the omission of a single event.

The act of digesting these original entries is technically called journalizing, because they are collected together in a book called The Journal, where they for the first time put off their individuality, and are massed together according to some rule of affinity previously established in the mind of the book-keeper, who is held to this indispensable condition, that he must raise exactly as much matter of account to the debit as to the credit.

The distinction between single and double entry becomes apparent in the different ways in which they dispose of the very same facts. Thus, suppose the book-keeper by double entry to be occupied with the invoices inwards, and to find that since he made his last Journal entry from that book, his employer has contracted debts amounting in the whole to 3690l. 18s. 4d. By the contrivance of journalizing, the book-keeper not only states this total, and assigns the amount due to each creditor, but he charges also the accounts to and from, as a matter of course, in each instance the particular reason why each debt has been contracted, and charging the amount of it to that reason; or, in other words, he considers the sources from which his employers must seek a return of their outlay, and charges them in the ledger as such.

To avoid multiplicity, let us suppose three causes to have given rise to this amount of debt, and these three causes to have been the purchase of Iron, the repair of Premises, and the supply of provender to the Stables. It is evident that each of these causes differs from the other two in its nature, and at the annual summing up it is of great importance to distinguish them in the accounts. The first cause is the purchase of an article for manufacture. The second is a permanent addition to the cost and value of the place. The third is one of the expenses of trade. Double entry requires and provides for the statement of this important distinction. Single entry indifferently or ignorantly satisfies itself with adding to the personal credit of the parties the amounts respectively due to them, omitting altogether a separate record of the reason why the debts were contracted, and thus shutting out some of the most interesting points of information.

According to the customary mode of book-keeping by double entry, the supposed facts would take the following form in the journal, the word 'sundry' being an abbreviation for 'sundry accounts:'

<table>
<thead>
<tr>
<th>Iron</th>
<th>3690l. 18s. 4d</th>
<th>Dr. to sundries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jones &amp; Co.</td>
<td>1250</td>
<td>Dr. to sundries</td>
</tr>
<tr>
<td>Smith &amp; Co.</td>
<td>500</td>
<td>Dr. to sundries</td>
</tr>
<tr>
<td>Thompson &amp; Co.</td>
<td>2450</td>
<td>Dr. to sundries</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Premises</th>
<th>1250</th>
<th>Dr. to Carpenter &amp; Co.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill for repairs</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Stable</td>
<td>1250</td>
<td>Dr. to Chandler &amp; Co.</td>
</tr>
<tr>
<td>Bill for hay &amp; straw, etc.</td>
<td>850</td>
<td></td>
</tr>
</tbody>
</table>

These journal entries are then carried forward to the ledger, where not only the personal accounts are credited, but the impersonal accounts are debited. Turning to the balance sheet of this company, the bookkeeper finds the folio appropriated to all transactions in Iron to be, perhaps, 29—the Premises account to be at folio 36, and the Stable account at 16.

He accordingly opens folio 29 in his ledger, where he had previously written the word 'Iron' in large characters at the top of the page, and annexing the proper date, posts the sum of 3174l. 15s. to the debit of that account, and refers in a column ruled for that purpose to the page of the journal. He then looks to his index for the accounts of Jones & Co., Smith & Co., and Thompson & Co.; or if there had been no previous dealings with them, he opens an account with each of these parties on separate pages of his ledger, and posts to their credit the several sums which he finds in the journal, carefully stating in his ledger the page in the journal where the entry came from, and in the journal the folio of the ledger where the entry is gone to, in conformity with an irreversible rule that no entry should, in any instance, be carried forward from book to book, without a distinct reference in each book to the page of the other.

After posting the three supposed journal entries, the ledger will exhibit the same facts in a new form.

The attentive reader will have taken notice that the iron purchased of Thompson & Co. on the 24th of the month is journalized in the same entry with the iron purchased twenty-three days before, from Jones & Co., and will infer that in many instances in book business, such a delay might be highly inconvenient, especially in cash and bills. Such an inference is quite correct, and the only pretext that can be alleged for persisting in single entry is, that it carries
the events directly from the original books into the ledger without the dilatory intervention of a journal.

The writer of this article has for many years been in the habit of employing a method which combines the quickness of single entry, as it regards the personal accounts, with the satisfaction of double entry, as it regards the general books of the company. He considers this 'combined method' well worthy of the attention of all who either as principals or book-keepers are interested in the accounts of any extensive business. By the method here alluded to a summary ledger is kept, and this is the only ledger that has a journal attached to it. These two books, namely the summary journal and summary ledger, are devoted exclusively to the personal accounts, together with the bank's, travel's, and other personal accounts of that nature. The records are collected into the journal from the subsidiary books in convenient periods, whether weekly, fortnightly, or monthly. According to this method the debits contracted, by the supposition above, for Iron, Premises, and Stable, would be placed respectively to the credit of the parties in the bought ledger, as soon as the accounts could be examined and passed.

On the other hand, every payment made against the purchases, whether by cash, by bills receivable, or by bills payable, would be charged to the proper personal account in the bought ledger at the very moment of making the payment. The bought ledger would, therefore, in all respects exhibit the state of every account it contains, and may be referred to at any time, with the certainty of finding the last event recorded. This is the advantage of single entry, that there is no journal to obstruct the progress of the record, and that the accounts are kept at all times in the proper state, and appears without delay in its proper place, namely the personal account to which it relates.

The summary journal, in registering these same purchases, throws away all consideration of particular persons, and neither the clerks of reference, by raising a single account comprehending them all under the general name of 'bought ledger,' thus:

<table>
<thead>
<tr>
<th>Dr. to Bought Ledger</th>
<th>Credit</th>
<th>Dr. to Bought Ledger</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jones</td>
<td>200 lots</td>
<td>5 0 0 0 1000 0 0</td>
<td>Smith</td>
</tr>
<tr>
<td>Thomson</td>
<td>14 0 0</td>
<td>5 0 0 0 707 0 0</td>
<td></td>
</tr>
</tbody>
</table>

Upon the face of this balance-sheet, double entry speaks at once to the eye, and informs the parties to the account not only of the amount of debt incurred, but the means of discharging it, by showing the property divided into proportions of salable (Iron), mortgageable (Premises), and consumable (Stable); thus distinguishing the effects into those which are more or less available and those which are unavailable for the discharge of immediate obligations.

If a short series of pro forma suppositions is added to the above, the value of the balance-sheet will be more distinctly seen in the strong and steady light it sheds upon the vital question of price.

Suppose, then, that the conductor of the business has sold out 4000l. consols at 92 1/4 less brokerage—that he has paid the proceeds directly into his bank's hands for the use of the business—that he has effected sales of 550 tons of iron at 7l. 10s. 0d., and has, by the same means, purchased 600 slabs of wood at 7s. 6d.—then he has received out of these accounts cash to the amount of 750l. 16s., and 18 bills, amounting to 2323l. 12s., besides allowing 12l. 12s. in abatements and discount—that out of these cash receipts he has paid taxes 22l. 10s., other charges to the amount of 25l. 16s., and bank interest 60l.—that he has settled Chandler and Co.'s demand by a cheque on his bankers for 63l. 14s., abating 10d.—that he has drawn checks for salaries and other charges to the amount of 51l. 7s. 6d.—then he has accepted a bill addressed to his bankers at 2 months to Jones and Co. for 60l., deducting 24 per cent. in discharge of their demand—that he has accepted a bill (No. 2) at 6 months to Smith and Co. 1257l. 16s., and another bill (No. 3) at the same date to Carpenter and Co. 452l. 8s. 6d.—that the bill accepted at 2 months have fallen due and been regularly paid by the bankers, and that the two acceptances at 6 months are still running—that he has compromised a debt of 14l. 6d. for 106 in the pound, which he received in cash, forming the account of 3l. 4l. of 750l. 16s., and that further that of the 18 bills receivable, No. 8 had fallen due and been received in cash, value 8l. 14s., and that six others, namely, 1, 4, 5, 12, 13, 16, amounting to 89l. 17s. 4d., had short notice. The banker's, had fallen due and been regularly taken up in full by the acceptor, except Mr. All- swen, who, requiring the assistance of 551l., had 251l. lent to him out of the cash, and a bill receivable (No. 7) for 30l. Suppose also a horse to be bought, by check 33l. The original entries recording the above transactions would be made as follows:—The sale of the consols and disposal of the proceeds would first appear in the summary journal—the sales of iron would be stated with particulars of date, person, quantity, and price in the sales day-book, according to the order in which the sales are carried forward into the sold ledger, according to the division of persons. The cash-book would show in the order of time the various sums received from the particular buyers, whose accounts would be immediately credited in the sold ledger. The bills payable book would show in its ultimate entries both the names of the buyers from whom each bill had been received, and show the page in the sold ledger where it had been carried to his credit. With regard to abatements and discounts, the sold ledger and the bought ledger should each have a sufficient number of folios set apart to contain a list of all such allowances regularly recorded at the time of their occurrence; and these allowances, under the names of 'discounts outwards' and 'discounts inwards,' should be journalized at convenient periods in the summary journal. The bills payable book would show the date and amount of each acceptance, with a reference to the folio in the bought ledger where each drawer has been debited.
These transactions, when digested in the journal, would give rise to entries of the following effect:—

- Bankers, £500, less Brokerage.
- Sold Ledger.
- Amount sold as per Day Book, page 1 to 23.
- 550 Tons.

Cash
- Sold Ledger, as per Cash Book.
- £495 0 0
- BILLS PAYABLE, No. 8.
- £76 17 0
- £767 10 0

BILLS PAYABLE
- £475 4 6
- £670 0 0
- £69 10 0
- £86 8 6
- £16 7 0
- £283 11 9

BILLS PAYABLE—Chandler & Co.
- £33 0 0
- £58 17 9

BILLS PAYABLE—Johnson & Co.
- £25 0 0
- £250 0 0

When these entries have been properly posted in the summary ledger, and added to the accounts already there of
- Premises, Iron, Stable, and Bought Ledger, the general effect will come out in the following balances:

| Bankers | £5617 6 6 |
| Cash | £41 4 6 |
| Bills receivable | £1255 6 6 |
| Sold Ledger | £199 2 9 |

| Iron | £127 5 6 |
| Precious | £455 4 6 |
| Stable | £63 14 10 |
| Horse | £25 0 0 |

| Taxes | £95 10 0 |
| Charges | £84 13 9 |
| Discount outw. | £18 13 9 |
| Bad debts | £14 7 0 |
| £994 15 10 | £994 15 10 |

| Profit and Loss.
| Bankers | £495 0 0 |
| Bills payable | £575 0 0 |
| Cash | £500 0 0 |
| Depositable | £750 0 0 |
| Stable | £500 0 0 |
| Horse | £500 0 0 |
| £495 0 0 | £1000 0 0 |

| Profit and Loss.
| Taxes | £320 0 0 |
| Discount | £12 10 0 |
| Bad debts | £14 7 0 |
| £475 0 0 |

Should a stock-taking be determined upon at this point, the book-keeper, grounding himself upon his balance-sheet, transfers to an account of 'profit and loss' all those balances which represent absolute loss or absolute gain, independently of existing property, because they are matters of mere account, and not of matters of opinion. Under the supposed state of things, he would therefore of his own accord make the following entries in his journal:—

| Profit and Loss.
| Bankers | £565 7 6 |
| Cash | £41 4 6 |
| Bills payable | £1255 6 6 |
| Sold Ledger | £199 2 9 |

| Iron | £127 5 6 |
| Precious | £455 4 6 |
| Stable | £63 14 10 |
| Horse | £25 0 0 |

| Taxes | £95 10 0 |
| Charges | £84 13 9 |
| Discount outw. | £18 13 9 |
| Bad debts | £14 7 0 |
| £994 15 10 | £994 15 10 |

| Discount in.
| Balance of discount in. | £475 0 0 |

The balance-sheet being presented to the employer in the improved state thus produced, is examined, item by item, to ascertain that the property mentioned in the ledger is in actual existence. The cash, the bills payable and receivable, and the balance at the banker's, are disposed of in a few minutes, in all concerns which have the least pretension to regularity of accounts. The sold ledger and bought ledger ought to be thoroughly investigated, and the balance, if any, appearing in the summary ledger, ought to be sustained and elucidated by a schedule of the debts composing that balance, not only for the sake of proving that so much property really exists in the sold, and that all the demands have been discharged from the bought, but also for the purpose of proving to the propounder the specy collection of those debts which may have fallen behind in point of time. With regard to iron, it would be seen by the ledger that 651 tons had been bought and 550 tons had been sold. There ought, therefore, to be 101 tons on hand;—more or less than cannot be without either errors or fraud. After satisfactory proof of the fact, a valuation may be made, either at the market price or the cost price, according to the purpose intended by the stock-taking, which is sometimes to pay out the share of a deceased or retiring partner, sometimes to admit a new one, and sometimes in salutary compliance with an annual custom. Suppose in this case the valuation to be £5 p. ton, the consequence would be the following journal entry:

| Iron.
| Profit and Loss.
| Dr. to Profit and Loss.
| £505 0 0 |
| Loss. Balance of iron account in Ledger 16 5 0 |

£499 15 0

Suppose the consols were sold out half a year before, and consequently a dividend due; suppose, also, the value of provender in the stable to be 21/. 8s. 6d.; the horse to be considered one-seventh less valuable than when he was bought, and the premises to have undergone a deterioration of 10 per cent, these matters would be thus recorded in the journal:

| Profit and Loss.
| Dr. to Surplus.
| £505 0 0 |
| Balance Ledger. |

| £35 0 0 |
| £35 0 0 |
| £409 8 6 |
| £407 0 0 |
| £45 6 4 |

Consols.
- Half Year's Dividend due on £4000
- £215 14 9

£215 14 9

The effect of all these entries, when posted in the ledger, appears in a new balance-sheet, which now presents the actual state of the concern, with every account in the ledger adjusted to the same moment of time; for the book-keeper who does not, on these occasions, refer every account to the same moment of time discover that sort of ignorance in his art which Hogarth exposes and satirizes, for the benefit of other artists, in his celebrated picture of 'False Perspective.'

| NEW BALANCE-SHEET.
| Bankers | £3661 7 7 |
| Cash | £41 4 6 |
| Bills payable | £1255 6 6 |
| Cash at bank | £193 0 0 |
| £3197 5 6 |
| £3197 5 6 |
| £3197 5 6 |
| £3197 5 6 |
| £3197 5 6 |

| Iron | £500 0 0 |
| Precious | £500 0 0 |
| Stable | £500 0 0 |
| Horse | £500 0 0 |

| £500 0 0 |
| £500 0 0 |
| £500 0 0 |
| £500 0 0 |
| £500 0 0 |

The proprietor of the concern, with these authentic data before him, easily collects together all the accounts which are similar in their nature, and draws from the result the most useful practical inferences. Thus, he finds that in cash and cash-like accounts he possesses a Property of £1917 5 6

Out of which his bills payable will require 2174 15 0

To which he adds his horse | £500 0 0 |

£3661 7 7

And finds a free disposable fund of £3527 10 6

Having thus marshalled the floating against the floating accounts, he compares the fixed with the fixed, and finds the profits, horse, and stable to constitute a Total of £158 8 6

£158 8 6

more or less unavailable, from which deducting The Profit | £230 19 0 |

for which he is his own creditor, he adds The Difference | £227 9 6 |

to the above disposable fund | £3527 10 6 |

£3527 10 6

and perceives that if the price of consols is the same as when he sold them out, he can replace them, together with the dividend, even although his premises, horse, and provender should yield him only 227 l. 9s. 6d. If he continues in business, he periodically extracts from his books the same sort of information, and by comparing the results in the same way ascertain the progress he has made in a given time. In this case the means of living are supposed to be derived from sources independent of the business. If the proprietor had drawn any money for private purposes, he
would have been charged with it in a separate account under his own name.

So, where several partners are interested in any undertaking, the books are kept as if they were the books of one individual, with each partner being debited or credited in his personal account, and the book is adjusted each day, or brings inwards. At the stock-taking the account of profit and loss is balanced by transferring to the private account of each partner his respective share.

In the new balance-sheet, the reader will have remarked that, in place of each account representing the concern itself under different aspects, the debtor side forming an inventory of property so digested as to show at once what and where the several heads of property are, the creditor side exhibiting the nature and amount of the demands upon and liabilities of the concern, the total payable, for example, shows the amount which the concern is bound to provide for the satisfaction of claims which will be brought against it for actual payment; the account of consols shows the sum of money which the proprietor has embarked in this particular undertaking; and the account of profit and loss points out the amount of advantage he has derived from his transactions, provided all the accounts on the debtor side should realize the sums standing against them.

Another view suggested by this analysis of the new balance-sheet is, that although it may seem at first sight indifferent whether a man is his own debtor or his own creditor, since, in either case, he has no actual payment to provide for; yet in reality it makes an important difference to a man as a commercial being, whether or not he is, by the increase of profit and loss standing at the debtor or creditor side of his balance-sheet; since on the debtor side it indicates the absence or destruction of propriety, and on the credit side it indicates the absence or destruction of obligation.

This is in the strict sense a very strong view, for it is for profit that the labours, cares, and hazards of trade are encountered, and in books well kept the issue of the struggle is pointed out by this account of profit and loss. In the progress of the business sketched above more profits would accure, and would be recorded to the credit side of that account, but at the same time expenses and other outgoings upon the property would likewise be going forward, and would ultimately array themselves under the several heads for which the concern would be its own debtor. The important question is on which side the preponderance shows itself.

At this point it may be advisable to admonish the young accountant not to be led away by a sophism which will frequently assail him, viz., that whether he keeps his books by one method or another the result is the same. Whoever would be a success in business must understand that it is not only to ascertain the actual state of a concern, but to know what that state ought to be in virtue of all its transactions, that will immediately see the impossibility of arriving at that complete knowledge by single entry. One example will render this clear. Suppose that throughout the year the credit would be found as heavy by single as by double entry, but it is by double entry alone that you can ascertain whether that quantity is the right one. If you wish for satisfaction, as you naturally must, on so interesting a point, double entry gives you at once, and with what satisfaction, of course, that satisfaction which single entry drives you to obtain through the laborious "uncertain process of picking out," carrying within itself no principle of certainty, and harassing the mind with the consciousness of perpetual liability to error. Single entry is in fact a mere summary, and is therefore an insufficient and unreliable index as far as they go, but so incomplete and disjointed, that they throw no useful light upon the past progress of affairs, and are utterly incapable of showing what the present facts ought to be.

Double entry is of quite a different character. It begins, proceeds, and ends in as much certainty as human fallibility admits of. Whatever may become of the property in a concern, the matter of account is subject to no possible diminution. Not a single atom can be admitted into its calculation, the credit which is due to the sale of goods on account of the credit of one and to the debit of the other. Not an atom within the sphere can change its character, as, for instance, when a bill receivable is paid in cash, without producing a credit in the account it has abandoned, and a debit of equal value in the account it has entered.

BOOM, a commune in the province of Antwerp, ten miles south of Antwerp, with which it communicates by means of a paved road. The town stands on the banks of the navigable river Rupel; it contains 1045 houses and 6223 inhabitants. A considerable trade is carried on between this place and Antwerp, Mechlin, and Brüssel, which is much facilitated by the navigation of the Rupel and the Maas, both of which rivers empty into the town.

Great numbers of bricks and tiles are made here; the building of vessels for river and canal navigation is also carried on; there are two large salt-refineries and seventeen breweries, besides distilleries, rope-walks, tanneries, and establishments for flour manufacture. The town supports two communal schools, in which sixty-five boys and eighty girls are taught. (Die. Geog. de la Prov. d'Anvers, par Van der Maelen.)

BOONDE, a municipality in the S.E. quarter of Rajputana, under the protection of the Anglo-Indian government, between which and the Rajah of Boondee, Bishen Sing Behauler, a treaty was concluded in February, 1818.

The territory of Boondee formerly comprehended the petty state of Kotaah, and with it occupied that division of the province of Ajmeer (Rajputana) which is known as Harrasootee or Haravati, a name derived from the ruling family, who are of the Hans tribe. The boundaries of Boondee are Kotaah on the S. and E., the frontier being about five miles from the village of Gumbeehool; Jeypour and Onjara on the N., and Jajghur on the W.

The Rajah of Boondee having brought upon himself the enmity of the Maharattee chiefs, Holkar and Scindia, in consequence of the aid afforded by him to the British army during the late war with the French, he was expelled by them from the greater part of the territory and more than one-half of the revenues of the principality were exacted by those chiefs in the name of tribute. The subsequent success of its operations against Holkar and Scindia having enabled the British government not to insist upon a restoration of the province to its former extent, but the portion which was paid to Holkar by the Rajah of Boondee was remitted to the latter, together with certain pargannes, of which Holkar had taken possession. By another article of the treaty of 1818 the Rajah of Boondee was induced to sell certain lands at a low price to a company of English investors, amounting to 1,37,000 rupees (9000L. per annum). In addition to the pecuniary relief thus afforded to the Rajah, he received, under this treaty, an accession of territory to the extent of 2300 sq. m., including the town of Petam. (Rajputana.)

(Mill's Brit. India; Report of Committee of House of Commons on Affairs of India, 1833, political section.)

BOONDEE, the capital, in 25° 28' N. lat. and 75° 42' E. long. Properly speaking, the town consists of two parts, the old and the new. The former is built round a large square, which, on the north side, opens into the principal street of the town, which is to the W. of the modern buildings, is nearly deserted by the inhabitants, and for the most part in ruins: it contains however some fine pagodas, and some fountains. The new town is inclosed by high stone walls and connected with the old above mentioned by a fine broad road commanding it. The greater part of the houses are built of stone, and are two stories high. The principal street has a very striking appearance. At one end stands an extensive temple, dedicated to Krishna, covered with groups of elephants, and at the other end the great palace of the Rajah, built on the side of the hill: the intermediate space is occupied by two rows of shops fantastically ornamented.

At the lower end of the street and near the temple are figures of the natural size, cut in stone, of a horse and an elephant—those of the former being the more remarkable.

On the N.E. side of the city is a lake which is supplied with water during the rainy season by another great lake artificially formed by embankments on the high ground. The pass through the hills to the N. of the city is more than 6 m. long, and at three spots is defended by barriers. Near to one of these barriers is a summer residence of the Rajah, and some Hindu temples. Adjoining the second barrier is the cemetery of the Rajah's family, containing many highly ornamented tombs, with figures of elephants and war-horses. (Hodgson, in J. As. Soc., vol. iii.)

BO'OPS, a genus of fishes of the order Scaphopodottii, and, according to Cuvier's arrangement, belonging to the fourth family of that tribe called sparidii or sparids.

This genus is chiefly characterized by the species possessing trenchant teeth; the mouth is small and not protractile. The species are generally of brilliant colouring. Most of them occur in the Mediterranean.
Boo salpa (Sparsus salpa of Linnaeus) is of an oblong-ovate form: the ground colour of its body is bluish, which are several longitudinal yellow stripes.

This city is the largest and most important in the country, and is the capital of the province of Candeish, on the N.W. bank of the Tuptee River, 29° 19' N. lat. and 76° 15' E. long.

This city is one of the best built in the southern part of Hindustan; the houses are generally constructed of brick, and occasionally of stone. The streets are wide, and paved with stone; the market-place is a large and substantial building, but the city is without architectural ornament. The principal mosque is the only building which is an exception to this remark. It is of gray stone, with a large number of domes and minarets. The city has a handsome minar of an octagonal form: in front are a fine terrace and a reservoir of water.

Boorhanpore, which had been the seat of government for the Soubr or Viceroyalty of Candeish by Aungzebe, was taken, together with the rest of the Soubr, by the Maharattas, about 1769. In October, 1803, shortly after the battle of Assaye, this city was taken by a detachment of the army under General Wellesley, but was restored to the Maharajah, Dowlut Rood Scindia, on the conclusion of peace in the month of December in the same year, and the city has since continued subject to his government.

The principal commerce of the place is carried on by a peculiar sect of Mohammedans, known as Bobrah, but who call themselves Khans and are descendants from one Renza, son of Mohammed, who lived in the age immediately succeeding that of the prophet. These people, to judge from their personal appearance, are of Arab origin, and they adhere to the Arabian costume; many of them are very wealthy, and inhabit the city. The mosque and cemetery are about two miles from Boorhanpore.

The Tuptee is here a narrow river, and fordable in the dry season. Water for the supply of the city is brought by means of an aqueduct from a distance of 4 m., and is plentifully distributed over every street. The gardens, which grow abundantly in the neighbourhood of the city, are said to be the finest in India.

Boorhanpore is distant from Osjein 154 m., from Bombay 240, from Nagpoor 255, from Poona 285, from Agra 505, and from Calcutta 573 m., travelling distances.

(Mill's Brit. Ind.; Hamilton's Est. Ind. Gaz.)

BOORO, an island in the Eastern seas, situated between the S. E. coast of Celebes and Amboyna, between 3° and 4° S. lat. and 126° and 127° E. long.

This island is of an oval shape; its length from E. to W. is 25 m., and its average breadth about 40 miles. The inhabitants of the coast, who are Mohammedans, acknowledge the authority of the Dutch settlers, but are governed immediately by their own chiefs, or orang capos. The inhabitants of the interior, which is thickly forested, and is composed of the aboriginal Horsford, do not intermarry with the orang capos, and subsist upon wild fruits and the produce of the chase.

The south side of the island was formerly much infested by the Papuas, and was in consequence deserted by the natives.

At Cajilli or Booro bay, at the N. E. end of the island, is Fort Defiance, the settlement of the Dutch. This part is frequented by South Sea whalers for shelter during the monsoons, as well as to obtain wood and water, which are plentiful. The principal productions are rice, sago, and various kinds of dye and aromatic woods, for which many Chinese boats are frequent. The export of lac, and the collection of naphtha, is a native of Booro, and its product, known in Europe as Cajput oil, may be obtained in considerable quantity.

Stavrovius' Voyages, vol. 1; Forrest's Voyage to New Guinea; Porter's Tropical Agriculturist.

BOOTAN, or BHootAN, a name formerly employed to designate an indefinite tract of country to the N. E. of Hindustan, is at present limited to the Alpine region, which extends from the banks of the river Teesta eastward, and terminates to the N. of Assam, as it is supposed, at least 100 miles. As the width of the country is about 86° 40', the length of the country may be 150 miles, or nearly so. Its extent from N. to S. is only about 100 miles, and is supposed to be included between the parallels of 28° 30' and 28°. Thus, Bootan would occupy an area of 2000 square miles, that of Sikkim.

It is bounded on the W. by the territories of the Raja of Sikkim, on the N. by Tibet, and on the S. by Bengal and Bahar; but we are not informed what people inhabit the country along its eastern borders, and it is only conjectured that they are the Ankas or Akas, a nation which possesses the mountains N. of Assam, and is otherwise little known.

The extensive plains which occupy the southern regions of Central Asia, and are known as the table-land of Tibet, are situated at a great elevation above the sea. There are good reasons for supposing that on an average this elevation is between 7000 and 8000 feet. The distance between this table-land and the low plains on the banks of the Ganges, hardly exceeds in a straight line eighty miles, and as these low plains, where they approach nearest the table-land, are hardly 300 feet above the sea, it is easily conceived that the descent from the table-land to the low plain is so steep as to be exceedingly rapid and uneven. Bootan occupies the whole of this descent and a narrow tract of country at the foot of it.

As far as our information goes, the surface of Bootan is covered with numerous masses of rock, many of which rise to a considerable height. Between the mountains the valleys, which are extremely narrow, extend south and north, or nearly so, and are traversed by rivers, which, for many miles, are a succession of cataracts and rapids. Few parts however of this country exhibit different physical features.

Recent observation has shown that elevated plains are generally, if not always, bounded by high lands, which rise considerably above the level of the plains, and it would appear as if in all cases the mountain chains of the Arabian desert, or the Caspian shores, or the Himalaya range, which lie considerably above the table-land; for the mountain-passes by which the Himalayas are traversed are found to attain an absolute altitude of between 15,000 and 16,000 feet. The summits are still many thousand feet higher, and a few of them rise above 25,000 feet.

Bootan includes the southern declivity of the Himalaya range, and here on the boundary of Tibet stands the Changali which rises to about 25,000 feet; somewhat more to the east is Mount Ghassa, whose elevation has not been determined. The number of passes over the Himalaya in this country is said to be eighteen, but we have information only about one, the Soomoonang-pass, which traverses the range to the west of Changali, and according to the calculation of Bergbass, deduced from the thermometrical observations of Saunders, is 15,744 feet above the level of Calcutta.

The Mount Né, or the famous Née Shee Pass in Kumoon, which according to Webb rises 16,569 feet above the same level.

The northern parts of Bootan, which belong to the Alpine region, extend southward from the boundary of Tibet and extend in breadth for the most part of twenty miles, the slope of which is more than 5000 feet above the sea, and in many places less. The valley of Tassaudoon, according to Bergbass, is 4811 feet above Calcutta, and that of Panukka is still much lower. This rapid descent constitutes the character of the northern districts of Bootan. Summit which forms the summit of this range is covered with a thick carpet of mountain-masses of bare, black rocks, which, as they decline in height, begin to display short herbage, with here and there a straggling barberry-bush. Farther down, the holies make the most conspicuous figure on the slopes, and give way in some places to hazle and to birch, except when it is nearly vertical. The rivers rush forth like torrents, foaming violently among huge masses of rock that obstruct their tortuous course, in which they dash from one side to the other. Their progress is only interrupted by numerous falls, which continue sometimes for great distances, and whose volume is continually increased by the streams which descend from the contiguous heights with the quickness of an arrow. The spray rising from the numerous water-falls
loads the atmosphere with vapour, and renders the air extremely chilly, even in summer. In September or October the frost begins in the more elevated parts, which are uninhabited for four or five months of the year. In summer however they are visited by numerous herds of chowrytalled cattle and their herdsmen, as they offer abundant pasture. At the approach of winter, the cattle are removed to a few deep gians. Continuous to this inhospitable Alpine region is the most pleasant and best cultivated part of Boottan, which occupies about one-half of the whole country, extending about fifty miles from north to south. The mountains, though still covering by far the greatest part of the surface, probably never, or rarely, attain the height of 12,000 feet, and they descend with gentle declivities. These, as well as their summits, are clothed with high trees, especially pines and firs; and in some places a wide and very beautiful plain, on which no oak has been found. The valleys are open, and in many places they present to the husbandman a level from one to two miles broad, but he has extended his dominion to a considerable distance up the gentle declivities of the adjacent mountains, where he cultivates rice and the grains of Europe, while his orchards produce apples, pears, peaches, apricots, oranges, and walnuts, and the uncultivated spots are covered with strawberries, raspberries, and blackberries. The rivers which traverse the larger valleys bring down from the mountains a large quantity of timber, but the slope of the valleys is not very great, they continue their course by a tranquil though rapid current, while the smaller streams, which descend from the neighbouring mountains, rush down with the violence of torrents. Numerous villages, however, are situated on these streams, which unite and drain the hills and along the banks of the rivers. The climate resembles that of the southern countries of Europe. At Tassiaudon, in summer, the thermometer never descends below 60° nor rises above 80°. The summer is the rainy season, and the day is often filled with showers. The rains, as well as the western monsoon in the low plains of Bengal. In winter the country is for some time covered with snow, except at Panukka and Andipore (Wandipore) in the valley of the Tahan-tien, where snow is almost unknown. Indeed, thus, this is a region of great variety, for Mount Ghasa, descends more rapidly and much deeper than the other valleys, and Saunders found the temperature at Panukka nearly equal to that of Rungpore in Bengal. The inhabitants of that place are careful not to expose themselves to a vertical sun, while those of Ghasa feel all the rigour of winter, and are chilled by perpetual snow; yet both these places are in view of each other. On account of this mildness of the climate, the Dabraj, or sovereign of Boottan, has chosen Panukka for his winter-residence, thereby enabling him to go and come further north than Tassiaudon, where he passes the summer. 

Before the rivers reach the low plains of Bengal, they still descend another slope, which in somewhat more than ten miles sinks from upwards of 3000 feet to less than 300. Here the same story is related, of course the rivers, that they often do not present along the rivers room enough for men and horses to pass, and the roads have consequently been made on the side of high mountains along deep precipices. The sides of the mountains are in many places covered with trees, and there are two commercial passes by them; in other places they are covered with forests of fine trees, which however are useless, being inaccessible: they consist of saul, bamboo, plantains, and others peculiar to this tract, and known to the natives by the names of borough. They are all dressed down in a manner very similar to the way in which they dress in Europe. Some are clothed with moss and with creepers of surprising length and thickness, and not less remarkable for their flexibility and strength; hence they are an excellent substitute for rope. Agriculture in this district is confined to a few small spots; for though the rocks are covered with a rich and fertile soil, it is hardly over level enough to be cultivated. Cattle, however, and hogs find abundant food in the spontaneous produce of the woods. This region is exposed to the full south-west monsoon, and is unhealthy, at least to strangers, a season which begins in June, and continues till September. The swelling of the neck called in Switzerland goitre is more frequent here than in other parts of Boottan. 

To the south of this mountain-region, and only divided from it by a few miles of gently sloping ground, extends the Tariyani, noted all over Bengal for its forests and its unhealthiness. It belongs partly to Boottan. This region, which runs along the whole extent of the Himalaya range from the Brahmapootra to the Sutlej, and has on an average breadth of twenty or twenty-five miles, is an entire swamp. Numerous springs issue from the base of the mountains, and unite in rivulets; but as the country is a perfect level, the declivity of the soil is not sufficient to carry off the abundant inundation. During the rainy season it becomes stagnant, and forms a swamp abounding with the most exuberant vegetation. The soil is covered with rank grass, reeds, fern, and underwood, among which the bamboo grows to the height of thirty feet, and as thick as a man's wrist. It is overgrown by the most compact and loftiest timber of the forest. From this exhaustless store the remotest provinces of India, but especially Bengal, derive an ample supply of the best materials for constructing boats, and for all purposes of building. This swampy country is inhabited by numerous tribes of native men, such as tigers, and wild buffaloes; but the exhalations from such a surface of vegetable matter and swamps, increased by an additional degree of heat reflected from the hills, render the air highly injurious to the health of man. It is consequently very unhealthily inhabited, and by a very miserable class of people. Goitres are frequent among them.

Travelling in a country like Boottan is by no means easy and convenient. In the Tariyani it is performed by means of elephants; but in the mountainous parts, which have no elephants, must be undertaken on foot. This is the case which purpose the Tangan horse, the native breed of this country, is the only one that is suitable. Sometimes persons must be carried over some steep parts of the mountains on the backs of men. But every kind of communication is so slow and exacting that it has not shown great industry in building bridges. The great variety of these bridges, and their being always adapted to the river and other circumstances, evince no small degree of ingenunity and judgment. They are generally very neatly arches, and support the bridge in such a manner that they are laid horizontally from rock to rock. Over broader streams, a triple or quadruple row of timbers, one row projecting over the other, and inserted into the rock, sustain two sloping sides, which are united by a horizontal plate of wood or iron. These bridges are very strong, and the whole bridge forms nearly three sides of an octagon. Piers are very seldom used, on account of the unequal heights of the banks and the extreme rapidity of the rivers. The widest river of Boottan has an iron bridge, consisting of a number of iron chains, which support a wattled platform; and two chains are stretched above parallel to the sides, to support a wattle bordered, which is absolutely necessary to the safety of the passenger, who is not quite at his ease till he has landed from this swinging, unsteady footing. At another place a bridge is formed from two parallel chains, round which creepers are loosely twisted, from which suitable planks are suspended, the end of one plank resting upon the end of the other, without being confined. Over deep chasms, two ropes, commonly of rattan, are stretched across the river, and a rope is thrown from one mountain to another, and they are encircled by a hoop of the same material. The passenger places himself between them, sitting in the hoop, and seizing a rope in each hand, slides himself along with facility and speed, over a track sometimes almost perpendicular.

The most considerable river of Boottan is the Tehin-tien, which traverses the whole country from north to south, rising in the mountain-range between the Chamalari and Mount Ghasa, and running by Tassiaudon. Being several miles wide, it was formerly thought to contain two parallel streams, the Pa-tochen, which rises near Para and the Ha-tien, it finds a passage between the mountains of the lower range, from whence it is precipitated in tremendous cataracts, and rushing with rapidity between the high cliffs and rocks that oppose its progress, it descends at length into the plain a few miles east of Buxedwar, and finally joins the Brahmapootra, not much below Rangamuty, under the name of Gedadhar. Its whole course may be about 130 miles. Parallel to the Tehin-tien, but farther to the east, runs the large river of Chusan-tien, which is of a different character. Farther down the course of this river is not known, but it is sup
posed, after having descended from the higher hills, to flow through the flat surface of the district of Bijee, and to join the Brahmaputra several miles below its entry into Bengal.

The rapidity of all the rivers of Bootan is far too great to allow farther navigation or irrigation. The latter circumstance however is not of great importance, as the level country along their banks is of very small extent, most of the cultivated ground being situated on the sides of the hills, from which numerous rills descend. The slopes are cut in cut, and the water which is conveyed down them by the descending streams, which are made to overflow the beds successively. The natives show much industry in the cultivation of their fields, which are always neatly dressed. Rice, green-corn, wheat, barley, and sugar-cane of the polygenum of Linnaeus, which produces a triangular seed, nearly the size of barley, and is the common food of the people in many places. The level tracts along the Tehin-thien yield two crops in the year; the first, of wheat and barley, is cut in June, and the rice, which is planted immediately after, enjoys the benefit of the rains.

Horticulture is less attended to, though the country is fitted for the production of every fruit and vegetable common without the tropics, and in some situations will bring to perfection many tropical fruits. The most common fruits are apples, pears, peaches, apricots, mulberries, oranges, pomegranates, and walnuts. The apples are coarse, harsh, and ill-tasted, but the peaches and apricots are excellent. The vine, however, is not so useful. The banana is also cultivated, as are turnips, which are equal to those of the northern countries of Europe. They also grow shallots, cucumbers, gourds, and melons. The sugar-cane is cultivated at Andipore.

In the rocky soil, near the mountains covered with snow, a species of rhubarb plant (rheum undulatum) is found, and in some other parts a kind of cinnamon tree, the leaves of which are much used in cookery in Bengal, and known by the name of teezant. Paper is made from the bark of a tree.

Of domestic animals only horses, cattle, and hogs are kept. The horses are nearly all of them of a peculiar species, indigenous in Bootan, and found in none of the neighbouring countries. They are called tangun, vulgarly tannian, from Tangustan, the general appellation of the mountains of Bootan, but they are chiefly bred in the valley of the Pa-thien, the tributary of the Tehin-thien. They are usually thirteen hands high, and remarkable for their just proportions, uniting in an eminent degree both strength and beauty. They are short-bodied, clean-limbed, and though heavy yet extremely quick; are commonly of a piebald colour, with various shades of black, bay, and sorrel upon a ground of the purest white. Those of one colour are rare, and not so valuable in the opinion of the Bootesees, though much more esteemed by the English in India to which country a great number is annually exported.

The chowytail cattle, or yak (bos grunniens) [Asia, p. 482], pastures in summer among the snow-topped mountains which constitute the boundary between Bootan and Tibet, and in the winter it descends into the deep gorges farther to the south.

Wild animals are so extremely rare in the mountainous districts of Bootan, that Turner does not notice any, except a kind of monkey, the hummowint of India, the largest in this part of the world. The elephant is rarely met with. They have black faces, surrounded by a streak of white hair, and very long slender tails. They are only found in the mild climate near Panukka, and are held sacred by the Bootesees as well as by the Hindus. Bees are common, and managed with great care. Among the troublesome animals, leeches and a kind of pestiferous fly are noticed.

The mineral riches are little known, and still less used. Of metals only iron and copper are found, and only the former worked. There are no towns in Bootan, and even large villages are rare, consisting generally of not more than ten or twelve houses. Only the palaces of the lamas, of the Daeb rajas, and the governors of the provinces, and the numerous fortresses, deserve notice; a drawing and description of the palace of Tassudun are given in Turner's Embassy to the Court of Teshoo Lama, p. 90, 91. The fortresses are always built on very advantageous sites, generally at the confluence of two rivers.

The natives of Bootan, called by the Hindus Bootesees or Botiyas, belong to a very extensive nation, which occupies the higher regions of the Himalaya range westward to the valley of Cashmere: in Bootan alone they are in possession of the whole mountain-tract. The structure of their temples and their festivals prove that they belong to the same race which is spread over the south of Eastern Asia, and comprehends the Birman as well as the Chinese.

The Bootesees are Buddhists; but in their religious ceremonies they differ widely from other nations. The ceremonies of the Mandarins are small to their kings and gods, and the Buddhism is preserved.

They are never opened, and the whole divine service of the people consists in processions made round the temple, accompanied with the mystical words, 'Om man ni padme hum.' The men form the head of a temple, and if travelling on horseback, diamond and walk by. Near the temples are many tall flagstaffs, which have narrow banners of white cloth, reaching nearly from top to bottom, and inscribed with the same mystical words. Besides this there is a high rail, without, the usual size of fifteen feet in length, six feet high, and two thick, with a central part distinguished by being thicker and higher than the sides. On both faces near the top are inserted large tablets, with the same mystical words out in relief.

The import of these words, according to the explanation of Schmidt, is 'The jewel of the Buddhistic fullness is truly revealed in the Padma (Lotus) flower.'

They consider the Dharma Raja as an incarnation of the Divinity, and he is their religious chief as well as their temporal. He is also their legislator. Besides the head of the divinity, he takes no part in the internal or external affairs of the country, which are entirely left to the management of the Daeb Raja, except that the Dharma Raja appoints one member of the state council. This council consists of three members, chosen from the tribe of whom the Daeb Raja can do nothing of consequence. This sovereign has to receive the public money, and to distribute it among the officers of government, or to employ it for the support of religion, all which is done according to custom.

The number of priests, called gylongs, is considerable, and amounts to upwards of 5000. Their principal duty consists in the study of the religious books, which seem to be numerous, and full of metaphysical distinctions. They are excluded from all commerce with the other sex, and are not permitted to cultivate the ground; but they may enter into trade, and accept public offices.

The Bootesees do not kill any animal, but they eat the meat of those which have been killed by others, or have died a natural death. No woman eats the meat of the first day with warm water, and the following day they are immersed in a cold river. No religious ceremonies are observed on entering into matrimony. Rich people take as many wives as they like, and among the poor four or five brothers have only one wife, the eldest being as belonging to the eldest brother. Thus we find in Bootan both polygamy and polyandary. Women abandon themselves to a depraved life up to their twenty-fifth or thirtieth year, after which they marry. The dead are burnt, and the gylongs officiate on such occasions; the ashes are thrown into the river. On the house of the burned person flagstaffs are erected, in order to accelerate the regeneration of the owner.

Bootan has some commerce with all the neighbouring countries, and the country trade is that with Bengal and Tibet. The commodities for Bengal consist of Tungan horses, linen-cloth, muscows, chowries, oranges, walnuts, and mungit (a kind of red colour): they are brought to Rungpore, where they are exchanged for woolen cloth, coarse cottons, indigo, sandal-wood, assagadis, and spices, all which articles are consumed in the country or sent to Tibet. The same commodities are sent to Nepal and Assam, with the addition of rock-salt. Part of the commodities brought from Bengal are sent to H. Laos, in Tibet, with rice, wheat, sugar, and pounded gold and silver, in exchange.

The Bootesees import from Cutch Behar cattle, horses, dried fish, betel, tobacco, and coarse cottons. Commerce in Bootan is monopolised by the government, the governors of the provinces, and their officers. (Turner's Embassy to the Court of Teshoo Lama, and Kirkman Kent Bose, in Asiatic Researches, X.)

BOOTS (from the Greek θοτος, boe, 'an ox'), one of the old constellations. Its name signifies the herdman.
In the preceding, we have availed ourselves of the edition of Flamsteed’s Catalogue, just printed by the Adairly, under the superintendence of Mr. Baily. We have entirely followed his magnitudes so far as they go; and the queries attached to a letter indicates that it is the letter which has been commonly used, but which has not been admitted by Mr. Baily in his revision of the nomenclature and restoration of Bayer. We shall adopt the same plan in future. The numbers are Flamsteed’s: those in () are Pazzii’s: those in [ ] are Piazzi’s in Booth, Barton. This eminent actor was descended from an antient and honourable family, being the third son of John Booth, Esq., a near relation of Henry Booth, Earl of Warrington, in Lancashire. He was born in 1681, and educated at Westminster by the famous Dr. Busby. Becoming at a very early age remarkable for the grace of his action and the sweetness of his voice, he was selected to perform the character of Phaethus in the ‘Achilles’ in Hereford, at which he gained the curiosity of all the scholars. The great applause he met with on this occasion was, by his own confession, the first spur to his theatrical ambition; and on being removed to Cambridge at the age of seventeen, to the great annoyance of his parents, who had intended him for the church, he ran away from Trinity College, and joined a company of strolling players. The misdeeds of some of the actors, while at Bury in Suffolk, caused the dispersion of the company, and young Booth returned to London in great distress. He was speedily forgiven, and kindly received by his family: but his stage-fever had by no means abated, and in one of its fiercest paroxysms he absolutely engaged with a Mrs. Miss to perform at Bartholomew Fair, where he achieved such renown, that Betterton heard of him, and was prevented engaging him for Drury-Lane only by the fear of offending the noble family to which he was related. Shortly afterwards Booth formed an acquaintance with Ashbury, the manager of the Dublin theatre, who chanced to be in London, and with him he went to Ireland. In June, 1698. His first appearance in Dublin was in the part of Oronoko, and his success, decided from the commencement, continued for two years increasing daily, when he determined to return to England, and having by letter reconciled himself a second time with his family, he acceded to the recommendation to Mr. Betterton, who with great candour and kindliness engaged and assisted him to the extent of his power. In 1701 Mr. Booth made his first bow in the Theatre Royal, Drury-Lane, in the character of Maximus, in Lord Rochester’s ‘Voyage to France.’ His reception was enthusiastic, and he shortly established himself in public favour, as second only to his great friend and instructor Betterton. In 1712, on the production of Mr. Addison’s ‘Cato,’ Mr. Booth performed the principal character, and in Cookson’s ‘Friendship,’ as Mephistophiles, he received fifty guineas, collected in the boxes during the performance, as a slight acknowledgment of his honest opposition to a perpetual detator, and his dying so bravely in the cause of liberty. The managers of the theatre also presented him with an equal sum, in consideration of his talents having secured the play; and shortly afterwards Queen Anne, at the request of Lord Bolingbroke, granted a special license recalling all former ones, and nominating Mr. Booth joint manager with Wilks, Cibber, and Doggett. In 1727 Booth was attacked with an intermittent fever, and continued forty-six successive days without intermission, and from the effects of which he never perfectly recovered. In 1729 he was prevailed on to play, for seven nights only, in The Double Falsehood, and they were his last performances. After his removal to his country seat, in Walton-in-the-Green, he expired, May 10, 1733, of a complication of disorders, in the fifty-third year of his age. Mr. Booth was twice married; first in 1704, to a daughter of Sir William Barkham of Norfolk, Bart., who died in 1710 without issue; and, secondly, in 1718, to a lady of the name of Sanger. He was a very beautiful and wealthy actress, who survived him, but also without issue. His will, a copy of which is printed in the London Magazine for 1733, bears strong testimony of his regard for her, and assigns his reasons for bequeathing to her the whole of his fortune, which he acknowledges he received from her on the day of their marriage, but which he had diminished at least one-third.

Booth’s masterpiece as an actor is said by Cibber to have been Othello, but his favourite part was the far less important one of the Ghost in ‘Hamlet,’ a performance, says Macklin, which has never been imitated successfully. His tone, manner, and gait were so solemn and unearthly, that the audience appeared to be under the impression that a positive spectre stood before them. The soles of his shoes were covered with velvet, as well as the edges of his frock, which he glided more than walked over, thus completing the illusion. Victor, speaking of his person, says he was of a middle stature, five feet eight, his form rather inclining to the athletic, though nothing clumsy or heavy, his air and manner of speech, the gravity with which he studied his profession, and his obvious sweetness in his countenance. His voice was completely harmonious, from the softness of the flute to the extent of the trumpet: his attitudes were all picturesque; he was noble in his design, and happy in his execution. He was an amiable, good-hearted man, a lively companion, and deficient of his own abilities, by which means, says his biographer, he acquired the love and esteem of every one. So much was he in favour with the rich and noble of his time, that even lords had no need to wait in order to see him. He was not a nobleman in the kingdom, says Cetoth, who had so many sets of horses at his command. The chariot-and-six of some one or another was sure to be waiting for him every night to take him to the play, after the play, to Windsor, where the King’s servant was to prepare for him and to bring him back the following day in time for the theatre.

Boothia. [N. West Passage.] Boothon, an island of the eastern seas, lying off the S.E. extremity of the island of Celebes. The 3rd parallel S. and the 133rd meridian E. intersect the island, which is about the middle of the island. Boothon is about 85 m. long from N. to S., and its average breadth is about 20 m.: it is separated from the island of Pangansane, or Passangane, by a narrow strait, the water in which is deep enough to allow the passage of large vessels: this passage is called the Strait of Boothon. The island is mountainous and woody, but is well cultivated in parts, yielding abundant crops of rice, maize, yams,
and the usual variety of tropical fruits. Fowls and goats are reared for food, and buffalo are pretty numerous.

On the east side of Bopaul is a deep bay, called by the Dutch Dauela, or Mistake Bay. There is danger in calm weather of ships being drawn by the set of the currents into this bay, in which case many anist of about 340 m. in the

coming in of the east monsoon. When Mr. De Clerk was on his voyage to assume the government of Banda, he was detained during a whole year in this inlet.

The inhabitants profess the Mohammedan faith; those who reside on the coast speak the Malay language. The island is an independent government under the king, who rules likewise over the neighbouring small

island. The Dutch East India Company formerly maintained a settlement on the island, to which they every year sent a small army and a small Navy. The company then made a treaty under a contract with the king of Bopaul, to whom the company made an annual payment of 360 guilders (about 30l.) as an equivalent for the privilege, and for the assistance which he bound himself to give them in destroying the

trees. The title of the existrator. (Stavronin's Voyages; Forrest's

Voyage to New Guinea.)

BOPAUL, or BHOPIAL, a small independent principality in Central India, lying between 22° 53' and 23° 43' N. lat., and 80° 41' and 81° 15' E. long. From E. to W. is 120, and its extreme breadth from N. to S. 60 m.; its area is computed at about 5000 sq. m. This

principal is bounded on the N. and W. by the dominions of the Mahatta Chief Dowlat Rao Scindia, and on the S. and E. by the dominions of the Nerbouda, in the possession of the British East India Company; the river Nerbouda forms a natural boundary throughout the whole extent of the S. and W. Bopaul is one of the native states of India under British protection; but the Company's government has not found it necessary to invade the coast. The principal products of the soil are rice and sugar, both of which are shipped in abundance to the East Indies.

A hilly tract, forming part of the Vindyha mountains, passes through the capital of Bopaul from E. to W. The soil is generally fertile, especially in the valleys, where it consists either of a loose, rich, loamy soil, or of a more compact stony soil. The principal vegetables grown are rice, sugar-cane, and wheat; the latter is the chief article of export. The principal trees are the mango, the cashew, and the coconut.

Boracite. [Luther.]

BORACIC ACID, formerly called Homberg's sedative soda and sedative salt of borax, is a compound of the elementary body of boron and oxygen. It exists not only as above mentioned, but also in large quantity in combination with soda in the East Indies, forming borax or the bicominate of soda. Further, it is a common constituent of the solutions of salts of boracic acid, termed borates, it is procured by dissolving four parts of it in sixteen parts of boiling water, and adding one part of concentrated sulphuric acid to the filtered solution. The resulting solution is a boracic acid for the soda, sulphate of soda is formed, and the boracic acid separated crystallizes as the solution cools: it is to be allowed to drain, to be redissolved in boiling water, and again crystallized to separate the sulphuric acid which adheres to it. In order to precipitate entirely from this acid, Berzelius recommends that it should be fused in a platinum crucible, and again dissolved in boiling water and crystallized.

Boracic acid has the form of small, lightly brilliant colourless prisms, shining with a gumy lustre. This acid is insoluble in water; its taste is not strong, and scarcely at all acid. It reddens litmus paper but slightly, and turns turmeric paper brown, as the alkalis do. Water at 60° dissolves about 1-26th of its weight of this acid, and boiling water nearly one-third. Boracic acid may be shown by the following experiment: Boracic acid is added to a solution of malachite; a yellow precipitate of carbonic acid, the alkali carbonates with effervescence, and at a red heat it expels most of the volatile acids from their bases.

Boracic acid is composed, according to

2 equivalents oxygen 24° 94 1 do. boron 10° 91 1 do. boron 8

Boron, a compound of boracic acid and soda, is a robust and hard substance, which is used in the mineralogy. Boracic acid is used in chemical investigations, and was formerly employed in medicine.

Borates are the salts which contain boracic acid: of these the only important one is

Borax, a compound of boracic acid and soda, the correct appellation of which is carbonate of soda. This salt is imported from the East Indies under the name of tincal or rough borax. It is supposed to be the substance called by Pliny chrysopolita. Geber in the seventh century mentions borax: its nature was pointed out by Geoffroy in 1733 and
Baron in 1748. It is said to be brought from Persia, Ceylon, and also from Tibet, from a lake entirely supplied by springs, a fifteen days' journey from Teeso Lumbro the capital. Tiucal as imported is mixed with a fatty matter, which may be separated by acids.

The crystals of tiucal are bluish or greenish white, and are sometimes nearly transparent, but more commonly opaque. They are soft and brittle. The primary form is an oblique rhombic prism. Tiucal is purified by solution in water and crystallization, and is then sold as borax.

Borax has rather an alkaline and sweetish taste, acts like alkali upon turmeric paper, and is soluble in twelve parts of cold and two of boiling water. It effloresces slowly by exposure to the air, and when two pieces are rubbed together in the dark they become luminous. When moderately heated, borax swells and loses about four-tenths of its weight, and assumes the form of a light porous friable mass, and is called calcined borax. When very strongly heated, it melts into a transparent glass. It is composed of, according to Thomson:

| 2 equivalents boric acid | 69°38 | 2 equivalents | 48° |
| 1 do. soda | 31°32 | 1 do. | 32° |
| 10 do. water | 90°10 | 8 do. | 72° |

Borax is also prepared, both in England and France, from soda and the boracic acid imported from Tuscany. This salt is little employed in medicine, but is used extensively both in chemical investigations and in the arts as a flux.

The primary form of common borax is an oblique rhombic prism, variously modified; but it has been found by Mr. Payen that if a saturated solution of borax at 174° be slowly cooled, it deposits crystals when the temperature is above 103°, which are in the form of the regular octahedron. These crystals contain only half as much water as those just described.

BORAGINEAE, a natural order of regular-flowered mono- or dicotyledons, which are readily distinguished from all others by having their ovary deeply divided into four lobes, from the middle of which arises a single style. They are moreover characterized by their flowers being arranged in a gyrate manner before they expand. The common borago is often taken as the type of this order, and in fact represents not only its peculiarities of structure, but sensible properties; for all the known species agree in having an insipid juice, and their surface covered over with stiff white hairs, which communicate a peculiar asperity to the skin, whence these plants were formerly called apert-folie, or rough-leaved. Some few of the species, with perennial woody roots, yield from those parts a purplish colouring matter, used by dyers under the name of alkane. Anchusa tinctoria, Liotaspernum tinctorium, and some kinds of Onosma, are the best known for this quality.

BORA'SSUS, a kind of palm-tree, called Tala in Sanscrit and Palmira by the English, in imitation of the Portuguese, who name it Palmeira brava. It is defined by Roxburgh as having discous hexandrous flowers; the calyx and corolla in the males consisting each of three distinct pieces, and in the females of from eight to twelve in a confused state; and the ovary of three cells, changing to a three-seeded drupe. There is but one species according to writers on Indian botany; but it is not certain that more than one distinct palm is not confounded under the common name of Palmira. That which is recognized is called Borsus fuselliformis. This plant grows all over India both on the continent and in the islands, where it is esteemed of the greatest use on account of its pungency and sugar which are extracted from it. Its trunk is from twenty-five to forty feet high when full grown, and is perceptibly thicker at the base than at the summit. The leaves are fan-shaped, about four feet long, and placed upon stalks of about the same length, which are spiny at their edges; each leaf is divided into from seventy or eighty rays, which are ragged at the end, and the largest of which are placed in the centre. The fruit is about as big as a child's head, three-cornered, with the angles rounded off, and a little furrowed. It consists of a thick, fibrous, rather succulent, yellowish brown rind, containing three seeds the size of a goose-egg. When young the shell of the seed is so soft that it may be readily pierced by the finger, and the pulpy matter which it then contains is cool and sweet and refreshing; but when ripe all this changes to a hard bluish...
Dr. A. T. Thomson states, that when bichromate of soda and honey are mixed in equal portions, a chemical union takes place, by which a deliquescent salt is formed. This likewise happens when the bichromate is added to a solution or mixture of honey and water.

The taste of borax is sweetish, slightly alkaline, and refrigerant.

In Britain borax is chiefly employed as a local application to pimply sores, particularly of the mouth of children, and is applied either in powder, dissolved in water, or mixed with sugar or honey. If the opinion entertained by Dr. Thomson be correct, that it is the new salt resulting from the union with honey which is the useful agent in these cases, and not the bichromate, although the last method is the only proper one: it is also the most agreeable, and therefore to be preferred, especially when the honey of roses (mel rosorum) is employed to form the compound.

The compound of borax with honey of roses, added to a proper quantity of warm water, forms, when cold, a very efficacious gargle in many cases of ulcerated sore-throat. But the employment of borax is much too limited in Britain. It possesses an influence over the uterus similar to that of ergot of rye, which renders it as useful in protracted parturition, as is the warmer boric acid to the child. (Hufeland's Journal, December, 1823, p. 114; and November, 1824, p. 123.)

It is also serviceable as a refrigerant in slight febrile affections. But its external employment is more worthy of notice: in diseases of the mucous and follicular parts, it is of great efficacy. A weak solution of it in rose-water, kept constantly applied by means of a thin linen cloth, over the redness which often affects the nose of delicate persons, relieves the sense of heat, and removes the florid colour. Many other cases of this kind have been observed in a similar way. It is also a very useful application to inflamed piles, and also to chilblains. (Geri. Magaz. fur Pharm. vol. xxii. p. 36.)

BORBORUS (Ipheroeris of Latreille), a genus of dipertous, or two-winged flies, of the family Muscidae. Its chief characters exist in the posterior thighs, which are much compressed, and the two basal joints of the posterior tarsi, which are considerably larger than the following. The head is covered in front by a reflexed tibia, and the tarsi are minute. The tarsi diverge, and are sometimes almost as long as the fore part of the head. The second cell of the posterior extremity of the wing (the last of the two which occupy the middle of its length) is closed before it reaches the margin.

These little flies are found in marshy places, and on putrid substances, but more particularly dung heaps, in which probably their larvæ reside; they are always abundant amongst cucumber frames, and are of a brownish colour: most of the species when expanded would scarcely measure a quarter of an inch in length.

BORDA, JEAN CHARLES, born at Dax, May 4, 1733, of an ancient family, distinguished in the military service. He showed an early taste for mathematics, and overcoming the objections of his father, began his studies in military engineering, but afterwards entered the dragoon regiments. This change he made in order to remain at Paris, where D'Alembert, to whom he had been presented, had recommended him to fix himself, and look forward to the Academy of Sciences. In 1756 some mathematical memoirs procured him admission into that body. He was at the battle of Hastenbeck in 1757, after which he returned to the engineer service (into which he was admitted without examination), as interfering less with his pursuits. He was immediately employed at a sea-port, and this circumstance decided his future career. From this time to 1769 he published various memoirs as well on hydrostatics as on pure analysis. He tried, both by experiment and theory, various matters connected with navigation and ship-building. In 1771 he entered the naval service. In 1771 he embarked in the Flora for America, with MM. Verdun and Pingré. The object of the voyage was to find methods of improving the performance of watches at sea; the observations, &c. made were published in 1775, under the title of 'Voyage fait par ordre du roi, &c. par M. M. de Verdun.' &c. In 1778 he was sent to two years' survey the Canary Islands. He ascended the peak of Teneriffe, ascertained its height, and corrected some tables he had formerly made for finding the distance of a ship from it by means of its apparent height. Here he introduced into the French naval surveys the use of reflecting instruments, instead of determining
positional compass-bearings. He served under D'Estraing in 1777 and 1778, and in 1782 was sent with a sixty-four gun ship to convey troops to Martinique. He then joined De Grasse's squadron, and being detached with a small force of frigates on a cruise, he found himself, on the clearance up of a wind, in such an advantageous situation that he attacked and defeated a Spanish squadron. He defended himself stoutly, enabled the rest of his ships to escape, and was then obliged to give up his own vessel (the Soleil) a perfect wreck. On reading this extraordinary account of a single ship defending itself for three hours against a squadron in the event, a condition given to it at the beginning of the action, we thought it might be safe to compare it with the official account of the English admiral, and we find another version, namely, that in the month of December, 1782, the Soleil fell in with the squadron of Sir John Fielding, consisting of the Ruby of 60 guns, commanded by Captain Collins, overtook her by dint of sailing, and captured her in forty-one minutes, a perfect wreck, the only circumstance in which the two accounts agree, and on which the admirals take occasion to harry each other. The event forms part of the États in the 4th volume of the Mémoires of the Institute.

A sketch of this kind is not the place to describe inventions or methods, which will be found in their proper places. In 1765 Meyer had proposed a whole circle of reflexion, and in 1780, the inventor of the binnacle. In 1785, he accounted for his own improvement of the idea, since so well known, in 1787, under the title of Description et usage du Cercle de Reflexion. The recurring circle (a further modification of the idea of Meyer) was not described by himself, but appears as far, so far as we can find, in the Exposé des Opérations, &c., (94 pages) published in 1791 by the three commissioners, Cassini, Méchain, and Legendre, appointed to superintend the French part of the junction of the observatories of Paris and Greenwich.

In 1790 he found by experiment the length of the pendulum at Paris (which at that time was contemplated as the basis of the new system of measures). His means and result are described under Pendulum. From that time to the end of his life he was employed in the improvement of his methods for executing the means of forwarding the great survey: the methods for measuring the base were formed under his inspection, and he was in fact the inventor of most of the original instruments employed. It has been said that his skies of the present millennium, as we may call them, are for him experimental philosophy for which the French have since become distinguished, and it certainly appears to us that there is some truth in the observation.

In the meanwhile he had charged himself with the expediency of the plan of a large atlas of logarithmic lines, &c., corresponding with the new division of the circle into 400 degrees. These were published in 1801, under the title of Tables Trigonométriques Décimales, &c. (An. ix.) with revision and an explanation, by Delambre.

Borda was of a delicate and lively turn. Whereby, he is said to have been able to make two translations from French into Latin at once, in different terms, from dictation, one for himself and one for his next class-fellow. He was fond of poetry and the antient writers, and particularly attentive to the songs of Borda A' Riu, one of the classes of agricultural occupiers of land mentioned in the Domesday Survey, and, with the exception of the villani, the largest. The origin of their name, and the exact nature of their tenure, have been variously interpreted. Lord Coke (Inst. lib. i. §. i. fol. 5 b. edit. 1628) calls them 'boors holding a little house with some land of husbandry, bigger than a cottage.' Nichols, in his 'Introduction to the History of Leicestershire,' p. xiv., considers them as cottagers, taking their name from living on the 'branched land,' (bord) which the ploughman refused by Domesday itself, where we find them not only mentioned generally among the agricultural occupiers of land, but in one instance as 'cires aulam manentes,' dwelling near the manor house; and even residing in some of the buildings of the church. In two quarters of the county of London, at the time of forming the Survey, as well as in king Edward the Confessor's time, there were 116 burgesses, and subordinate to them 100 bordarii, who aided them in the payment of the gold or tax. (Dom. Ed. Book, tom. i. fol. 203.) In Norwich there were 420 bordarii; and 20 are mentioned as living in Thetford. (Ibid. tom. ii. fol. 116 b. 173.)

Bishop Kennett says, 'The bordarii often mentioned in the Domesday Inquisition were distinct from the serviles and were the owners of a small servile condition, who had a bord or cottage with a small parcel of land allotted to them, on condition they should supply the lord with poultry and eggs and other small provisions for his board and entertainment.' (Gloss. Paroch. Antiq.) Such also is the interpretation made by Mr. Bodley, in the History of Norfolk. Brady says 'they were drudges, and performed vile services, which were reserved by the lord upon a poor little house, and a small parcel of land, and might perhaps be domestic works, such as grinding, threshing, drawing water, cutting wood, &c.' (Paroch. Antiq. of Norfolk.)

Bopo, as Bishop Kennett has already noticed, was a cottage. Bordarii, it should seem, were cottagers merely. In one of the Ely Registers we find bordari, where the brieve of the same entry in Domesday itself reads cotarii. Their condition, which here makes a considerable bend, having the city on its concave bank, which is lined with extensive quays; and as the buildings extend to the greatest distance from the river about the centre of these quays, and cover a narrower space as they approach the extremities, the whole is of the plan of the small cities of ancient Greece. Half a mile below the town the bend of the river is so great, that a line or chord drawn from N. by W. to S. by E. and joining the two extremities or horns of the crescent, not only includes a portion of the river, but also of the opposite or convex bank, and still leaves much more room for a line or chord (measured on the Plan of Bordeaux, published by the Society for the Diffusion of Useful Knowledge) is about two miles: the distance between the same points along the bank of the river is about two miles and a half; and along the convex boundary of the town towards the open country, more than four miles and a half: the greatest breadth from the river towards the country, drawn from W. by S. to E. by N., is about a mile. Bordeaux is a very antient city. It was an important place, in the time of the Romans, where a sea-port was founded by the Rhodians, and erected by the Ionian Greeks, and designated Antioch of the Gironde. In the geography of Strabo it is mentioned as the Aspros (emporium), or chief trading-place of the Berō-γρατος (in Latin Bituriges), who were surname coloni (locei) according to Strabo, Ubicici or Vibiscii according to others, or Vibiscii according to Aurelius Victor; and they were a Celtic nation (a branch probably of the Bituriges Cubi who inhabited the province of Berri), and had settled within the limits which Cesar assigns to the Aquitanii. Strabo describes the town, which he calls Bosphoros (Bourdigal), a small port to the west of the city of Bordeaux, and meaning a place up to which the sea (or tide) flows. Ptolemy writes the name in the same manner as Strabo; but

* The former of these two is now the prevalent mode of writing this name: in the time of M. D'Anville the practice seems to have been more variable; D'Anville himself gives some reasons for preferring 'Bourdigu.' Derrienne, the Benedictine, in his History of Bordeaux, contends for the latter, but says that custom has established the use of 'Bordeaux.' - It is observable that Verneus says this is an old form, more ancient than that of Bordeaux; and in a very ancient map of France in the British Museum (Venice, 1696) it is written Bordus.
the Latin writers give Burdigala and Burdigala. The importance of Burdigala is shown by the circumstance, that it was made the capital of the province of ‘Aquitania Secunda’ in the subdivision of the Gallic provinces, about the middle or latter end of the fourth century. Ausonius, a Latin poet of the fourth century, himself a native of this place, has left a description of it in his poem *Claris Urbis*, or *Ordo Nobilium Urbium*, from which we take the following extract:

*Impia landuum condemno silentes, qui te, O patria, festinam Baccho, buoylique, unique, Maris linguisque hominum, procerumque senata, Non inter primas memor: quas consuls orbis Exiguit, immittis dutem contingere laudes. Non puder his nubias: Nece amit barbara Rheni Om, nec Arcto domus est gladiis in Hamo; Burdigala est nata salus: clementia curit. Milis ubi, et rigue largis ingenuitatem terre; Verti regis, tenebrosque borea, lugubre subvenit. Fecundas squamose imitata fuita mentis.*


*Claris Urbis*, xiv, B.

*I have long been condemning my impious silence, in not mentioning among the chief [cities], thee, O my country, renowned for wine, and streams, and men; for the manners and talents of thy inhabitants, and [thy] council of the nobles—as though conscious of the small [extent of my native city], I hesitated to touch upon unmerited praises. No blame do I feel for this reason. Not mine the barbarous bank of the Rhenum, nor is my city dwelling in the northern Hamus. Burdigala is my birth-place, where the temperature of the sky is mild, and great the liberality (i.e. fertility) of the watered earth. Long is the spring and short the winters; and close at hand are wood-crowned eminences.* The waters are ruffled with tides like those of the ocean. The form of the walls is quadrangular, and so lofty with its high towers, that [their] summits pierce the airy clouds. You will admire the well-arranged [distinctas, adorned] streets within, the disposition of the houses, and that the broad-ways [plateae] still [justly] preserve their name: and then [you will admire] the gates corresponding to the streets which cross at right angles, *directa compit* and the bed of the stream from a spring, flowing through the midst of the city; and when Father Ocean has filled this with his up-flowing tide, you will see the whole water covered with fleets.*

Besides the stream mentioned in the above extract, Ausonius notices another which supplied a handsomely adorned and copious fountain, and which he calls Divina. The site of the Roman Burdigala, as we gather from the above extract, was a quadrangle: the greater diameter of this quadrangle extended nearly from E. to W. The gates appear to have been fourteen in number: four on the north, and as many on the south side, and three each on the eastern and western sides. La Porte Basse, the last of the gates, was demolished about twenty or twenty years since. Of the walls and towers some remains it is probable exist still. The stones used in the foundations of the walls were of a great size. Two Roman edifices survived the various devastations of the city, and came down to modern

* As the country on the west side of the Garonne is flat, we must suppose the port to refer to the hills on the opposite bank.

* Called the Divina (now La Divaise) of the dock which was formed in its channel (now covered over) no vestiges remain. See Elias Vinetus, Commentary on Ausonius.
days. The ruins of one of these, the amphitheatre, or, as it is called, Le Palais Galien, 'the palace of Gallienus,' yet remained, and was visited during the foundation of the baths of Julian, called Palais Tutele,' as it is called by Venet, was demolished when Louis XIV. rebuilt Château Trompette, in the latter part of the seventeenth century. It stood on what was the esplanade of the castle, which has in its turn been demoli-
ished. The only part remaining of the theatre was a few fragments of the theatre, which form a part of the church of the church of Charles Medoc. Its greater diameter when entire was 226 French, or about 241 English feet; its smaller diameter 166 French, or 177 English feet; its external elevation 60 French, or 64 English feet. During the Revolution the site was sold as national columns, and the arena defaced with a number of little houses, to which, the most perfect remains of the amphitheatre were made to serve as foundations, or for the erection of which the stones of this interesting monument of a former age were appropriated. The circuit of the arena may be traced however all round, and there remain many arches constructed with alternate courses of brickwork and of small square stones When Venet published his L'Antiquité de Bourdeau (1574), this building was in much better preservation. He has given an engraving of it, and Palais Tutele was so admired by some that it has been a temple consecrated to the tutelary genius of the city. It consists of a baseament about 96 English feet long by about 70 wide, and 23 or 24 high, upon which had been erected twenty-four Corinthian pillars, supported by columns, which were placed at the side, and six at the front. Upon these columns were supposed to have been placed the statues of the emperors of the first and second centuries. But the pavement over these columns was taken away, and the pavement over the columns was taken away, and the columns were cut up for building material. (Stuart's and Revett's Antiquities of Athens, last edit. vol. iii. p. 120 note.) There are few other remains of Roman antiquity. Some inscriptions and some statues, part of them mutilated, which have been found, have been collected together by Milliet in his Manu Mudi de la France; Devienne, Histoire de Bourdeaux.)

Notwithstanding these remains of antiquity have been found in the city, some learned men (and among them Adrian de Valois), misled by some passages in Gregory of Tours and a number of inscriptions, which are attributed to Roman Burdigalia was on the site of the Gallo-Roman town, and that it was not till the sack of the city by the Saracens that the citizens transferred their abode to the other side of the Gironde.

Under the Romans Burdigalia was not the scene of any important historical event, except the assumption of the purple by Tetricus (one of those commonly but inaccurately designated 'the thirty tyrants'), in the reign of Gallienus, in the third century: it derives its reputation rather from the zeal with which literature was cultivated. Annonius has sung the praises of its numerous professors. Devienne, in his 'Histoire de Bordeaux,' tells us that in the school of this city religious profession formed no bar to entrance; that Christians and Pagans studied there alike, and that even females and virgins were among the students.

Early in the fifth century (412) the Visigoths first attacked Gaul and possessed themselves of Burdigala and other places. Being obliged to withdraw into Spain, they burnt part of this city. After some years they became masters of the land, and it continued in possession of their kingdom, of which Tolosa or Toulouse was the capital. Under its new masters Burdigala declined; and the persecution of the Catholic Christians by the Arian Visigoths is represented as one cause of its downfall. After the death of the last Visigoth king, in the sixth century, a civilization went on under the hands of the Frankish conqueror Clovis, who, after the battle of Vouillé, in which he defeated and slew Alaric, king of the Visigoths, wintered in this town. In the troubles which agitated France under the Visigoths after the death of Clovis, the city of Bordeaux, when the successful ambition of Charles Martel seemed to promise a more vigorous government and greater internal tranquillity, this unfortunate city was attacked by the Saracens, and being unable to resist their fury, the greater part of the public buildings were burned, and the inhabitants nearly all put to the sword. This event occurred about 723 or 732.

Domestic troubles, caused by the attempts of the Dukes of Aquitaine to become independent of the kings of France, agitated the south-west of France, after the defeat and expulsion of the Saracens by Charles Martel: but that the chief of the dukes had been dispossessed by Charles Chauve (the Bald), who reigned about the middle of the ninth century, with the duchy of Gascony, of which it became the capital. But prosperity in those dark ages only rendered it more the object of attack; Burdigala, or, as we may call it now, Bordeaux, was taken twice, and underwent a more complete destruction than any which it had yet experienced. The houses were almost entirely destroyed, and the unhappy Bordeaux abandoned for a time their native city.

When the Normans received from Charles the Simple, about the close of the ninth or beginning of the tenth century, the province called from them Normandie, they desisted from ravaging the rest of France; and Bordeaux was rebuilt and repopulated, and became again the residence of the Dukes of Gascony, who were built here the castle or palace of L'Ombrante. Upon the union of the counties of Angoulême and Gascony, the dukes abandoned Bordeaux for Poitiers, which had been the capital of the duchy of Guiane; and Bordeaux was reduced to the capital of a county, to the possession of which it gave titles. Yet it still continued to be an important place, and it may be questioned whether it did not resume its rank of ducal capital; for here it was that Louis VII. of France (le Jeune) espoused Alienor or Eleanor, heiress of the united duchies of Guiane and Gascony. The divorce of this princess, and her subsequent marriage with Henry the Second, count of Anjou and Duke of Normandy (Henry II.), caused Bordeaux to become part of the extensive dominions which the English monarch possessed in France.

Bordeaux now became the capital of Guiane, a duchy formerly held by the districts of Bordeaux, Agenoys, Quercy, Perigord, Limousin, and Saintonge. This province remained to the English kings when Philip Augustus, in the beginning of the thirteenth century, stripped them of all their other French possessions. Among those who held during this period the title of Duke of Guiane was the Duke of the English crown, were Richard Cour de Lion, during the lifetime of his father, Henry II.; and Richard, duke of Cornwall, better known as king of the Romans, brother of Henry III. In the reign of this last-named king, the Hotel de Ville of Bordeaux was erected, and, in the time of the last Duke of Burgundy, was restored and rebuilt, and in the time of Philip the Second, the Duke of Burgundy, was restored. In the time of the last Duke of Burgundy, was restored and rebuilt, and in the time of Louis XIV., when the town was again erected and the new Hotel de Ville was built, which was afterwards much extended.

When the capital of Guiane was transferred to Bordeaux, the people of Bordeaux were so enraged at the change, that they rose in open rebellion against the government of Guiane. The people of Bordeaux were so enraged at the change, that they rose in open rebellion against the government of Guiane. But the desire of the people of Bordeaux was gratified, and the town was restored to its ancient state. But the desire of the people of Bordeaux was gratified, and the town was restored to its ancient state. But the desire of the people of Bordeaux was gratified, and the town was restored to its ancient state.

The consequences of the revolution of the twelfth century were felt in the disorders which followed, and the reign of Edward I. was marked by a series of civil wars, in which the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved. But the disorders continued, and the king was often involved.

In the reign of Edward I. of England, a dispute having arisen between the King of France, Philippe IV. (le Bel), Edward, whose attention was occupied by his wars in Scotland, agreed to deliver up Bordeaux and the rest of
Guineau to the French, upon a promise that it should immediately be restored. This was intended to satisfy the indignation of Philippe, to whom Edward owed fealty for his French possessions. When the cession had been made, and restoration, agreeably to the convention, was demanded, Philippe insisted that it was to be restored; and it was not until ten years after that the king of England re-entered into the possession of this part of his inheritance. Edward II., son and successor of Edward I., having quarrelled with Charles IV. (a Bel) of France, lost all Guineau except Bordeaux, and one or two other places; Guineau was given up by Charles, not to Edward himself, but to his son Edward, prince of Wales. This was in the early part of the fourteenth century. Either by Edward II. or by Edward III., when he became king of England, upon the death of his father, he made himself the caput of the principality of Guineau, which Edward III. formed in favour of his valiant son, from the provinces of Poitou, Saintonge, Agenois, Perigord, Limousin, Quercy, Bigorre, the territory of Jaure, Angoumois, Rouergue, and all that was once the kingdom of the Count of Poitiers. For many years were passed by this prince at his new capital in all the splendour of sovereignty; and here was born his son, the degraded and unhappy Richard II. When the affairs of the English declined, and there seemed a probability that Guineau (which was됽 bounded before the erection of the principality in favour of the Black Prince) would be conquered by the French, the inhabitants of Bordeaux formed a convention with those of several other cities for mutual succour and defence. The league was signed, and on the 7th of the month of October, Richard II. ceded the duchy of Guineau to his uncle, John of Gaunt. Duke of Lancaster, they refused to be separated from the English crown. So warmly were they attached to Richard as a native of their city, that when one of those who were suspected of having murderred him arrived in their city, they rose and massacred him.

Bordeaux, and the province of which it was the capital, maintained its connexion with England during the reigns of Henry IV. and V.; but in the reign of Henry VI., upon the breaking out of the French war, it was conquered by the French and the connexion was broken. In 1435 the Bordelais capitulated to Charles VII. of France on favourable terms; but very shortly after they revolted to the English, and the valiant Talbot, Earl of Shrewsbury, then upwards of eighty, was sent with an army to subdue them. The resistance of the people and the destruction of his army forced them again to submit to the French king (1453), on much harder conditions. To secure the fidelity of the Bordelais, and to prevent any attempts from the English, Charles caused to be erected the Château Trompette on the summit of the Castle of Ha.

The events which preceeded and accompanied the submission of Bordeaux to the French tended much to reduce its population and to diminish its grandeur; the favour shown to it by the Kings of France tended, however, to revive it. But an insurrection occasioned by the unpopular government of its governor, brought new calamities. In the year 1458 the people rose, and being assisted by the country folks of Guineau or the neighbouring provinces, committed great excesses; and when the tumult was quelled, the brutal Montmorency, constable of France, inflicted terrible severities upon the unhappy townsmen.

The progress of the Reformation in France having alarmed the supporters of the dominant church, several Protestants were put to death. In this persecution the local administration, aided by the garrison of the city, carried out the orders of the government, and numerous persons were burnt by their order. The new opinions how ever spread, and in 1561 there were about seven thousand of the Reformed in this city. When the religious animosities broke out into open warfare, the Protestants, in 1563, entered the town of Bordeaux, and threw down the Château Trompette; but the Château Montmorency, to which the attempt failed. When the massacre of St. Bartholomew was made the signal of a general attack on the Protestants throughout France, Bordeaux had its share in the atrocity. Two hundred and sixty-four Protestants were butchered here. In the reign of Louis XIII. in 1635, the weight of taxation gave rise to another insurrection, and some bloodshed in its suppression, which was effected by the resolu tion of the mayor and corporation of the city. Bordeaux lost its privileges, and hostilities ensued both by land and sea. The court supported the Due d'Épernon; the parliament of Paris supported that of Bordeaux. The commandant of the Château Trompette having fired on the city, that for city of Bordeaux was captured and burned. A new settlement was made in the city, and by a peculiar charter to the crown of England: this connexion, which was declared to be inseparable on any ground whatever, was formed by the desire of the municipal authorities. The war between France and England which had signalised the reign of Edward III., Bordeaux became a place of great importance. From it the Black Prince set out on that expedition which led to the battle of Poitiers, and to the meeting of Jean II. and the Duke of Lancaster at Leper, and thus ended the capture of the principality of Guineau, which Edward III. formed in favour of his valiant son, from the provinces of Poitou, Saintonge, Agenois, Perigord, Limousin, Quercy, Bigorre, the territory of Jaure, Angoumois, Rouergue, and all that was once the kingdom of the Count of Poitiers. For many years were passed by this prince at his new capital in all the splendour of sovereignty; and here was born his son, the degenerate and unhappy Richard II. When the affairs of the English declined, and there seemed a probability that Guineau (which was borne before the erection of the principality in favour of the Black Prince) would be conquered by the French, the inhabitants of Bordeaux formed a convention with those of several other cities for mutual succour and defence. The league was signed, and on the 7th of the month of October, Richard II. ceded the duchy of Guineau to his uncle, John of Gaunt. Duke of Lancaster, they refused to be separated from the English crown. So warmly were they attached to Richard as a native of their city, that when one of those who were suspected of having murderred him arrived in their city, they rose and massacred him.

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narchy, greater powers than the municipality has enjoyed since. The police of the town and the public instruction were under their charge, and in respect of the latter Bordeaux seems to have lost rather than gained by subsequent events. The Place Royale was the work of Louis XIV, and his successors those local authorities seem to have acted with considerable judgment and public spirit.

When the Revolution broke out in 1789 the Bordeaux partook of the general fervour in the cause of liberty. Their intercourse with the Anglo-American States had prepared their minds for rejoicing in the establishment of a freer government. The city became the capital of the department of Gironde; from which were sent some of the most eloquent members of the Legislative Assembly, Vergniaud, Guadet, Genouin, and others. From the influence of these men the party in the Assembly to which they belonged took the name of Girondists. When the Royalists committed great excesses against the Protestants of Montauban, Bordeaux contributed largely to the military force which marched against that city. When the Girondists were overthrown, and several of its leaders executed, others took refuge in the south of France, and of these Valadi, Salies, Guadet, and Barbazan, having been discovered, were executed at Bordeaux, and dreadful severities were perpetrated by the deputies whom the Convention sent thither. When the Royalists sought in 1793 to excite a re-action in the south, they opened some communications with their adherents in this city, but the movement was defeated. Under the empire, the inhabitants desired the return of peace, the long war was associated with a distinct loss of cor-

merce; but they received with honours the Emperor Napoleon and his emperor Josephine in 1808. The kings of Spain, Ferdinand VII. and his father, Charles IV., passed through the city the same year.

In 1828, the French, Spanish, and Portuguese forces, under the Duke of Wellington, invaded France. Their advance encouraged the Royalist party, which had continued to exist at Bordeaux, though in a very feeble state; and on the 12th of March, M. Lynch, the mayor, advanced to the Convention and surrendered the city into them, and hoisted the white flag. When Bonaparte returned from Elba in 1815, and the royal family fled in different directions, the Duchesse d'Angoulême sought to make a stand at Bordeaux; but the national guard and the troops of the line refusing their aid, she was compelled to withdraw. Upon the arrival of the intelligence of the 'Ordonnances' of Charles X. in 1830, the Bordeaux broke out into insurrection, and the tri-color was substituted for the white flag of the Bourbons before the news arrived of the return of the King.

The principal increase of the buildings of Bordeaux has taken place towards the north, or, following the course of the river, the lower part of the city, with which the former suburbs of Les Chartrons and St. Seurin are now united. The older part of the town, which is called, the streets are narrow and crooked, and the places or open spaces irregular; but not so in the new pars, in the Quartier des Chartrons, which is the residence of the merchants, and in the Quartier du Chapeau Rouge, which is on the site of the Château Pau. The approach by water is magnificent. The width of the Garonne, which is here from 600 to 800 yards wide, twice the breadth of the Thames at London, and the curve which it makes, render the pro-

spect of the city on this side very striking. The dock-yards, the Colonial Institute, the church of St. Pierre, and the buildings of the Quai des Chartrons, extend along the line of the river to a great distance.* The bridge excites astonish-

ment by its length; and the quantity of shipping in this noble port, which will contain 1000 vessels, and admits those of greatest tonnage, adds liveliness to the scene.

The houses are of great magnificence, and fitted up in a manner corresponding to the wealth and commerce of the place. The inhabitants are reputed to live in a style of greater splendour and luxury than in any town in France. The cafes, to which the houses facing the river and the faiences are superior to the hackney coaches of London. The Place Royale, which is on the bank of the river, is remarkable rather for the buildings which surround it than for its extent. It was formerly adorned with an equestrian statue of Louis XV., but this was overthrown at

* Exempli, in his "Dictionnaire des galans de la France" (1792), speaks of Bordeaux as "the most elegant and most costly city in France.

1 The 19th of March, 1814, was the day on which the municipal authorities concluded the treaty of peace to the English, and terminated the last war in the Bordeaux.
Bordeaux has some fine hospitals, Le Grand Hôpital de St. Andre is near the cathedral. It is spoken of by M. Millin (Voyage dans les Departments du Midi) as well managed. The Bishops' asylum and a foundling hospital. The latter is near the river, in the south quarter of the city; the building is very extensive and commodious; and many hundreds of children, from infancy up to twelve years of age and more, are sheltered and brought up in it. In 1789 the number was 2,000 or more in it, and 2,006 in the same year in the country. For an account of the Dépôt de Mendicité, and of the state of the wretchedly poor in this city, the reader is referred to the parliamentary report on the state of the foreign poor.

Bordeaux is the capital of the department of Gironde, the largest department in France. The arrondissement of Bordeaux comprehends 1668 square miles, or 1,067,520 acres, and is consequently larger than the county of Kent, but much less populous; it is subdivided into 18 cantons, or 153 communes. It has in 1832, 24,374 inhabitants. Bordeaux is the seat of a Cour Royale, or high tribunal, the jurisdiction of which extends over the departments of Gironde, Charente, and Dordogne. It is the capital of the eleventh military division, which includes the departments of Landes, Gironde, Dordogne, Lot, Lot et Garonne, and Basses Pyrénées.

The diocese of Bordeaux is doubtless very antient. Some have attempted to carry its origin as far back as to the first century, but it is scarcely needful to observe that this supposition is unsupported by any historical evidence. This was the bishopric of the year 300, for one of them was at the first council of Aries, held in 314. When the diocese was raised to the rank of metropolitan it is not certain. The archbishops took the style of Primates of Aquitaine, but this dignity is usually conferred by the Archbishop of Bordeaux.

They have nine suffragan bishops, the Bishops of Agen, Angoulême, Condé, Luçon, Périgueux, Poitiers, La Rochelle, Saintes, and Sarlat. At present the diocese is co-extensive with the department of Gironde; and the archbishop has six suffragan bishops, one on each side of the Garonne, the Bishops of Agen, Angoulême, Périgueux, Poitiers, and La Rochelle.

Bordeaux is the native country of some eminent men, the poet Decius Magnus Ausonius; St. Paulinus, bishop of Nola, a father of the fifth century; Benoquin, the author of the Gallicas.; *L'Ami des Enfants,* &c.; and Gensonne, the celebrated deputy of the National Convention, and afterward of the Assembly of Bordeaux. They have nine suffragan bishops, the Bishops of Agen, Angoulême, Condé, Luçon, Périgueux, Poitiers, La Rochelle, Saintes, and Sarlat. At present the diocese is co-extensive with the department of Gironde; and the archbishop has six suffragan bishops, one on each side of the Garonne, the Bishops of Agen, Angoulême, Périgueux, Poitiers, and La Rochelle.

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It is in the present department of Gironde, to which we refer the reader for a fuller description of its physical features. Suffice it to say here that it includes one of the most important wine countries in France. The immediate neighbourhood of Bordeaux is well watered, and less than six brooks flow through that town, and to the west of it is a marsh the level of which is below that of the springs which cross it. The streams which flow toward the sea being prevented from reaching it by sand hills, form the estuary of the river. The Garonne is the principal of these streams. Its mouth is near the town of Bordeaux, a mere sandy heath, and in the midst of this are several marshes. [GIRONDE, DEPARTMENT OF.]

**BORE, a phenomenon which occurs in some rivers, near the mouth at spring tides. Bore is probably an Indian word, but we cannot suggest any etymology unless it come from the Hindustani 'bôr,' signifying 'deep.' When the tide enters the river, the waters suddenly rise to a great height, in some rivers many feet above the surface of the stream, and rush with tremendous noise against the current of the sea tide. It occurs in all parts of the world, but the part of the Bordeaux is a mere sandy heath, and in the midst of this are several marshes. [GIRONDE, DEPARTMENT OF.]

**BORECOLE, a kind of cabbage with curly leaves, and no disposition to form a heart or head. It is chiefly valued for winter use. After the more delicate kinds of vegetables have been rendered unfit for cooking by the severity of frost, this form of the cabbage tribe is in its state of greatest excellence. Its firmness, its farthest reaching roots, its hardy qualities, its large leaves and flowers, and the fact that it is not subject to pestilential diseases, as is proper for a bore that the river should fall into an estuary, that this estuary be subject to high tides, and that it contract gradually; and lastly that the river also narrow by degrees. The rise of the sea at spring tides pushes a great volume of water into the wide entrance of the estuary, where it accumulates, not being able to flow off quick enough into the narrow channel. The greater the force of the river the narrower becomes, and it reaches the mouth of the river, the swell has already obtained a considerable height above the descending stream, and rushes on like a torrent.**
The difficulty of erecting the bridge was increased by the depth of the river, which in one part is twenty-six feet at low water, and of the same depth at high water, and the rapidity of the current, which is often ten feet in a second, and by the shifting and sandy bottom.

Of the ecclesiastical edifices of Bordeaux the cathedral is the most worthy of notice. It is an ancient Gothic edifice, not of the Romanesque style, but of a more perfect and more finished Gothic architecture than the cathedral of its island. It was built separate from the church in the thirteenth century, after the expulsion of the English, since remarkable for its height, has suffered much from the weather. The church was the residence of the bishop of Bordeaux before the place of Montaigne. Eleven Catholic and three Protestant churches are mentioned in Reichard’s Descriptive Road-Book of France, and there is a magnificent Jews’ synagogue, built in the time of Napoleon.

Bordeaux had an abbey that of St. Croix of the Benedictine order, which was held in commendam when Ex- pily wrote, in 1762. There were also before the Revolution three seminaries for the education of the priesthood, a rich commandery of the order of Malta, and several religious houses both for men and women. The Chartreuse of the thirteen order of the Carthusians in the suburb of St. Seurin was very magnificent. The church formerly attached to it is richly decorated. The vineyard of this Chartreuse is now converted into a public cemetery, like that of Père la Chaise at Paris.

As a place of trade Bordeaux is eminent. Its commerce in the early part of the eighteenth century was very considerable, and Martinienne (Grand Dictionaire) enumerates articles of the trade dried plums, resin, vinegar, and especially wine, of which in time of peace 100,000 casks were exported. This wine is sent not only of the neighbourhood of Bordeaux, but also of Langue- doc and the district of Montauban. The opening of the great Canal du Midi, which united the Garonne with the Mediterranean, tended much to promote the trade of this place. It enables the Bordelais to supply the south of France with colonial produce almost as cheap as the Mar- seillais. The loss of St. Domingo was injurious to Bor- deaux, with which that colony had many important connexions, and to which much of its produce was consigned. But of late years this injury has been more than repaired by the opening of the Danube, especially in articles of perfumery, in the distillation of various liqueurs, &c., in weaving stocks, carpets, and cottons, and the making of earthenware, porcelain, lattices, casks, hats, paper, vinegar, and nitric acid. Among the liqueurs prepared here, the anis ear is much celebrated. There is a royal still manufactury near the castle of Ha, in which 500 per sons are constantly employed, many refining houses for sugar, some iron foundries, and rope walks. These manufactories furnish articles for exportation, especially to the French colonies, primarily to the West Indies. Brandy, almonds, prunes, chestnuts, walnuts, cork, turpentine, resin, tartar, cream of tartar, verdigris, linens, and colonial produce are shipped to various parts of Europe, to the French colonies, to America, or to India. Brandy is the principal outlet of the wine of Bordeaux, and is the principal outlet for the wines of the western districts of France, and even of the southern and midland districts. Claret is chiefly shipped at Bordeaux, and is the produce of the neighbouring country. The first growths, those of Château Margaux, Lafitte, Latour, and Haut Brion, are, from the district of Médoc on the left bank of the river Garonne below the city of Bordeaux. Two small ships are stocked with sugar, coffee, cocoa, and other articles, from the French West Indian colonies; tin, lead, copper, coal, hardwares, timber for ship building, masts, hemp, hides, horns, salt beef, and salted salmon from England, Holland, Northern Europe, and America. Many vessels are built, and many hundred workmen employed in the vast building yards which extend along the river. There are at Bordeaux two large fairs, one of which opens on the 1st of March, and the other on the 15th of October. (Mallet Brun; Balbi; Dictionnaire Geographique, par Robert; Masculoich’s Dictionnaire of Commerce, &c.)

The shipping belonging to the port of Bordeaux amounted in 1833 to 78,915 tons; in 1831 it was as much as 98,733 tons, including 15 steam-vessels of the aggregate burthen of about 30,000 tons. They estimate the length of the port, exclusive of coasting vessels, in each of the three years ending with 1832, were as follows:

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<td>2556</td>
<td>2475</td>
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<tr>
<td>1831</td>
<td>2469</td>
<td>2383</td>
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Outwards

<table>
<thead>
<tr>
<th>Year</th>
<th>Ships</th>
<th>Tons</th>
</tr>
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<tbody>
<tr>
<td>1830</td>
<td>2475</td>
<td>2556</td>
</tr>
<tr>
<td>1831</td>
<td>2383</td>
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The quantities of wine and brandy exported from the Grondre in the same years were—

<table>
<thead>
<tr>
<th>Year</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830</td>
<td>106,262</td>
</tr>
<tr>
<td>1831</td>
<td>109,467</td>
</tr>
<tr>
<td>1832</td>
<td>109,379</td>
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</table>

Very few of the vessels belonging to Bordeaux are engaged in the coasting trade, but a considerable number are employed in the whale fishery. Between one-fourth and one-third of the French colonial trade is carried on by the merchants of Bordeaux.

About twenty-four per cent. of the total ships and a tenth part of the brandy were sent to this kingdom.

The population of Bordeaux in 1832 was 100,362 for the city, or 109,467 for the whole commune. The population of the town in 1810 was 93,639, and in 1820, 89,204. The patois of the country is spoken by the Jews, by the unwedu- cated classes, and the population of the outskirt; the other inhabitants speak French.

This city has numerous establishments for education and the promotion of science. It has an Académie Universi- taire et College Royal, or high school; schools of archi- tecture, hydrography, and navigation; botany and natural history; drawing and painting; medicine and surgery. There is a school for the deaf and dumb, founded in 1785. When Mr. Milford visited this institution in 1814 it contained 100 persons, chiefly young; the establishment was in high repute. There are several learned societies, as the Academy Royale des Sciences, Arts, et Belles Lettres; La Société Royale de Médecine; La Société Medico-Chirurgicale, &c. The public library contains 110,000 volumes, among which is a copy of the Encyclopédie in its original form, with marginal corrections. The botanic garden is maintained by the government for the purpose of naturalizing exotic plants, of which, as well as of indigenous plants, it contains a good variety. There are a museum of antiquities and a gallery of pictures, which contain several rooms in one of the wings of the royal palace; and a cabinet of natural history, which is well kept up, in the hotel of the Academy Royale. In the museum of antiquities are the inscriptions and bas-reliefs dug up in the city and its environs. There is an observatory. (Balbi; Mallet Brun, &c.)
Besides the use of borage for boiling, the fresh leaves are often employed for garnishing other dishes, for which some of the above-mentioned well-adapted side dishes of the gay colours with which the leaves are often variegated. A variety called the Buda kail is also blanched for winter and spring use by putting a flower-pot over the leaves, but it is inferior to sea kail, and more troublesome to procure.

Borore, like all other cabbages, may be increased by slips of its stem, without the necessity of raising it annually from seed; and, provided care is taken to perform this operation in dry weather, it is attended with almost certain success. This method is however little practised in England.

BOREL and BORELLI. Our object here is to prevent two contemporaries being confounded, who have the same Latin name, Borelius.

Pier Boerel of Castres, born 1620, died 1689, was the author of the treatise De vero Telescopii inventore, Hague, 1655, a work often cited. He was a physician by profession.

Giovanni Alfonso Borelli, of Naples, born 1668, was also a physician. He wrote su Etudes Restitutus, 1698, discovered and translated the lost books of Apollonius [Apollonius Perigeeus], and also wrote the first theory of Jupiter's satellites, entitled Théorie Médiocrium Planetuum ex causis physice deductus (published in 1699). He was the first to make use of the law of physical action, and of the principle of the conservation of force and momentum, in unifying his discussion of his observed phenomena in a way that is often referred to in modern discussion of the same phenomena. He also wrote some important works on the theory of motion, including moving powers; and he proves that the length of the limb, and the distance at which the limb or power is inserted from the extremity of the limb, or centre of articulation, influence the quantity of force required for the contraction of the muscles, which is a fundamental principle of the theory of the mechanics of the length of the lever and the distance of the power from the fulcrum alter the quantity of force required. He demonstrated too, that the muscles act at a disadvantage, considered merely as levers. In his attempts to estimate the force required in number, his fall, where success was probably impossible. He calculates the power of the heart to be equal to a weight of 180,000 pounds, a calculation shown to be erroneous by Keil. Though in this and other computations Borelli was shown to have erred considerably, yet his general principles were long appealed to; and even the operations of muscles were supposed to be explicable on mechanical principles.

Borelli invented an apparatus by which persons might go a considerable depth under water, remain there, move from place to place, and sink or rise at pleasure; and also a boat which two or more persons might row themselves under water.

BOREUS (Lateille), a genus of insects of the order neuroptera, and family panopidae. This genus, of which only one species is known (B. hyenalis), is not only remarkable for its peculiar appearance, but particularly for the fact that its having been found in the winter months only, and is said even to have been seen on the Alps running about on the snow: its most common abode however appears to be in mosses.

B. hyenalis is about one quarter of an inch long and of a greenish colour, with the legs inclining to red; and, unlike the rest of its tribe, the female possesses no wings, and those of the male are only rudimentary. The antennae are long and thread-like, the parts of the mouth are provided with a strong mandibule. In July, August, and September, the male is furnished with a large ovipositor: it is rather a fine insect in this country.

BORGHESI, an Italian family originally from Siena, where they ranked among the patricians of that republic. In the early part of the 17th century, a Marcus Antono Borghese, a jurisconsult of some distinction, settled at Rome, where he was employed as advocate of the papal court. He had several sons and daughters. His third son, Camillo, born in 1552, became pope in May, 1605 (Paul V.). The eldest son, Giovanni Battista, married Virginia Lanti of Pisa, by whom he had Mare Antonio Borghese, who by the influence of his uncle the pope was made prince of Sulmona, and grandee of Spain. Paul V. bestowed on him other domains in the papal state. Mare Antonio began a line of princes of the name of Napoleon and continues. His son Paolo married Olimpia Aldobrandini, the only child of the prince of Rossano, and grand niece to Pope
Aldobrandini (Clement VIII), and thus the Aldobrandini inheritance came into the Borghese family. Paolo's son, Giovanni Battista, prince of Saluggia and Rossano, duke of Palestrina, was also ambassador in France as well as papal legate in the court of Rome, where he died in 1717, and was buried in the splendid family chapel at Sta. Maria Maggiore. He left numerous legacies for charitable purposes, and remitted to all his vassals their arrears of rent, fees, and other dues, which were called collettari. On his death, Marc Antonio Borghese, was made vicar of Naples for the emperor in 1721. Another Marc Antonio, a descendant of the vicar, was Prince Borghese in the second half of the last century, who was well known as a patron of the fine arts and a great collector of pictures and antiquities, with which he enriched his fine villa on the Pincian Hill. He left two sons, the eldest Don Camillo, who early embraced the part of the French, and went to Paris, where he married in 1803 Marie Pauline Bonaparte, Napoleon's sister, and wife of the Emperor. He was made in 1805 prince of the French empire, afterwards duke of Guastalla, and lastly governor-general of the departments beyond the Alps, which included the former states of Piedmont and Genoa, then annexed to France. In his new capacity, Prince Borghese fixed his residence at Turin, where he held a sort of court, and seems to have behaved so as to conciliate the inhabitants. He sold to Napoleon his fine museum of the villa Borghese, at Rome, for thirteen millions of francs, the amount of which he received in得很great part, of the sister of the emperor. The Napoleonic Prince Borghese returned to Rome, and afterwards fixed his residence at Florence, where he built a magnificent palace, and lived in great splendour. He gave splendid balls, which were much frequented by foreigners, and became a leader in the fashionable world. However, at that time he did not neglect his Roman residence, and he replaced in great measure by fresh acquisitions of statues and reliquies for his villa, the former collection which is in the museum of the Louvre. Prince Don Camillo died in 1812; his wife Pauline had died in 1806. As they left no issue, his younger brother, who till then went by the title of Prince Aldobrandini, has assumed the title of Prince Borghese.

The House of Borghese has estates in the papal territory, in the province of Naples, in Tuscany. In the immediate neighbourhood of Rome alone it is possessed of 45,000 acres of ground, besides the estate of Palombara in Sabina. The vast town palace Borghese at Rome has a rich gallery of paintings. Besides the celebrated villa on the Pincian Hill, the largest and finest of the Borghese family, called also Belvedere, at Frescati, and other mansions on their various estates. The villa Borghese or Pinciana at Rome has been described in several works. (Montelattini, Villa Borghese fuori di Porta Pinciana, con due autobiografie di artisti, 1864.)

There have been several cardinals of the Borghese family, one of whom, Scipione, nephew to Paul V., figured in the disputes between that pope and the republic of Venice. He began the Villa Borghese. (Tournon, Etudes Statistiques sur Rome; Moreri's Dictionary; Valery, Voyages en Italie, &c.)

BOGORA, or BORJA, a family originally from Valencia in Spain. Alessio Borja was raised to the pontificate in 1443 by the name of Calixtus III. One of his sisters married Geoffroy Lenosi, likewise a Spaniard, who assumed the name and arms of Borja, there being no male heir of that family. Geoffroy had two sons, one of whom became Pope Felix III of Rome, and the other, Rodrigo, was afterwards Pope Alexander VI. Before his exaltation to the Pontificate, Alexander had four sons and one daughter by Vanoza, a woman whose parentage is not exactly known. The eldest son John was made Duke of Gandia in Spain by King Ferdinand of Aragon, and Duke of Gandia and Count of Caudetes, in Italy. When his father was elected pope, in 1494, Cesare was studying at Pisa. He immediately went to Rome, where he was soon after made Archbishop of Valenza in Italy, and afterwards cardinal. Cesare was early noted for his energy as well as for his abilities and dexterity. His younger brother Geoffroy having married, in 1461, Sancia, natural daughter of Alfonso II, King of Naples, was made Duke of Squillace. The arrival of the French under Charles VIII. at Rome, in 1495, obliged Alexander VI. to forsake Alfonso, and apparently to countenance Charles's invasion of the kingdom of Naples. Charles even required Cardinal Cesare Borja to accompany him to Naples. Whether or not this was done, the treaty at Naples (the Duke of Gandia) in waging a war of extermination against the Orsini, Colonna, Savelli, and other baronial families of the Roman state, whose castles and lands they seized. In June, 1497, John Borgia Duke of Gandia was put to death in the night by his vassals through the influence of unknown assassins. His brother Cesare was strongly suspected of the murder, as he had expressed his jealousy of his brother's secular rank and honours, while he himself felt no relish for his ecclesiastical dignities. The charge however against Cesare rests on mere suspicion, but the character was so bad, that he was considered capable of any deed, however atrocious. Soon afterwards Cesare resigned his cardinalate, and in 1498 was sent by the pope to France with the bull of divorce between Louis XII. and his wife Jeanne, daughter of Louis XI., after which Louis XII. married Anne of Brittany. On this occasion Louis made Cesare Duke of Valentinois in Dauphiny, from which circumstance he has been generally styled by the Italian historians Due Valentino. In May, 1499, he married Char- troise, the eldest daughter of King Charles VIII. of France, having again crossed the Alps and taken the Milanese. Louis XII. sent a body of troops under Yvon d'Alégre to join those of Cesare Borgia, who was then waging war against the petty Lords of the towns of Romagna, who refused to submit to the authority of the French king. Cesare was made Duke of Romagna and Gonfaloniere of the Holy See. He then turned his arms against Giovannina Sforza, whom he compelled to march out of Bologna, where he had entrenched himself, and Malatesti. The people of Faenza defended themselves bravely for nearly a year on behalf of their young prince Astorre Manfredi, then fifteen years of age; at last they surrendered on condition that both Astorre and his brother Enrico should be allowed to remain as hostages. Cesare then ravaged the territory in both prisoners to Rome, where they were cruelly put to death in 1501. He then attacked Bologna, but was stoutly resisted by Giovanni Bentivoglio, with whom he concluded a truce. In the same year he marched against Florence, but was obliged to retreat through the intervention of Pope Julius II. He next accompanied the French army in its invasion of Naples, under d'Aubigny, and was present at the taking of Capua, where the greatest atrocities were committed by the invaders. Borgia seized upon a number of women whom he sent to his palace at Rome; others were publicly sold. In 1502 he took Urbino and Camerino, where he put to death Giulio da Varano and his sons.

The army of Borgia was composed chiefly of mercenaries; and he had several condottieri under him, such as Vitelleschi and Colonna, followed by Oliverotto of Ferno, Paolo Orsini, and others. These men, either jealous of his power or afraid of his ambition and treachery, deserted his cause while he had gone to Lombardy to meet King Louis XII. On his return to Romagna, Borgia resorted to his usual stratagems. He offered a reconciliation with the revolted condottieri, and induced them to repair to Sinigaglia, where he went himself, accompanied by a troop of men. He there seized upon their persons. The exception of Pietrucci of Siena and Baglione of Perugia, who were permitted to join Borgia, and to negotiate for a separate peace with many of their followers. Sinigaglia was plundered on that occasion. Machiavelli, who was with Borgia as envoy of the Florentine republic, gives a graphic account of the whole tragedy in his characteristic cool and concise style. When they arrived the next day, he found Cesare Borgia, Orsini and other members of the same family, and ordered them to be put to death in prison. Borgia at this time was the terror of all Central Italy, from the Adriatic to the Mediterranean: he aimed at making himself, with the counte-
name of the pope, independent sovereign of Romagna, the Marches and Umbria. On the 18th August, 1503, Alexander VI. died, after a great supper, at which Cesare was present, who felt himself dangerously ill at the same time, and it has been said, though without sufficient evidence, that Cesare was poisoned, and was mistaken for a Cardinal of the name intended for Cardinal di Cereto. The death of the pope ruined Borgia’s fortunes. His troops were defeated by Buglione and Orsini Giordano (Duke of Bracciano), he was driven out of the Vatican, and most of the towns of Romagna rose against him. Cardinal Della Bevere, who was elected pope, and was an old enemy of the Borgias, arrested Cesare and obliged him to give orders to his lieutenants to deliver up the fortresses they held of Borgia. Borgia took refuge at Naples, where he offered his services to Gonzalo of Cordova, who was then on the point of invading Sicily, but he had his secretary of state arrested and sent him prisoner to Spain. He was confined by King Ferdinand in the fortress of Medina del Campo, where he remained about two years. Having found means to escape, he went to his brother-in-law, the King of Navarre, who was then at war with one of his feudatories. Cesare served in the Navarrese army as a volunteer, and was killed in 1507 by a musket-shot at the siege of the small town of Viana near the Ebro. His body was buried without any honours in a church of Pamplona. (To- masi, Vita di Cesare Borgia.)

BORGLA, LUCREZIA, sister to Cesare, was betrothed while yet a child to a Spanish nobleman, but her father having become pope, married her, in 1493, to Giovanni Sforza, Lord of Pesaro, with whom she remained four years, when they separated. She then lived at the court of 1498, to Alfonso Duke of Bisceglia, natural son of Alfonso II. King of Naples. On this occasion she was created Duchess of Spoleto and of Sermoneta. She had by Alfonso a son Rodrigo, who was brought up at the papal court, but died young. In 1500, Alfonso renewed his attack on the steps of St. Peter’s Church by a party of assassins, and stabbed in several places; he was carried to the pontifical palace, where he died two months after. Cesare Borgia, as usual, was suspected of the crime. Lucrezia then retired for some time, and was afterwards recalled to Rome by her father, and intrusted with the affairs of the government during his absence. Such at least is the report of Burchard, the correctness of which however is doubted. (Roscoe’s Dissertation on Lucrezia Borgia, in the 1st vol. of his Life of Leo X. and also Bossi’s Notes to the Italian translation of that work.) Towards the end of 1501 she married Alfonso d’Este, son of Ercole Duke of Ferrara, and made her entrance into Ferrara with great pomp on the 2nd February, 1502. Gibbon, in his posthumous work, Antiquities of the House of Este, states that Lucrezia’s marriage with d’Este took place while her former husband was still living, and that he was put out of the way to make room for her successor, an assumption perfectly gratuitous, as the negotiation did not begin till nearly a twelvemonth after husband’s death. At Ferrara Lucrezia appeared as the patroness of literature. Bembo, who was then at that court, conceived an attachment for her which appears to have been of a platonic nature. (Mazzucchelli: art. Bembo and Lucrezia Borgia.) Ten autograph letters of Lucrezia to Bembo are preserved in the Ambrosian library, together with a lock of her hair which she sent him in one of them, and some Spanish verses addressed to her by Bembo. Bembo continued to correspond with the Duchesses of Este long after he had left Ferrara and entered into the main body of letters to Lucrezia, a respectful friendship. Lucrezia was the mother of three sons by Alfonso, who had a high opinion of her, and entrusted her with the care of the government while he was absent in the field, in which capacity she seems to have conducted herself as to gain general approbation. In the latter years of her life she became more rigid in her manners and more assiduous in the practice of devotion and charitable works. In short, her behaviour after she became Duchess of Ferrara affords no grounds for censure. Her house, 30 miles from Ferrara, and her father, had been the subject of much molecy, which seems to rest however chiefly on inferences from her living in a flagitious court, where she witnessed the most flagellate scenes. Still there is no individual charge substantiated against her. The marriage between her and Bembo, besides, Roscoe has shown, is not even grounded on Burchard’s Ditarium, but on some epigrams of Fontano and other Neapolitan poets, the natural enemies of her family, and from whom Guicciardini probably derived the report, for he states it as ‘a rumour which it is difficult to believe,’ and yet upon this subsequent writers, and Gibbon among the rest, have grounded their assertions of the charge. Of any particulars in the compilation by Bembo, or in any of her husband’s atrocious deeds, she has never been accused. At Ferrara she was highly praised by Strozzi, Tibaldio, Ariosto, and other poets of the court. Bembo dedicated his Asolani to her, and Aldo Manuzio, in the dedication prefixed to his edition of Strozzi’s works, speaks of her as an excellent princess and a liberal patroness of his art; the historians Giraldi, Sardi, Libranor, mention her in terms of the highest commendation. All this can hardly be mere flattery, for even flatterers from so many different writers could not have been so generally in the same mistake. The accusation of Lucrezia has been represented. A drama full of horrible but gratuitous fictions concerning her life was published and performed at Paris in 1833, under the title of ‘Lucrezia Borgia.’ A likeness of Lucrezia is found in a medallion in the collection of R. Heber, Esq. Lucrezia died at Ferrara in 1523. (Roscoe, Bembo, and Mazzucchelli.)

John Duke of Gandia left a son who perpetuated the family of Borgia. One of his descendants was canonized at St. Francis de Borgia. Another Borgia was Viceroj of Paris, and died in 1558. Lastly, Cardinal Stefano Borgia (Prefect of Propaganda), a learned and amiable man, who died in 1804, while accompanying Pius VII. on his journey to Paris. The Museum Borgia at Velletri, rich in Egyptian and Mexican antiquities, belongs to this cardinal.

BORGHESE, property of Cardinal de Borghese, gave name to the Borgese, a district of Rome, in 1506. (History of Benevento, in 3 vols. 4to; De Cruce Vieltiera Commentario, Roma, 1780; Bassirittii in terra cotta dipinti in vari colori trovati nella città di Velletri, Roma, 1875; Storia della città di Todi; De Cruce Vieltiere.)

BORGNE, LAKE. (Mississippi.)

BORGGO, an Italian apppellative, which occurs in the name of several towns, as Borgo San Donnino, Borgo Tar, &c. Borgo is a word of Teutonic origin, ‘burb,’ which is applied in Italy, as it frequently is in France, to a small hamlet or farmstead. In the old charters of the German frontiers of the empire to signify an assemblage of houses not enclosed by walls, Burgus or Burgum. It was afterwards applied to the fortified villages of the German soldiers in the service of Rome. Vegetius (lib. 4, c. 10) calls Burgus Castellum Parvulum. The Germans, in their invasions of Italy, introduced the appellation into that country, where it was generally applied to the houses and streets built outside of the gates of a walled town, corresponding to the Roman suburbia. The French faubourg, was at first applied to a set of houses and gardens near a river, as that of the Seine called la faubourg Saint-Germain, or Burrihiisburg, a ‘burb outside of the town.’ Several districts in the Italian cities have retained their original name of Borgo, although they are now enclosed within the walls. The district of Rome which is between the bridge of San Giovaani, and the church of San Domenico, is called Borgo, and there are several districts at Florence called Borgo, as Borgo dei Pinti, because they were originally outside of the city walls. There are however also towns standing by themselves which have the name of Borgo, and were colonies built by the citizens of some neighbouring town. (For example, Borgo S. Giovanni in the beginning of the thirteenth century,) or they were originally small assemblages of houses built near the castle of some feudal lord, which have gradually become towns after the castle had disappeared. (Molin.)

Borgo San Donnino, between Parma and Piacenza, formerly a feudal castle of the house of Pallavicini, is now a town of 5000 inhabitants, with some fine buildings and an old cathedral. It is the chief town of the province of the same name, and a bishopric; has a secondary school or college with forty-five boarders, two elementary schools for boys, and several manufactures.

Borgo Tar is a small town also in the duchy of Parma, situated in the Apennines near the sources of the river Taro, and about 30 miles from Parma. It contains about 2000 inhabitants, a secondary school with twenty-five boarders, and a seminary. A mountain road, practicable only for mules, leads from Borgo Tar to the Apennines by the village of Contecrocio to Chiavari in the Rivers of Apennines. The castle of Compianno near Borgo Tar was one of the state prisons of the French empire under Napoleon.
Borgo San Sepolcro, a town of the province of Arezzo in Tuscany, in the valley of the upper Tiber, and close upon the frontiers of the papal state. It originated in the tenth century with two pilgrims, who having been to Pales-
tine, brought a piece of the stone of the Sepulchre of Holy Sepulchre, and built a basilica near his spot. The fame of their sanctity attracted many people, and a number of houses were built, to which the name of Borgo San Sepolcro was given. The town was enclosed by walls, and, after long retaining its municipal independence, submitted in the sixteenth century to Cosimo I., grand duke of Tuscany, and became a bishop's see, and has several churches, besides the cathedral, with good paintings, and a seminary for clerical students.

There are other cities in Italy called Borgo, such as Borgo San Dalmazio near Cuneo in Piedmont, 3000 inhabitants; Borgo Sosia in the province of Abetone, with 2500; Borgo Vecchel in the province of Novara, with 2000; Borgo d'Alben in the province of Verceil, with 2400; Borgomaro in the province of Novara, with 6000.

There are several places called Borgoetto, 'small Borgo,' in the papal state.

BORGOGNO/NE, JACOPO CORTE/SI, called from his place of birth Borgognone, was born in 1621 in the city of St. Hippolyte, in Berry country (Italy). Borgognone, his real name, Giovanni Cortesi, was a painter of sacred subjects, and very successful in his way. Owing to an accidental temptation, Jacopo went into the army for three years; after which he returned to his art, and studied at Bologna, where Guido, then in his prime, was his master. His works were soon noticed, and he was sent to Rome, with permission to see a picture of his in a window, inquired into his circumstances, and took him home with him; which, during the remaining six months that he stayed in Bologna, afforded him a fine opportunity of improving his colouring. Here he stayed two years. He returned to Florence, and, among other things, he learned this maxim, 'That a painter, before setting to work on any subject, should recall to mind something which he had seen in reality: a saying which Jacopo kept constantly in view. Baldinucci, having invited him to his house many times, wanted to know which picture he had purchased, and asked him in a burst of admiration, 'How had he given his battles so much truth, with expression so just, and accidents so various?'—he replied, that all he had painted he had really seen.

Borgognone subsequently realized a handsome independence, and visited his native country for three years, but returned to Italy, and painted for a considerable time in Florence with great reputation. In 1653 he conceived himself under a call to renounce the vanities of the world, and to enter the monastic order, which he begged to be admitted into the order of Jesus, and was received as a novice. His feelings were undoubtedly modified by early association and the kindness he had met with from religious orders. During his noviciate he painted, at the suggestion of the director, several pictures, in subject-study, but which, which, though he had purchased, asked him in a burst of admiration, 'How had he given his battles so much truth, with expression so just, and accidents so various?'—he replied, that all he had painted he had really seen.

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As he painted with great facility and rapidity, his pictures are very numerous. His execution was in dashing strokes, these pictures being painted, as he further states, 'from a close view, a manner which has been ascribed to his living with Guido, and to his seeing the works of Paolo Veronese when at Venice; but partly ascribable perhaps to his habit of sketching before he was thoroughly practised in the art. His pictures have excellencies corresponding to the peculiarities of his style. 'If,' says one of his biographers, 'they do not convey sounds, they express with horror to the mind the cries of the bulletting soldiers, the shrieks of the women, the groans of the dying soldiers, the shrieking of the bombarding, the bursting of mines,' and truly there is a freedom of design, a force and suddenness in the action, a unity of composition, with a most natural variety in the accidents, which seem to show the gallery-visitor a real battle-field.

Jacopo had a brother, Guglielmo Cortesi, also called Borgognone, a painter of merit, who sometimes assisted his brother in his paintings, but he never attained the same emi-

No. 295. [THE PENNY CYCLOPAEDIA.] Vol. V. 201 B.
Cornwall,' fol. Oxford, 1754. It passed through a second edition at London in 1769. It was at the request of Dr. Lytton that his memoir on the Scilly Islands was published as a distinct treatise in an enlarged form, entitled 'Observations on the Antient and Present State of the Islands of Scilly, and their importance to the Trade of Great Britain,' in connexion with Mr. Charlez Lyttelton, LL.D., dean of Exeter, 4to. Ox. 1756.

Mr. Borlase printed at the Oxford press his 'Natural History of Cornwall,' for which he had been many years making collections; it was published in folio in April, 1758. He possessed a variety of fossils and remains of antiquities, which he had described in his works, to the Ashmolean Museum, to which he continued to send every thing curious that fell in his way. In 1766 the University of Oxford conferred upon him the degree of L.L.D. by diploma.

Borlase paid no scanty attention to his pastoral duties and the study of the scriptures. He made a paraphrase of the books of Job and the books of Solomon, and wrote some other pieces of a religious kind. He occupied himself in superintending his parish, and particularly the improvement of the high roads, which were more numerous than in any parish in Cornwall. The belles-lettres and painting also formed part of his amusements. The correction and enlargment of his History of Cornwall for a second edition engaged some part of his time, and which he thought well to mention in his 'Memoir of History.' His 'Private Thoughts concerning the Creation and Deluge,' after being sent to the printer, were recalled when a few pages were printed, chiefly owing to his severe illness in Jan. 1771. From this time his health began to decline. He died Aug. 31st, 1775, in his seventy-seventh year.

Dr. Borlase corresponded with many of the most eminent men of his time. Nichols, in his 'Literary Anecdotes of the Eighteenth Century,' says that there is still extant a large number of letters written to Dr. Borlase by Mr. Pope, whom he furnished with the greatest part of the materials for forming his grotto at Twickenham, consisting of such curious fossils as the county of Cornwall abounds with. Dr. Borlase's name in capitals composed of crystals is the sole ornament of one of his invitations, a piece of lettering written to the doctor by Pope, in which he says, 'I am much obliged to you for your valuable collection of Cornish diamonds. I have placed them where they may best represent yourself, in a shade, but shining.' (See Dr. Borlase's 'Life of himself,' printed with Additions, in Nichols's Literary Anecdotes of the Eighteenth Century, vol. v. p. 291-303; Biog. Brit. Hippis's edition; and Chalmers's Biog. Dict. vol. vi. p. 119-122.)

BORMIO, a town in the prov. of Sandrio in the Lombard Isthmus, 830 m. near the sources of the Adda, and at the foot of the Rhetian Alps. The great Ortler-Spitze, one of the highest summits of the Alps, rises near Bormio. The new road over the Stiffer Joch, or Mount Stelvio as the Italians call it, passes round the N. W. flank of this never-sleeping church, and the Austrian government in 1819 and finished in 1825, forms the direct communication between Milan and the Tyrol, leading from Bormio in the valley of the Adda to Giuroens in that of the upper Enz (Adige), and from thence to Innsbruck, 11 hours by road of 300 m., and 2 hours on the Stiffer Joch is 9000 ft. above the sea, and consequently considerably higher than any of the other roads over the Alps into Italy. The road is wide and the ascent easy. It is well secured by parapets on the side of the precipices ever since 1799, when it was partly burnt by the French, but the opening of the new road has removed this perilous activity. The country around is not productive, and the climate is cold; but it has good pastures. Some barley and rye and excellent honey are the principal productions. Bormio contains some good paintings by Canelino, a native of this place. The mineral-water baths of San Martino near Bormio are frequently visited by invalids from the Tyrol and the Valtellina, but the accommodations are bad. In the Valfurva, E. of Bormio, is the chalybeate spring of Santa Caterina, which is also in great repute. There is a rich iron mine in the same neighbourhood.

Borneo, called by the Germans Wosado, was the head town of the delicious island of Savo, from which it was taken by Bonaparte in 1796, together with the neighbouring Valtellina and Chiavenna, and annexed to Lombardy. For the road of the Stiffer Joch see Latrié's Pejserian Tour, and Mersey, Le Tyrol et le Nord de l'Allemagne.

BORNEO is the largest island in the Indian Archipelago, and the largest in the globe, if we except the continent of Australia. It occupies the centre of the Indian Archipelago, and is divided by the equator into two nearly equal parts. The north-western part is only a little more than four degrees S. of the equator, and the most northern, Cape Sampanmannang, extends a few minutes to the north of 7° N. lat. The most eastern extremity, Cape Konneeooeg, reaches nearly 119° 30' E. long.; and the most western shore, about one degree N. of the equator, is in 105° 30' E. long.

The seas which enclose Borneo are portions of the Indian Ocean, but being for the most part separated from one another by chains of islands and united by straits, particular remarks have been made on their respective characteristics. The sea between Java and the islands to the east of it, on one side, and Borneo on the other, is called the sea of Java or Sunda; the latter name comes from the straits of Sunda, which divide Java from Sumatra, and afford the safest and most direct communication by sea from India to China.

The Java sea is divided from the southern portion of the China sea, which encloses the western and northern shores of Borneo, by the islands of Banca and Billiton, and united to it by the straits of Banca and Billiton and the Carinima Passegan, which separate the Casamano shore from Billiton island. The China sea affords the safest passage to China, being in its centre and along the shores of Cochin China comparatively free from rocks and islands. To the east of Borneo extend the Mindoro sea, the sea of SOOLO or Celebes, and the sea of Palawan. The Mindoro sea is drained by the China sea by the large island of Palawan and the smaller islands of Calamianes and Busavagon; Busavagon is separated from the island of Mindoro by the straits of Mindoro. The sea of Celebes is separated from the sea of Mindoro by an extensive chain of islands called the Sooloo Islands. The straits of Macassar unite the sea of Celebes with the Java sea, and divide Borneo from Celebes.

The greatest length of Borneo, from Cape Sambar, the most S.W. point, to Cape Sampanmannang at its most N.E. point, is 830 m.; 104° 30' of latitude; 36° of longitude. The Casamano passage is about 850 m. wide at its parallel of Cape Konneeooeg 660 m., and the surface of the whole island is estimated by Walter Hamilton at 262,500 sq. m. But this is evidently somewhat below the mark, for if we consider that the portion of the island which lies to the south of 2° 30' S. lat. 119° 30' E. long. has an altitude of 24° 30' of latitude, and 24° 30' of longitude, and a breadth of 450 m., it gives an area of nearly 250,000 sq. m. To this must be added that portion which runs in the shape of a peninsula to the N.E. from 2° 30' S. lat. to Cape Sampanmannang, which with an average width of 120 m. has an area of 50,000 sq. m. To this must be added 300,000 sq. m. To the eastwards of 36,000 m. The whole surface may therefore be about 286,000 sq. m., or nearly twice the area of the British Islands, and one-half that area besides.

None of the large islands, except New Guinea, are less known to Europeans than Borneo. But the Dutch have had an establishment on its S. coast for upwards of half a century. This circumstance is doubtless owing to its peculiar figure, which is one mass of continuous land, without any considerable indentation. Our knowledge of this island is limited to the shores, a few harbours and mouths of the rivers, and to the country a short distance inland from them. The eastern shores south of Cape Konneeooeg, the whole extent of the southern shores, and the western up to Cape Dattu, are low, and for above thirty miles inland marshy. This is free from alluvial deposits, but alluvial marshes border the island. The coast which runs in a N.E. direction from Cape Dattu to Cape Sampanmannang is seldom visited by European vessels, on account of the perilous navigation among the numerous islets and rocks which line it to a considerable distance from the shore. This fact leads us to suppose that it is rocky; which is certainly the case with the north-
eastern peninsula from the neighbourhood of Cape Sampanmaggio as far as Cape Koneeocogan. This peninsula is a little known. Till lately it was supposed that it was covered with extensive ranges of mountains of considerable height, but this supposition has not been confirmed by the Dutch expedition, which was undertaken in 1823 from the western shores of the peninsula to the eastern, a distance of about 300 miles. The expedition, it is said, advanced about 300 miles inland without meeting with such obstacles as mountains would have opposed to their progress. But the north-easterly portion of the island is known to contain mountains which rise to a considerable elevation. The rivers are numerous and of considerable size at their outlets, but their length is not known, as none of their sources have been visited. They are commonly navigated fifty miles and upwards from their mouths, but not farther, which may lead us to conjecture that the distance from the coast the land has a considerable rise. The largest rivers seem to be the Benjarmassin and Borneo on the southern coast, the Pontianak and the Sambas on the western; another Borneo on the north-western, and the Passir on the eastern. It is probable that the island contains some considerable lakes, and it is remarkable that here, as in the peninsula without the Ganges, the natives assign an extensive lake as the common source of all the large rivers. Towards the northern extremity, and at no great distance from Cape Sambas, Mons. de Koninghich found a lake which seemed to be 100 miles in circumference, with an average depth from five to six fathoms. The Dutch, in their late expedition, came also to a large lake, called Danao Malayu, which extends from twenty-five to thirty miles in length, with an average breadth of above twelve. But its situation is not yet known with sufficient accuracy to be laid down on the maps.

The climate of this island, as far as it is known, is very hot and moist, owing to the extensive marshes along the coastal shores, which extend far inland in the northern part of the country at the north-eastern extremity. It is particularly destructive to Europeans. In the districts situated on the western shores the wet season takes place during the south-east monsoon, from April to September; but on the northern shores, along the coast of Macasar, and in the Java sea, it begins with the north-west monsoon, from October to April. The average summer-heat is vaguely estimated at 84° Fahrenheit. A country with a good soil and abundance of moisture, situated under the equator, must be extremely rich in vegetable produce.

Most, if not all, of the tribes inhabiting Borneo cultivate the ground. Rice (oryza sativa), being the chief article of food over nearly the whole of the island except the eastern coast, is principally cultivated. Where the land can be floated with water the horticulture of Borneo is carried on to great advantage. Some rice cultivation does not depend on the seasons, and therefore within the compass of a few acres rice may be seen in every state of progress. In one little field, or rather compartment, the husbandman is ploughing or harrowing; in a second he is sowing; in a third transplanting; in a fourth the grain is beginning to flower; in a fifth it is yellow; and in the sixth the women, children, and old men are busy reaping. It yields twenty-five to thirty-fold of the seed. Maize (Zea Mais), which yields a hundred-fold, is not much cultivated. All sorts of lentils and beans are raised. The roots of which cultivated especially yams (Dioscorea alata), of which they grow many varieties, which are planted in the poorer districts, sweet potatoes or batatas, the kantang (Oxymum Tuberum), the mandioca (latropha embon), and a species of dioscorea (D. t Rickhla), which they call gadang, and which also grows wild in every part of the island. The Arum esculentum, Lin., is cultivated in the upland soils.

The culinary plants most extensively cultivated are the umbrella palm (Caryota urens), and the nipah (Cocos nypa), of which the former is the true cabbage-tree. The teak is not found in Borneo, and the common timber-trees are the...
bitanger, a species of uvaria, the marboa (Metrosideros),
the pinaya, and the surreu. Other trees are used for cabinet
or fine work, but most of them have not yet found a place
in our botanical catalogues. The forests of Borneo contain
many trees which yield gums or resins useful in the arts.
The most important of these products is the camphor tree,
a small tree yielding a kind of balsam, which exudes sponta-
neously from the pine-trees of that name through the bark, and
is either used adhering to the trunk and branches in large
humps, or in masses on the ground under the trees. It is
used for all purposes to which we apply pitch, but chiefly on
the bottoms of ships and vessels. Resins are exported in large
quantities to the continent of India, especially to Bengal
and China. In different districts vines or trailing plants
grow, the milky juices of which form, when inspissated, a
trusting food.

Plants which yield dyeing materials are numerous. Indigo,
the most important and valuable, grows wild, and is also
cultivated. Next to it the safflower (Carthamus tinctorius)
deserves notice, and then the arto (Bixa Orellana). Tur-
meric (Curcuma armena, L.) is cultivated to a considerable
extent, but less used for dye than as an aromatic for
seasoning food. Dyeing woods are the sappan, or Brazil wood
(Casaurinopsis Sappan), but it is less esteemed than that of
Luconia or Sumbawa. The root of the mangkudu (Morinda)
is extensively employed as a dyes for all purposes.

The pepper-corn tree (Una, or Piper Betel) is also found in
the forests of Borneo, and its inner bark is used by the natives
for wearing apparel.

The sugar-cane is indigenous, and extensively cultivated
by the natives, and still more by the Chinese. Cacao, the
nutmeg-tree (Piper nigrum, Linn.) is cultivated, but grow also
in a wild state, and their product forms a considerable article of
exportation. There are also some species of nutmeg-trees, but
their produce is not equal to that brought from the Banda islands.

The cashew nut (Leucaena Linn.) yields the cove-barck,
name is derived from the resemblance of its taste and frag-
rance to that of the cowl: this bark is exported to China.

The cayapau (Melaleuca leucodendron), which in less warm
climates is only a shrub, here becomes a tree, and yields a
rank and elegant species of paper. The cinnamon is not found
here, but the cassia-tree is common, especially in the northern
districts. Ginger is widely diffused, and in general very useful among the natives, but
in quality it is inferior to that of Malabar or Bengal.

Among the most remarkable vegetable productions of
Borneo and the adjacent island of Sumatra is the camphor
tree (Dryobalanops camphora, Celebr.). It is found no
where in the world but in these two islands, and even here not
on the coast, or the site of the line, nor beyond the third degree of
N. lat. It is a large tree, and grows to 150 feet in height. It is
an object of cultivation, and the gum is obtained by
making incisions in the bark; the greatest part of the
product is exported to Mohammedan and Catholic countries.
The inner cell of aquila wood, eagle wood, or lignum
aegis, is collected in sheets of the wood of the same.

The elephant inhabits only the north-eastern parts of
the island, especially the peninsula of Unsung, the most
northern part of the globe where this animal is found; the
rhinoceros also is said to exist here. The royal tiger is not
known to live in this island, and when seen in the distant
districts, it is supposed to have crossed the summit of the range. It
is an object of cultivation, and the gum is obtained by
making incisions in the bark; the greatest part of the
product is exported to Mohammedan and Catholic countries.
The inner cell of aquila wood, eagle wood, or lignum
aegis, is collected in sheets of the wood of the same.

Of domestic animals only horned cattle and hogs are
numerous. There are not sheep nor asses, and horses seem
not to be common. The flesh of the buffaloes, and with
the hogs and hides sent to China, the latter always in the hair
and not tanned. Common fowl and ducks abound
in most places.

Among the numerous birds the most remarkable is the
hirundo esculenta, whose nests are carried to China, and
fetched an enormous price. This bird however is only found

on the north-eastern extremity of the peninsula of Unsung
and its neighbourhood.

Both sea and river fish abound, particularly the former.
The waters which surround this and the neighbouring islands
are so tranquil, and the numerous banks afford the fish upon
the surface to swim in shoals. The greatest abundance of
better supply of fine fish, especially where the shores are flat.
The edible fish are here very numerous, among which the
pomfret, the eel, and the sole are the most delicate. A
very great variety of fish are dried in the sun, and form a consider-
able part of the articles of exchange; the fish of Borneo is an article of
universal consumption among the Indian islanders as fish in
cold countries. Some kinds of fish, especially ahrimips, are
reduced to a state half pickled and half putrid, and form an article of
internal commerce under the name of blanchet. But the
trout, the cusk, or the asp (Caspium), is a valuable article
of exportation to China. This animal is only found among the rocks which line the north-western and
northern coasts of Borneo, and extends hence eastward
New Guinea, and southward to the north-eastern shores
of Australia, where the sea is dotted with numerous coral
reefs. Besides the tripango, fish maws and shark's fins are
also exported to China, where they are considered very
delicate. Tortoises are very abundant, especially
on the northern and north-eastern coast. Those found
farther south are smaller, and less valuable, and are chiefly
Tortoises-shells are exported to China, whence many of them
find their way to Europe, on account of their low price.

The lane is found in the forests, but as its produce is
inferior to that of Bengal and Burmah it forms only an incon-
considerable article of trade. Bees abound here, as all over
Southern Asia, but only in a wild state. They make a
honey, and great quantities of wax, which is exported
to China.

The mineral riches of Borneo are little known. Iron
is found in the southern part. Copper has of late been dis-
covered, and worked in Sambas, on the western coast. Silver
deposits are only known united with gold; but antiquity is plea-
sant in Selangor. Sarawak is an eastern coast of the island.

The inhabitants of Borneo are either aborigines or for-
igners. The former are divided into a great number of tribes. The Dayaks occupy the southern
districts, the Biajoos and Itana the peninsula extending to
the north-east, and the Tiroon live on the coast of the

In the interior are the Kayan, the Duanun, the Marut, the Ta-
aceli, &c., but they are not farther known. It does not seem
that any people is universally acknowledged to possess a
language different from that of the aborigines of the South.

All the inhabitants, with the exception of the two last
named, belong to one race, which is called the Malay race.
Their persons are in general rather slender than handsome. The face is of a round
form, the mouth wide, the chin somewhat square, the cheek-
bones are prominent, and the cheek consequently rather hollow; the nose short and small, never prominent, but
never flat; the eyes are small, and always black; the com-
plexion is generally swarthy. The women of the different
tribes, the Dayacks inhabiting the interior of the island
being fairer than those of the coast; the hair is long, lank,
harsh, and always black. The languages of the different
aboriginal tribes differ widely from one another, and they
have no literature, though some of the foreign settlers,
as the Javanese and Bugis, have cultivated their languages,
and have many books written in them.

The aboriginal tribes have not attained a high degree of
civilization. Agriculture however seems generally diffused
through the islands, and the presence of gold is
very common. They cultivate chiefly rice, and collect gold-dust and
diamonds. They trade also in rattans, dammar, and other pro-
ducts of their forests. Their dress consists only of a small
wrapper round their loins. Their houses are wooden build-
ings, often large enough to contain upwards of 100 persons
in the construction of their boats and some of their utensils
they display considerable ingenuity. These tribes, though otherwise mildly and simple, are cannibals, or at least some of them are. They kill their prisoners, and eat their flesh. About these are the swarms of ants, which swarm about the piles round their habitations, and in some a youth is not entitled to a wife until he has produced the head of a man. Some devour the heart of an enemy when they have killed him. Some who live on the coast have embraced the Musulman faith, which is called the religion of the Moors. Polygamy is in general use among those who are able to maintain many wives and large families. One part of the Biajooos inhabits the north-western coast, but another lends a maritime life, and may be considered as sea-gypsies, or islanders living on the coast of Sumatra. They have shifted to leeward from island to island with the variations of the monsoons. Their fishing-boats, in which they live with their whole families, are about five tons burden, and their principal occupation is the catching of the sea-slug, for which they frequently dive in seven or eight fathoms water.

The number of the Chinese settlers is considerable. In every part of the island some families are found near the mouths and on the banks of the rivers. They follow the occupations of merchants, mechanics, and labourers; cultivate the ground, distil sakè, make sugar, search for gold-dust, and trade to the interior as well as on the coast. They are not rich, but too fond of good living, and addicted to gambling, opium, and merry-making.

The people from the island of Celebes, are remarkable among the nations of Southern Asia for their industry and activity. They chiefly apply themselves to trade, to manufactures of Bugis cloth, and the working of raw silk into cloth. Many of them are possessed of property amounting to above 100,000 dollars. They are generally poor when they come from Bugisland, but they are extremely economical and even penurious in their manner of living. The daily expenses of a Bugman's family, however great his property may be, does not amount to above three or four sous; when the nearest Chinese labourer will contrive to spend a rupee, and a wagon is only the twelfth part of a rupee. These Bugis are very active seamen, and visit all the islands and countries round Borneo. Their small vessels, or proas, generally cost from 150 to 300 dollars; and the whole outfit, as far as respects sails, cordage, provisions, stores, &c., for one of their voyages seldom exceeds the sum of forty or fifty dollars, while the value of the cargo is generally from 20,000 to 40,000 dollars. The crew receive no wages, but only a share of the adventure, according to country practice. Some proas are wrecked at sea; but few are taken by pirates, as the men defend themselves desperately and never surrender. More than a hundred come annually to the harbour of Singapore.

The Malays are the most numerous of the foreign settlers. They occupy nearly the whole coast, only an enclaves being left by the Dayaks. Though rather indolent they are not deficient in military spirit, and have formed a great number of small states, and subjected the aborigines. But these petty sovereigns are not absolute, their power being limited by a state-council and a nobility.

The only European nation that has hitherto permanently settled on this island is the Dutch, who have got possession of about one third of the coast, and extended their dominion far inland in some places, so that the rich gold and diamond mines are in their possession. All the Dutch settle natives, and are particularly numerous among the Dayaks, and they govern the territories of the sovereigns of Banjarmassin, Sucadana, Pontianak, Mampawa, Sambas, and Matan, and of some other farther inland. This great tract of country is governed by three residences, established at Banjarmassin, Pontianak, and Sambas, with two subordinate residences at Mampawa and Landak.

In the territories possessed by the Dutch there are two places of considerable trade, Banjarmassin and Pontianak. Gold is found at six different places, at Ombak, Sanga, Landak, Pontianak, Sambas, and Mampawa; but especially at the two latter places. The metal is found in alluvial deposits, which are channelled by the beds of numerous rivers, and the situation of the gold is generally very superficial, not usually above five or six feet from the surface. The Dutch government has possessed itself of the mines, which contains it. The ore is in general very rich, containing in a hundred parts, rarely more than fourteen, and frequently only three parts of dross, but a small quantity of silver is always combined with it. According to the calculation of Crawford the annual produce of the mines of Borneo is 88,362 ounces: Eschewege, in his "Pluto" gives a production of 90,362 ounces of gold from the mines of Brazil as not exceeding 8000 marks, or 64,000 ounces.

The diamonds are found in the territories of the princes of Banjarmassin and Pontianak. The principal mines are at a place called Landak, whence the diamonds of Borneo are called Landak diamonds. The polished diamonds of Borneo are not found here, as in Brazil, in the rivers, but they are dug by means of perpendicular and lateral shafts. The mines are only wrought by the Dayaks, but those of gold are mostly worked by the Chinese. The Bugis resident merchants are the great dealers in diamonds. In this island there is only a few of the largest diamonds in the world; it is either in the hands of the Prince of Matan, or in the possession of the Prince of Pontianak. It weighs 367 carats, and its real value, according to Crawford, is 269,578l., which is 34,822l. less than that of the Rutli diamond, and 119,774l. 10s. more than that of the Pitt diamond.

To the north coast of the territories of the princes dependant on the Dutch, and along the north-west coast, extends the kingdom of Borneo Proper. It is not well known at what point on the coast its south-western boundary lies, but towards the north-east it extends to the mouth of the river Kimanis, which is traversed by the 11th parallel. It consequently contains a sea-coast of between 600 and 700 miles, and is said to extend from 100 to 150 miles towards the interior. The coast is well known; the approach to the coast is very dangerous for vessels of considerable burden, and it is rarely visited by Europeans. Still the intercourse between Borneo Proper and Singapore is greater than with any other part of the island, not only as it is employed on by Bugis merchants and Dutch navigators. The capital is Borneo. From Sialang, towards its western frontier, great quantities of antimony are brought to Singapore. The mountain which contains the antimony is about one day's journey from the coast. The sultan, as well as a considerable portion of the population, are Malays.

The north-eastern part of the island is under the sultan of the Sooloo Islands: it extends from the river Kimainis on the north-west coast as far as Cape Kotimooman, which forms the eastern boundary of the Straits of Macassar. This part also is rarely visited and little known. The inhabitants, the Tironos, are notorious pirates, like the Sooloo islanders, and they cruise especially in the seas of Mindoro and Celebes, and among the Philippines. Their principal traffic is in spices and pepper. The Sumatran coast is open to the Chinese, who seem to have the whole commerce of this coast in their hands. There is no important trading place on this coast. At the Island of Balambangan, opposite Cape Sampanmangkia, the English had formerly a settlement, but that has been abandoned.

The coast extending from Cape Konneecongan to Cape Salagat seems to be divided among a great number of petty sovereigns, and here the aboriginal tribes are still in possession of the sea-shores. Its commerce however is chiefly carried on by the Bugis, who have settled on different places along the coast, but especially at Pasar, a town of some note, which is sometimes visited by European vessels.

The commercial intercourse of Borneo with China is much more extensive than with Europe, which is partly due to the great distance of the Chinese who have settled on this island, and still more to the circumstance of many of its productions being either entirely unfit for European markets, or too high-priced. To the first class belong the edible swallow-nests, the sea-slugs, and the wild woods; to the second the camphor. The Chinese ports with which this commerce is conducted are Canton, Amoy, Ningpo and Shanghaeghe. It is remarkable, that the Chinese junkes, though unarmed, pass un molested through these seas, where European vessels are in continual danger of being attacked by the numerous pirates.

Among the European nations the Dutch, who exercise authority over one-third of the coast, carry on a most active commerce, exporting pepper, gold, and other products. But the commercial intercourse with Singapore is far from being inconsiderable, as upwards of forty vessels annually go there from this coast. (Dr. Leyden's Description of Borneo in the Asiatic Journ.; Crawford's History of the Indian Archipelago; Asiatic Journal; Stavorinus' Voyages).
BORNEO, the capital of the kingdom of Borneo Proper, or Brunei, is situated on the north-western coast of the Island of Borneo, 4° 56' N. lat. and 114° 44' E. long., on the banks of a river, about ten miles from the sea. The mouths of the rivers, and low ground on both sides of the river, contains a considerable number of houses, built on posts four or five feet high, which, at the rise of the tides, allow the water freely to pass under them. The streets are formed by canals, either natural or artificial, which facilitate communication, and they are always covered with boats, which are managed by women with great dexterity.

Borneo is a place of considerable trade. Its commerce was principally limited to its intercourse with China, the Philippines and the South China coast; but the introduction of Malacca, not being much frequented by the Borneo navigators. But since the foundation of Singapore, the Bugis merchants of Borneo often visit that port. The exports are rice, black pepper, camphor, cinnamon—bees' wax, sea-slug, turtle-shell, pearls, and mother-of-pearl, with tea, wrought and raw silk, and nankeen, the three last articles being imported from China. At Singapore they take in exchange cottons and woollens, opium, iron, arms, and ammunition. This port is rarely visited by European vessels, but many Chinese junks frequent it. At Singapore, the Chinese sell their goods in the neighborhood of the Hill of the Nanny. The Chinese find it advantageous to build their junks here, for though the island has no teak, it produces other kinds of good ship-timber, among which is the camphor-tree. (Dr. Leyden's description of Borneo in the Annals of the Indies.)

BORNEW, a town and commune in the province of Anjou, about 12 m. W. from Mechin, and 10 m. S.W. of Antwerp. The commune is bounded on the N. and the W. by the Scheldt, which separates it from East Flanders. The town contains 594 houses and 4043 inhabitants, among whom are 121 births and 233 deaths. The church is dedicated to St. Martin. There are 237 boys and 103 girls who were taught in 1833. The principal trade of the place is in corn, flax, and linen cloth, considerable quantities of which are made there. In cutting a sluce, in 1781, a great number of Roman bronze medals were found, thirty feet below the surface, and seven or eight feet below the level of the Scheldt. These medals were of the emperors Commodus and Caracalla.

Rupel having, in February, 1825, forced down the dyke of the Scheldt, the port of the commune of Bornem was overflowed, so that nearly all the inhabitants were obliged to abandon their houses, and were unable to return to them for two months. (Dict. Géog. de Anciennes et Modernes, par Van der Maelen.)

BORNMOLM, a town and parish attached to the Danish province of Seeland, is situated in the Batliz, 90 m. E. of the island of Seeland, about 40 m. E. by S. of Ystad on the coast of Sweden, and about 50 from the N.E. shores of the Russian island of Rügen. It is about 32 m. in length from N. to S., and varies from 9 to 12 m. in breadth, except at the N. extremity; inclusive of three islands, it contains an area of about 216 sq. m. Bornholm presents a great variety of the wide range of the whole islands. The coast of Bornholm is for it is not only a complete rock, but more especially in the interior, particularly towards the N.; and it is so walled in by precipitous cliffs and dangerous reefs, that at certain seasons of the year, the approach to it is extremely hazardous. The island, besides the island and the coast of Pomerania is dangerous to vessels that draw much water, arising mainly from the shifting sand-bank called the 'Dueodde or Pigeon's Point. A high range which stretches across Bornholm from N. to S., called the 'Almdinge,' which is 67 yds. lower, the highest part of the island, is about 55° 6' N. lat., and 14° 44' E. long. The next town of importance is Nexø, on the S.E. coast; it is situated upon an elevated mass of rocks, possesses a good harbour and roadstead, a church, charity-school, hospital, and public storehouse. The island is rich in natural resources; the island and the coast abound with fish, notably salmon, halibut, and small-sized herrings. Bornholm is rich in mineral productions; coal is partially raised for domestic use; quarries of sandstone and millstones are worked; and there is also marble, slate, and pottery-earth.

The inhabitants of Bornholm, about 20,000 in number (in 1801 18,902), are wholly of Danish extraction; they are a remarkably industrious race, quick in temperament, enterprising, and sober, and make good sailors, though rough and somewhat perverse. They speak a peculiar dialect of the Danish mixed with German words; and are expert in the manufacture of woollens, pottery, and clocks and watches, the last mentioned being made in the towns. General comfort prevails throughout Bornholm; the farmers are the owners of the lands they cultivate. It is the duty of every household to be provided with a smoke for the youngest son, but, on the failure of male issue, the eldest daughter, not the youngest, inherits them. Among other privileges which the Bornholmers enjoy are those of paying only half the taxes imposed on their fellow subjects, and providing for the defence of the island out of their own resources. The military force, which is confined to natives, and cannot be removed out of the island, is composed of two companies of artillery, four squadrons of dragoons, four companies of regular infantry, a company of riflemen, and eleven companies of civic and provincial militia.

Bornholm is divided into four districts or 'härds,' the northern, western, southern, and eastern, and contains twenty-one parishes, five towns, two hamlets, and 948 farming establishments; the last stand wholly isolated, nor are there any regular villages throughout the island. Though there is but one public school, most of the inhabitants are able to read and write.

In very remote ages Bornholm belonged to Denmark, but in the sixteenth century it was made over to the citizens of Lubeck. In 1665 it was ceded to Sweden, who retained possession of it by the subsequent treaty of Roskild; in 1658 however the inhabitants rose against their new masters, under the conduct of Jens Korfoed, and having declared their island an heir-loom of their country, Bornholm, it has ever since maintained its allegiance to it.

The chief town of Bornholm lies on a high flat on the W. coast, and is called Rönne, Rönmedy, or Rottum. It is an open place, irregularly built, and has a singular appearance in consequence of the walls of the houses being whitewashed, and the woodwork being smeared with tar. The castle, now reduced to an old tower, is all that is left of the fortifications raised in the times of Christian V.; they have been superseded by batteries of modern construction. There are three churches, a grammar-school, town hall, arsenal, and hospital, seventy streets, nearly 600 houses, and about 2800 inhabitants, who subsist by trade in grain, making clocks and watches and pottery-ware, and upon the produce of their fisheries, their trade with the interior and foreign parts, and their navigation. The harbour is small, and varies in depth from 6 to 9 ft. the first mentioned being the more general depth; but it affords a safe anchorage against most winds. It is the seat of government, and the residence of the high executive power, and it is situated on a flat bank of land 55° 6' N. lat., and 14° 44' E. long. The next town of importance is Nexø, on the S.E. coast; it is situated upon an elevated mass of rocks, possesses a good harbour and roadstead, a church, charity-school, hospital, and public storehouse. The island is rich in natural resources; the island and the coast abound with fish, notably salmon, halibut, and small-sized herrings. Bornholm is rich in mineral productions; coal is partially raised for domestic use; quarries of sandstone and millstones are worked, by the government.

The other towns are Askirkbye, in the interior, which is the seat of justice for the island, and has
A handsome black marble church, the finest in Bornholm, a hospital and public store, and about 460 inhabitants; Haeløe, on the W. coast, with an indifferent harbour and about 500 inhab. Svanike, on the eastern coast, lying in a small inlet, the whole small island with barrack, has a church, hospital, charity-school, and storehouse, and about 670 inhab.; and Sandvig, on the N.E. point of the island, a town which does not contain more than 50 houses, and about 200 inhab. Maltværn is said to contain 1400 pop. The three small islands or rocks of Christianøe, Frederiksholm, and Grisoholm, are about 17 m. E. of the N. point of Bornholm, and belong to the larger island. Christianøe and Frederiksholm are inhabited and fortified, and on Christianøe there is a lighthouse. The fisheries and the taking of sea-eggs are very productive. The pop., including the garrison, is about 500.

BORNOU, a kingdom situated nearly in the centre of North Africa, between the 10th and 15th parallels of N. lat., and from 12° to 18° E. long. It borders on the N. on the eastern portion of the great desert of Sahara, and partly also on the kingdom of Kanem, which extends on the N. banks of the lake Chad. This lake forms its E. boundary to the mouth of the Shary, and hence it runs along the course of this river, probably up to the place where it issues from the mountains of Mandara. The latter kingdom, which comprehends the northern declivity of an extensive range of primitive mountains, extends to the S. of Bornou, and on the W. lies the Falatah kingdom of Howssa.

The whole country presents nearly a perfect level, with a few small ridges described as desert mounts, which is so much above the neighbouring lake of Tchad, that in the rainy season great tracts of land along its banks are inundated, when both the inhabitants of the villages and the woods are compelled to retreat farther to the west. But even the remoter and more distant parts of the country are crossed by the slow rivers and rivulets which intersect the country being unable to carry off the immense supply of water during the rainy season; and thus extensive tracts which skirt their banks on both sides are covered with water, and remain thus for many months.

It does not appear that Bornou extends to the lower ranges of the Mandara Mountains, though these mountains are visible in the southern districts of the kingdom. The rivers are numerous, but have generally a short course, falling either into the Tchad, or into one of the two principal rivers, the Shary and the Yeou. The Shary has its source in the Mandara Mountains, and seems to form the boundary between Bornou and Begharmi, nearly the whole length of its course in the plains. Towards its mouth it divides into many affluent streams and rivulets, which are those nearest to the mouths of these branches are complete swamps, and unfit for agriculture even during the dry season. The Yeou river rises in the more hilly country of Howssa, near 10° E. long., where it is called Shooham, and after a course of 100 miles joins the Shary. The country mostly covered with low rocky hills, it runs for the remainder of its course, which in general is in an eastern direction, through the extensive plain of Bornou to the Tchad. This lake covers many thousand square miles, and contains many uninhabited islands. It extends from N.W. to S.E. about 200 m., but it has not yet been ascertained how far it extends to the N.E. It abound in fish.

The heat in Bornou is very great, but not uniform. The hottest season is from March to May, when there is no rain, and the thermometer sometimes rises to 105° and 107° at two o'clock in the afternoon. The prevailing winds of this season are from S. and S.E., and they are suffocating and scorching. In night the thermometer sometimes falls to 80° and 85°. This hot season is followed by violent thunder, lightning, and rain towards the middle of May, when the inhabitants prepare the ground for their corn. At the end of June the inundations of the rivers and lakes begin. The rains are then nearly continual, and the thermometer is hot and violent at the same time, and blow commonly from the E. and S. In October the rains become less frequent, the air is milder and more fresh, and the weather serene; breezes blow from the N.W., which is called the dry season; and in the beginning of January it begins to be cold, and in these months Bornou is colder than might be expected from its latitude. The thermometer never rises above 74° or 75°, and in the morning it descends to 58° and

69°. The prevailing winds in this season blow from the N. & N.W.

The only implement of agriculture is an ill shaped hoe, made from the iron found in the Mandara Mountains. All the labours of the field devolve almost entirely on women. The most valuable products of the country are cotton, indigo, of which the two last grow wild close to the Tchad and in the overflowed grounds. The indigo is of a superior quality, and the dark-blue colour of their tobes, or large shirts (the only dress the people wear), is probably not excelled in any part of the world. The cotton plante is also grown wild. Rice is not much cultivated, and what is raised is of inferior quality; considerable quantities are imported from Soudan. Very little wheat is grown, and barley is not abundant. The grain most used for bread for men and animals is a species of sorghum called gusseu, which is raised in considerable quantities, and prepared as food in different ways. The seed of a grass called kasheia, which grows wild in swampy places, is made into flour, or eaten like rice, when boiled. Bornou is almost entirely destitute of fruit-trees. Monkeys are only found in the southern districts near Mandara, and date-trees only to the N. of Woodie, four days N. of Kouka, and even there they are sickly, and produce an indifferent fruit.

The wealth of the inhabitants principally consists of slaves and cattle, the animals, especially bullocks and horses. Black cattle are most numerous. The Shouas on the banks of the Tchad have probably more than 20,000 heads, and those on the river Shary not less. They breed also many horses, and send to Soudan annually from 2000 to 3000, which they sell as they arrive, being very inferior. The other domestic animals are dogs, sheep, and goats. The common fowl is small but well flavoured, and reared in immense numbers. Bees and locusts are numerous; the latter are eaten by the natives with relish, both raw and boiled, and used as a paste. The beasts of burden are the bullock and the ass. There is a very fine breed of asses in the Mandara valleys. Camels are only used by foreigners or persons of rank.

The lion, the panther, a species of tiger-cat, the leopard, and many other wild animals, the elephant, species of monkeys, black, grey, and brown, are found in Bornou. The elephant is so numerous near the Tchad that herds of from fifty to two hundred are sometimes seen; they are hunted for the ivory as well as for their flesh. Other wild animals whose flesh is eaten are the buffalo, the crocodile, and the hippopotamus. The flesh of the crocodile is extremely fine, it has a green firm fat, resembling the turtle, and the calippee has the colour, firmness, and flavour of the finest veal. (Denham.) The giraffe is found in the N.W. of the country; here are also antelopes, gazelles, hares, and an animal of the size of a red deer, with annulated horns, called koorigum.

Partridges are abundant and large, but the grousse are of a small kind. Besides these birds many others abound, as do also different species of reptiles, serpents, scorpions, centipedes, large toads, and serpents of several kinds, are very common. A snake of the congo kind measures sometimes from fourteen to sixteen feet in length, but is said to be harmless.

Iron is found in the Mandara Mountains, and imported in Bornou is now sold for great prices. The best comes from Soudan, mostly worked up into good pots and kettles.

The inhabitants speak ten different languages, or rather dialects of the same language. The Shouas inhabiting the borders of the Tchad are Beduins, and have preserved the Arabic, which they spoke in the time of the Negroes. They are the best troops of Bornou, and it is said that this country can muster 15,000 Shouas. The aborigines of Bornou, who call themselves Kanorry, have large unmeaning faces, with dark eyes, broad faces, and black long hair; they have well rounded teeth and large foreheads. Their dress consists of one, two, or three tobes, according to the means of the bearer. Persons of rank wear a cap of dark-blue, but common people go bare-headed, and take care to keep the head constantly free from swarms of flies. They are Mohammedans, and very particular about the external rites of praying and bathing. They are less tolerant than the Arabs. They tattoo their bodies like the other negro nations of these latitudes.

The principal towns or cities are thirteen, among which
the most important are Kouka, Angornou, the residence of the sheikh, and Birnie, the residence of the sultan.

The government is an absolute monarchy; but the sultan has lost all his authority, having been formerly compelled by the Felahs to abdicate the throne. When these enemies were vanquished by the sheikh, he replaced the antient royal family on the throne, but kept all the power himself. His soldiers are well disciplined and armed, and he can if necessary collect an army of 20,000 men.

The country is divided into three districts—the Moors, the Moors of Northern Africa. The Moors bring different sorts of cotton and silk, a few woollen cloths, and various utensils of metal: they receive in exchange only slaves, though the country could offer cotton skins, elephants' hides, and raw hides.

The text continues with detailed descriptions of the region and its inhabitants, mentioning the trade and commerce of the area.

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As for Berzelius, 100 parts of sassoline being composed of boracic acid, 56.37; water, 43.63; their specific gravity is 1.48. The lustre is pearly, and the colour is greyish or brownish, which they only owe to the nature of the material.

It loses its water of crystallization and fuses at a very low temperature, forming a glassy globule, which is a non-conductor of electricity, and becomes resinously electric on friction.

It has also been found more recently by Dr. Holms to be a deposit of silver within the crater of Volcano, one of the Lipari Isles, being an exhalation of the fumaroles, around the edges of which it forms thin filaments or cakes on the surface of the sulphur.

Boron, or borate of soda, is principally employed (as stated under Boracic Acid) in the arts as a flux in several metallurgical processes, and is very advantageously used in the process of soldering metals. To the chemist it is an invaluable reagent in experimenting with the blow-pipe.

Boron is soluble in twelve times its weight of cold and twice its weight of boiling water, from which it may be readily obtained in very perfect crystals of the oblique prismatic system. The more usual form of these is represented in the accompanying figure, where the faces r are the vertical prism, the angles of which are, according to the measurements of Phillips, 86° 30' and 13° 30'. The smaller edge of which is truncated by M, the obtuser by T, while P is the inclined terminal plane, and makes with M an angle of 106° 30'; O are the faces of a semi-octahedron.

The following are the measurements given by Phillips.

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It is very common to find the edges between O and r truncated. The specific gravity varies from 1.4 to 1.5, the hardness from 2 to 2.5. When coloured it is of a light yellowish-green: the fracture is conchoidal and of a resinosus lustre.

Its chemical composition is expressed by Berzelius by the formula \( N + 10 H \), corresponding to the analysis—
Boracite is in many respects one of the most interesting borates of the igneous kingdom. It was first seen by S. Lassia in 1787 under the name of cubic quartz, and was found in the Gyps rocks near Lüneburg in Brunswick, where it occurs in small crystals, which are perfectly developed on every side and imbedded in the gyps. The crystals usually present a combination of the cube, dodecahedron, and octahedron, in which combination, in some cases, the tetrahedron sometimes one of the other forms predominate. The locality was for some time the only spot where boracite was found, until they were discovered in a gyps rock called Seegol in Holstein, at the Köl in which is situated a small deposit of boracite. The boracite of Holstein possesses the same characters as those of Lüneburg, and add considerable interest to the very peculiar rock in which they are found, which is itself a very remarkable object from its abrupt elevation over the sandy plain of Holstein. It is dug near the sea in the same manner as the gyps, and considered to be of the same formation as the Gyps of the Paris basin.

Boracite has been analysed by Stromeyer, who found it composed of boracic acid 67, magnesia 33.

Berzelius expresses its atomic constitution by the formula

\[ Mg_2(Fl) Bo_3 \]

but this differs from the proportions of the analyses, which it must also be stated vary considerably from each other.

The specific gravity is 2.9; it is transparent, but also frequently opaque; the hardness is 6 to 7; it is brittle and has a conchoidal fracture; its lustre is vitreous, inclining to adamantine.

The colour is usually a yellowish or greenish grey; it fuses easily before the blowpipe, at first with much foam, and then forms a glass globule, which crystallizes on cooling, so that the surface is covered with fine acicular points. When just so much soda is added as will form with it a clear glass, it will then crystallize as perfectly as the phosphate of lead.

The most remarkable properties of boracite are its optical and electrical characters. Though belonging to the regular system of crystals, it behaves in many respects as if it were made of an irregular system. In fact, the experiments of Beverst, refracts lightly double and in a similar manner to crystals of the rhombohedron system, the axis of refraction being coincident with an axis joining the opposite angles of the cube. These four axes were doubtless perceived by early philosophers, yet the remarkable property of becoming electric when the crystal was heated, the vitreous electricity being accumulated on one extremity of each axis and the resinous on the other.

Boron, or boracic acid, is a binary compound of carbonic and water, and is obtained by the solution in water of boric oxide, and the action of strong alkalis upon boracic acid.

Boron, or boracic acid, is a powerful medicine in cases of gout, rheumatism, and arthritis, and is also used in the treatment of ulcers and abscesses. It is also used in the manufacture of glass and porcelain. It is a powerful medicine in cases of gout, rheumatism, and arthritis, and is also used in the treatment of ulcers and abscesses. It is also used in the manufacture of glass and porcelain. It is also used in the manufacture of glass and porcelain.

The density of boron when recently prepared is 1.8 and after it has been exposed to high heat in closed vessels its density is increased to 3.4 and it suffers no other change, being neither fused nor volatilized. It is a non-conductor of electricity; the alkalies and acids produce no effect upon it, except the nitric which it decomposes, and is by acquiring oxygen converted into boracic acid.

Boron combines with various elementary bodies, forming with the metals compounds which are termed borates.

Hydrogen and Boron. It appears that, under peculiar circumstances, hydrogen is capable of dissolving a small portion of boron; but no definite compound to which the term of boruret of hydrogen could be applied is known.

Oxygen and Boron unite, and only in one proportion; the compound is described under Boracic Acid.

Boron and Sulphur form sulphur of boron. [Sulphur.]

Boron and Fluorine combined. [Fluorboracic Acid.]

Boron and metals. [See the various metals.]

BOOROOGH OF ENGLAND AND WALES. The term borough, in familiar language, seems to have been, in the olden times, occasionally used, and was doubtless the object of great interest to the government. The broadening of parliamentary reform, and the absorbing interest of the recent struggle to obtain that great constitutional amelioration, made this term synonymous, in the popular apprehension, with a town sending one or more representatives to parliament. The municipal corporations have turned the public attention to that characteristic of a borough in which its existence originally and essentially resides—its organization for local government forming the natural and necessary basis of its political character and efficiency.

The vital importance to the welfare and security of a civilized society, of the general establishment of a wisely-regulated municipal organization, is becoming daily more and more understood, and the question of primary importance is manifestly that which relates to the local government of considerable towns. To enable the reader distinctly to appreciate the general change now operating in the town-constitutions of England and Wales, we shall, for the sake of brevity and clearness, condense the whole of the inquiry into a series of inquiries, each of which is a problem in itself. The word borough is itself a monument, older than all written records, of the state of society in which, in these islands, the institution originated. The Anglo-Saxon byrig, burg, burh, &c. (for the word is written in a great variety of ways), like the German burg of the present day, was the generic term for any place, large or small, fortified by walls or mounds. The fortifications of the continental Saxons, before their inroads on the Roman empire, it is well known, were mere ramparts; and it is probable that they had neither means nor motive for constructing any others. But their conquest and colonization of the greater part of Roman Britain put them in possession of a more solid and artificial class of fortifications, of which, when the first fury of their devastating violence subsided, the Saxons who had exhausted itself, they must in some degree have appreciated the utility. The new circumstances in which the Saxons found themselves—possessing of regularly-cultivated fields, of towns, of ports—must of necessity have led to a more active and civil life; and though the fact of their constituting the great majority of the population in the districts in which they settled, enabled them to keep inviolate the republican spirit of those institutions embodied in the practice of election. The municipal organization of the Anglo-Saxons was not confined to their towns; it pervaded the whole territory; the modern distinction between personal and political freedom was unknown; the right to a weapon for No. 296. [THE PENNY CYCLOPEDIA.] VOL. V.—2 C.

was the expropriation of the Anglo-Saxon possessors, and the introduction of the foreign military tenants. Independent of the personally despotic character of William's position, as the commander of a conquering army, which he lived to see established and confirmed, of which he had individually planned and determined on, necessarily made him the supreme arbiter in the division of the spoil. Reserving in his own immediate possession 'the lion's share,' that is to say, all the larger cities and boroughs, and the greater part of the manors of the baronial lords, the remainder of the lands and towns among about seven hundred tenants-in-chief, that is, possessors on the feudal condition of military service rendered immediately to himself. In making this distribution, regard was no doubt paid to the fact that the strong and enterprising Norman claimant, as also to his length of possession previously to the digesting of the great register of the conquest; but it was from the individual will of the conqueror, as now recorded, that the claim of each proprietor thenceforward derived its sanction; and from this period must be dated the legal maxim in England, that all landed property is derived originally from royal grant. The greater tenants-in-chief, in like manner, retaining portions for their immediate use, subdivided their domains among the higher grade of the tenants-in-chief, and so on down to the minor claimants; so that the whole territory was parcelled out, on this regular system of military organization, into about sixty thousand knights' fees, as they were called; each knight's fee being a portion estimated sufficient to furnish, when requisite, a man and horse completely armed for war.

But every title to property, by inheritance or otherwise, derived from a date anterior to the Norman invasion, was now declared null and void. Very few Anglo-Saxon names were admitted on the list of William's immediate or secondary feudalatories; and thus the body of Anglo-Saxon freetholders in the country and in the towns, the doom of final expropriation was pronounced. With the loss of all property in the soil, the conquered people, forming the vast majority of William's subjects in England, fell into civil and political destitution in which they were left. The very guildhalls of their municipal towns were given away, like everything else, in the division of the spoil. The highest condition of the English in the rural districts was now that of the humble farmer and the rustic artisan, whom their Norman masters called villeins; and in the municipal towns, the townsmen, or resident householders,—according to the Normans, the burgess,—no longer a freeholder, was placed on precisely the same social level as the villein—that of men not indeed personally enslaved, like the serfs, but like the other lower classes, without rights, and therefore subject, according to the feudal maxims of the Normans, besides the rent of their individual holdings, and besides the rigorous payment of the rents and services due by the old English custom, in the nature of compulsory taxation, and by the arbitrary taxation by the crown, in the shape of occasional levies, called by the Normans tailleages or tallages.

Under the Anglo-Saxon government, the revenue of the king, or rather of the state, had been collected in each shire by the shire-reve, and in each municipal town by the borough-reve or port-reve. But in the one case, as in the other, this officer was the elective head of the municipality; for the shire itself was no other than a certain extent of territory municipally organized. But now, instead of the elected officer, placed on the throne by a popular vote, the Norman viscount, and over each municipal town a bailiff, both appointed by the Norman king. How intolerable such a yoke as this must have been to the members of each once free community it is easy to conceive; when, in lieu of a local executive and magisterial officer of their own choice not only their countryman, but their fellow-townsmen, they were placed under a petty agent of foreign extortion, alien to them in race, in language, and in feeling, regardless of their interests, and insolent by virtue of his immediate authority from the potentate above their own, not even their lord's private agent, but the king himself. When, also, we take into account the practice constantly resorted to by the first Norman kings, of farming these bailiwicks to the highest bidder, we may well cease to be amazed at the sickening pictures exhibited to us by the contemporary chroniclers of cruel and reckless extortion perpetrated upon the unfortunate townsmen of England in these reigns. The vitality of commercial indus-

* These two distinctions, among the municipal towns generally, of cities and boroughs, implying actual peculiarity of privileges, were introduced by the Normans.
After long the first signing of the great charter, however, the levying of tallage upon the burgesses, as upon all, was an intolerable grievance; the right of the king's dukedom of Normandy, and of the crown, was of itself an abundant source of vexatious oppression. To show the galling nature of this extortion, we may instance the levy made by Henry II., on pretext of a crusade, in 1187, one of the last years of his reign. As, indeed, a tax upon the freeholding citizens and burgesses of all the municipal towns, and had them individually summoned to appear before him at an appointed time and place. The honour of being admitted into the presence of the Conqueror's great grandson was in this manner granted to ten hundred men, each of whom was rated to be the value of one London burgess and to a proportionate number in the other cities and boroughs. The letters of convocation admitted, neither of excuse nor of delay. The burgesses thus summoned were received a certain number at a time, at several different days, and the king was in the habit of sending agents to each session. When it was notified to them, from the Norman sovereign, through an interpreter, what sum he required from them. And thus," a contemporary historian (Roger de Hoveden, Annales), did the king take from them a tenth of their properties, according to the estimate of good men and true, that knew what income they had, as likewise what goods and chattels. Such as he found refractory he sent forthwith to prison, and kept them there until they had paid the uttermost farthing. In like manner did he to the Jews write and bring till the third year of the reign. This assimilation of the great mass of Anglo-Saxon bur- gesses to the Jews gives us the exact measure of their political condition at the commencement of the second century of the regime of the conquest.

The reign of Henry the Second, the great earl or rather count of Leicester, who led the national resistance to the tyranny of the weak and treacherous Henry III., the first general summoning of representative citizens and burgesses to parliament seems to be attributable, for it was in the year 1163 when Henry was at the height of his power, after the battle of Lewes, that, in calling a parliament, he issued the earliest writ requiring each sheriff of a county to return, together with two knights for the shire under his jurisdiction, two citizens for each city and two burgesses for each town within the limits of the same. The destruction of De Montfort, shortly after, by the exactions of Prince Edward, appears to have prevented this plan of representation of the commons from taking immediate effect, yet it was permanently adopted by Edward himself, at least from the twenty-third year of his reign, as an amelioration which, under the existing internal circumstances of the country, sound policy dictated.

It is plain, however, that in this little was immediately con- templated by Edward beyond the facilitating of the extraordinary payments of taxes, and the preservation of those schemes of national grandeur which so actively and steadily occupied his vigorous reign. The barbarous contempt with which a military aristocracy, so recently sprung from a desolate and expropriating conquest, regarded the great agents of civilization, commerce, though its harshness was abating in proportion as the broad distinction between Norman and Saxon was disappearing in the fusion of blood and language which produced the Anglo-Norman stage of society in England, still subsisted in all these corporations and professions. A curtailment appears in a statute of the middle of the preceding reign, which enacted that feudal lords, who marry those they have in ward to villains or others, as burgesses, whereby they are dispersed, shall lose warship, and the profit shall be converted to the use of the heir for the shire. Done to them. The advantage immediately derived to the burgess population from the substitution for the arbitrary and vexatious mode already described of summoning their deputies to the king's court for the purposes of taxation, of the uniform procedure provided in the great charter, together at the same times and places at which the established estates of the Anglo-Norman parliament were convened, was, not so much the lightening of their pecuniary burdens on the whole, as the effecting and maintaining a more equal and regular distribution of taxation. Nevertheless, the king, in his charter, with the consent of his council, into which, among the laity, none but his immediate feudal tenants and a few summoned by his personal letters were yet admitted, still claimed and exercised the power of taxing the burgesses almost at discretion. Although the knights of the shire, at that period, that is, the representa-
oppose or evade this legislative assent of the Commons; but under his misguided grandson and successor, Richard II., the principle of treating the government of a nation as a private patriarchy was revived. The contest between the court of Richard and the great body of the nation formed a memorable. and interesting part of English parliamentary history. In this place it is only important to exhibit a clear outline of it, as forcibly marking the complete attainment by the representative citizens and burgesses of that legislative character to which they had been accustomed since Edward I., and the acquisition of which revived in the municipal bodies, by and from which they were elected, that political life which, under the regime of the Conquest, had so long been extinguished.

In the seventh year of Richard's reign the commons in parliament made complaints of the government of the realm, and of the abuses which existed in every department of the state, especially in those of law. The king consented that certain prelates and lords should be appointed to examine into these abuses. The commons, recounting their grievances, demanded redress; this he refused until they should have granted him a further supply; to which they would not accede. In the tenth of his reign, the commons sent him the following message: — "We have it solemnly protested against; the government of the kingdom is maintained on an unstable and approved custom, which may one day cause that the king ought to assemble his nobles and commons of the kingdom once a year unto his parliament, as the highest court of the realm, in which all equity ought to shine bright, which is as far as the sun, and wherein poesy, as well as rich may find a lasting and satisfying provision for their refreshment, by restoring tranquillity and peace, and remoring all kinds of injuries; where all public grievances or errors are to be redressed; and wherein, with the most prudent counsel, and uncontroverted good government of the kingdom is to be treated of; and considering that the king and nation's foes at home, and their enemies abroad, may be discovered and repulsed by such means as most conveniently and honourably may be done; and also with wholesome delibe ration to foresee and order how the necessary burthens of the king are the most equitable (the public wants considered), be supplied; they conceive also, that since they are to support all public charges incumbent, they should have the supervisal how and by whom their goods and fortunes are to be expended: they say, moreover, that this is their privilege by ancient constitution; that if the king wilfully estrange himself from his parliament (no infirmity or necessary cause disabling him), but obstinately, by his ungovernable will, shall withdraw himself, and be absent from them for the space of forty days, no consultation of the law and equity, nor the grievous expenses; that then, from that time, it shall be lawful for all and every of them, without any damage from the king, to go home, and return into their own countries; and by you, for a longer time, have absent yourselves; and, for the most part, to be among them." The king, in his answer, declared his intention of calling in the French to assist him in the attack which he meditated on the national liberties. The barons replied, that such a step would lead to his destruction; that all his misfortunes were owing to the power, as guardians of the public purse, by calling Sir Simon Burley to account for a large sum of the public money he had wrongfully expended; and not giving a satisfactory answer, he was committed to the Tower. Another striking illustration of the power they had, is afforded at this time, in their first conspicuous exercise of the right of impeachment, against Richard's chancellor and prime minister, De la Pole. But eleven years afterwards, in 1398, this king, to procure a house of commons more suited to his own purposes, resorted to a pernicious expedient. He summoned the several sheriffs, and charged them to suffer none to be elected and returned members to this parliament who would not promise to agree to the king's measures; at the same time declaring he would raise an army to punish such of his subjects as should offer to oppose his intentions, and asking them what force each county could contribute towards the establishment of his authority, and never bear being deprived of the freedom of elections; and that, as for raising an army, they never take up arms to oppose those barons who had gained the affections of the people by defending their rights and privileges. In March following, he met the commons in the house of commons, retaining his packed house of commons, which by ministering servitiously to his tyrannical will hastened his overthrow. The very next year, the national indignation and resistance, coinciding with the personal views of the exiled Henry of Burgundy, under the influence of which the king was reduced to the condition of a supplicant captive, and compelled him to call 'a free parliament,' the first act of which was his own solemn impeachement, condemnation, and deposition.

The greater regularity of proceeding in this revolution than in that which had set aside Edward II. marks the rapid growth of political intelligence among the body of the people, and more particularly of that town population which furnished so preponderating a numerical proportion of the members of parliament. On the introduction of the new rolls of parliament, the new king and the lords made a full and explicit acknowledgment of the equal rights which the commons possessed with the latter in matters of legislation, of taxation, and of counsel to the crown.

Under the Great Charter the former inhabitants of the towns and the tenants for the recovery of their ancient municipal and political freedom were embodied in prayers for the restoration of the laws of Edward the Confessor. When, in the progress of Anglo-Norman society, the municipal rights of towns and boroughs were included with the civil and political rights of the barons, knights, and freeholders, in the Great Charter, the latter solemn instrument became the watchword of the burgess population. But from the historical period at which we have now arrived, when to the restoration of the municipal independence and recognition of their political existence, a free parliament became the constant cry of the citizens and burgesses in common with the great mass of the nation, when the common liberties were conceived to be in danger.

The support of a house of commons possessing the popular confidence was henceforth necessary to the security of any government in England. The rash and blind attempt to govern without a house of commons at all was never again made until a Stuart reigned; and the scarcely less rash attempt to govern by a house packed in defiance of the wishes of the people, after intermittent elections, was the true cause of the fall of the house of Lancaster in the reign of Henry VI.; as the sanction of a real popular representation formed the basis of its permanent restoration in that of Henry VII. Until the accession of the Stuarts the great mass of the people were most arbitrarily inclined, was persuaded that management, not coercion, was the only safe course to be pursued by the crown towards that assembly. There were two modes of exercising this management; first, by influencing the returns of members; secondly, by tasting with individual members when returned. The latter expedient could be little resorted to until later periods, and belongs indeed rather to the history of the Commons' House in general; but the practice of the former demands a brief notice, in as far as relates to the subjects of this work. The return of members for boroughs having then patrimates of their own, and Monmouthshire being part of Wales, which was not yet legislatively incorporated with England, nor even effectively subjected to the English crown. It was as the king's subjects, that is, as local superintendents of the crown revenues, that the precepts for election of knights, citizens, and burgesses, were addressed to this officer; he was to make returns for every city and borough in his bailiwick,—another mark of the original power of the popular representatives was conveyed, that of taxation only.

So long as this continued to be the sole object of their cou-
vocation, and so long as the delegated burgesses themselves had little voice in fixing the rate of impost to be levied on th\textemdash recharge.\textemdash when the burgesses, or men of substance in the cities and boroughs in particular, should often have petitioned to be excused from the sending of delegates on these occasions, which added to their share of the public burthen, the expense, to them considerable, of the wages which by royal writ they were to have allowed from those persons who were to act in the parliamentary service, and which were fixed at two shillings each per day, being one half the amount appointed to be paid by the county freeholders on the like occasion to a knight of the shire. As the king's writ addressed to the sheriff specified no particular city or borough, but required him to send a number of burgesses as the number of freeholders entitled to a member in parliament allowed, the officers concluding sometimes with the words 'there are no more cities or boroughs in my bailiwick,' though there were in fact more boroughs; and sometimes ending with 'there are not any other cities or boroughs within the county from which any citizens or burgesses can or are accustomed to be sent to the said parliament, by reason of their decay or poverty.' Inasmuch as this circumstance in the original framing of the parliamentary writs might appear at the time, its results have been momentous. It must have been at least as momentous as the commission of Simon de Montfort and of Edward I., that in convoking so large a number of delegates from towns, in order to tax them with greater facility and uniformity, they were laying the foundation of a separate house of legislature, wherein the representatives of that part of the population most alien to the feudal domination should be found. This practice, of course, is exemplified by a number of instances. The fact is, that the boroughs required no small stretch of temerity, in an age when the people were peculiarly jealous of the freedom of parliamentary election, to venture, in spite of the plainest common sense and of the notoriously prescriptive usage, to assert their liberties. Thus, in the preamble of the writ was that, the citizens and burgesses, as well as the knights, should be elected, under the sheriff's superintendence, in the county court. The government of the day however had more powerful means of emboldening the petitioners against the political liberty of the municipal towns by the success of their first steps against the freedom of parliamentary election in the enactment and operation of the disfranchising statutes of the 6th and 10th of this reign, which limited the county of each borough to a number of free holders of property required to be paid in money; and so amount in that day considerable. But their practices against the representative freedom of the cities and boroughs produced the following enactment, in pursuance of the preamble given above:--'That every sheriff, after the delivery of any such writ to him made, shall make and deliver, without fraud, a sufficient precept under his seal to every mayor and bailiff, or to bailiffs or bailiffs where no mayor is, of the cities and boroughs within his county, reciting the said writ, commanding them by the said precept, forthwith or within such time as by the said writ shall be directed, to cause such writ to be served on the mayor and aldermen, citizens and burgesses of the same town, and on the sheriffs, to be served on the mayor and aldermen, citizens and burgesses of the same town, and on the sheriffs, to the grievous complaints of the commons against undue elections for shires from the partiality of sheriffs,' and enforced by another of the eleventh of the same reign, enacting heavy penalties upon sheriffs who proceeded irregularly in electing members from the boroughs. Hence, as on the 21st of the first year of Henry V., which, amongst other provisions for the due conduct of elections, enacts that the citizens and burgesses should be chosen out of those who were free of and dwelling in the respective cities and boroughs. The preamble of a statute of the 33rd of Henry VI., confirming former acts relative to elections, is more explicit on this head. It declares that every sheriff and alien body of freeholders or burgesses in the cities and boroughs coming to the parliament should be chosen men, citizens, and burgesses, resident, abiding, and free, in the same cities and boroughs, and none other; which citizens and burgesses have always in cities and boroughs, for the time being, to be chosen by citizens and burgesses, and no other, and to the sheriffs of the counties returned, &c., until now of late that divers sheriffs of the counties of the realm of England, for their singular avail and lube, have not made due election of the knights, nor in convenient time, for good men and true representatives, and sometimes no return of the knights, citizens, and burgesses lawfully chosen to come to the parliament, but such knights, citizens, or burgesses have been returned which were never duly chosen, and other citizens and burgesses than those which by the mayor and aldermen the said citizens and burgesses returned, and sometimes the sheriffs have not returned the writs which they had to make election of knights to come to the parliament, but the said writs have impleaded, and moreover made no precept to the mayor or bailiff, or to the bailiffs or bailiffs where no mayor is, of cities and boroughs, for the election of citizens and burgesses to come to parliament, by colour of these words contained in the said writs, 'Quod in pleno comitatu tuo eligi facias pro comitatu tuo duos milites, et pro quilibet civitate in comitatu tuo duos eves, et quosquid aliud fuerit praebendum in favorem tuum.'

Herein we find a remarkable illustration of the daring attempts which the shortsighted advisers of the imbecile king Henry VI. were making to vitiate the constitution of the commons' house. The interpretation which the sheriffs were instructed to put upon the somewhat ambiguous terms of the established formulas of the writs was, without exception, the strictest and most literalistic of their line of policy in this matter. The Latin text given above, literally rendered, would run thus:--'That in full county court you cause to be elected for your county two knights, and for each city in your county two citizens, and for each borough one citizen, at the time of the meeting, and requiring no small stretch of temerity, in an age when the people were peculiarly jealous of the freedom of parliamentary election, to venture, in spite of the plainest commonsense and of the notoriously prescriptive usage, to assert their liberties. Thus, in the preamble of the writ was that, the citizens and burgesses, as well as the knights, should be elected, under the sheriff's superintendence, in the county court. The government of the day however had more powerful means of emboldening the petitioners against the political liberty of the municipal towns by the success of their first steps against the freedom of parliamentary election in the enactment and operation of the disfranchising statutes of the 6th and 10th of this reign, which limited the county of each borough to a number of freeholders of property required to be paid in money; and so amount in that day considerable. But their practices against the representative freedom of the cities and boroughs produced the following enactment, in pursuance of the preamble given above:--'That every sheriff, after the delivery of any such writ to him made, shall make and deliver, without fraud, a sufficient precept under his seal to every mayor and bailiff, or to bailiffs or bailiffs where no mayor is, of the cities and boroughs within his county, reciting the said writ, commanding them by the said precept, forthwith or within such time as by the said writ shall be directed, to cause such writ to be served on the mayor and aldermen, citizens and burgesses of the same town, and on the sheriffs, to be served on the mayor and aldermen, citizens and burgesses of the same town, and on the sheriffs, to the grievous complaints of the commons against undue elections for shires from the partiality of sheriffs,' and enforced by another of the eleventh of the same reign, enacting heavy penalties upon sheriffs who proceeded irregularly in electing members from the boroughs. Hence, as on the 21st of the first year of Henry V., which, amongst other provisions for the due conduct of elections, enacts that the citizens and burgesses should be chosen out of those who were free of and dwelling in the respective cities and boroughs.
Welsh territory, and of the palatine county of Chester, one of the most beneficial operations of the reign of Henry VIII., next demands our notice, as bringing a permanent accession of thirty-one members to the English House of Commons. Over such a mass of acquisition there was no representative in the boroughs. In this legislative incorporation of Wales and Cheshire a new principle was introduced, that of determining by parliamentary enactment what towns within a particular territory should elect members, and what number they should elect. This indefinite extinction of the municipal franchises, the absolute severance of the territorial representation having ever been agitated since the time when the House of Commons was in embryo in the earliest royal convocations of knights, citizens, and burgesses for the assessment of the taxes exacted to support the royal arm in the state of conquest since their final subjugation by Edward I.; their continued exclusion from the English legislature must have mainly contributed to stimulate their vigorous and persevering resistance under Glanower in the reigns of Henry IV. and V.; and their admission into it was become a measure most desirable for the national peace and security.

But the free concurrence of the House of Commons itself was now indispensable. The nature and uses of popular representation too, and the importance of having some regard to the proportion between the number of a constituency and the magnitude of the business to which it was permitted to elect, were both better understood. Accordingly the act for Wales, passed in the 27th of Henry VIII., though it excluded none of the boroughs from a share in the representation, yet, having regard to the inconsiderable size of most of them, while Haverfordwest should send one member for itself alone, the boroughs of each of the other thirteen shires now created (including Monmouthshire, now first detached from Wales) should send one member collectively, excepting only Meigneuxshire, which contained their borough of Borrowary. This perfect union with Wales rendering the palatine government of Cheshire, originally established as a bulwark against the Welsh inroads, no longer necessary, another act, of the 34th of this reign, incorporated it in like manner with the counties of Chester and Flint, expressly limiting the town representation to the city of Chester.

Here we must pause in our sketch of the political relations of the English boroughs, to trace the progress of their internal organization from the state of simplicity in which it revived on the first relaxation of the yoke of the Conquest. It is only necessary to recollect the nature of the relation subsisting between the English boroughs and the Norman kings in the period during which they successively purchased their civil redemption, in order to be convinced that the local comfort and welfare of the burgesses were objects among the first in the mind of the sovereign. Their primary aim was the securing of the regular, punctual, and willing payment of the stipulated rent, and the ensuring in each locality of so much internal peace and order at least as to them might seem requisite for enabling the community to perform this stipulation with exactness. Further than this they concerned themselves not at all about the internal regulations of the municipality. Its whole community, now rising again from one and the same level of civic nullity, were at liberty to adopt either the ancient customs and usages of the place as existing before the Conquest, or such others as they might think proper to establish in accordance with the common law of the land. The charters were constantly addressed to 'the citizens,' 'the burgesses,' or 'the men' of such a city or borough; and the sum of the desiderata by the sovereign was the protection of the community of the borough, as Madoc in his Firma Burgi ob, serves, was this:—They were deemed townsfolk who had a settled dwelling in the town, who merchandized there, who were of the hans or guild, who were in lot and sort with the citizens, and free customs of the town.' The municipal body, in short, consisted of the resident and trading inhabitants, sharing in the payment of the local taxes and the performance of the local duties. This formed substantially a household franchise. Strangers residing temporarily in the place were not eligible to either of the marks of citizens of the borough nor any liability to its burdens, which, at common law, could not be imposed upon them without admission to the local franchise. The titles to borough freedom by birth, apprenticeship, and marriage, all known to be of very remote antiquity, seem to have been only so many modes of ascertaining the general condition of established residence. The title by purchase was a necessary condition for the admission of an individual previously unconnected with that particular community, in those days when the only commerce of the country was carried on by barter and currency, and the right of trading; and the right of bestowing the freedom on any individual by free gift, for any reason to them sufficient, was one necessarily inherent in the community, for the exercise of which they were not responsible to any authority whatever. Moreover, the power itself was one that had some ground of justice when they who enjoyed it exclusively supported the local burdens. Edward III.'s laws of the staple authorized the residence of non-freemen in the staple towns, but at the same time empowered the common council of the town to exclude them from the exercise of their public burdons; and under these regulations it is that the residence of non-freemen appears first to have become frequent.

The progress of wealth, population, and the useful arts, produced, in many of the greater towns, the subdivision of the general community into guilds of particular trades, called, in many instances since the Norman war, companies, which thus became avenues for admission to the general franchise of the municipality. In their greatest prosperity these fraternities, more especially in the metropolis, became corporate bodies separate and distinct from the towns, though the officers of their general council, namely, the barons of the exchequer, the king's attorney, or his other clerks and officers, charged, impleaded, and sued the townsfolk collectively, by any name by which they could be accurately designated, and they answered by one or more of their number, deputed for that purpose by the rest. There was also a method of summoning a community to appear in the king's courts of law, by six or some other number of the better and more discreet inhabitants, to be nominated by the rest. The duties of the boroughs to the king were rendered entirely by the Garrisons of officers, elected yearly by the whole community. Generally it was granted to them to elect a single chief magistrate, bearing, as already observed, the Norman title of mayor, who became answerable to the crown for all things in which the bailiff or bailiffs were previously responsible, and the officers were under the custody of the mayor and the city. But there was an executive officer, thus elected, it was always necessary to present to the king, or some one appointed by him, to be accepted and sworn faithfully to discharge his duties both to the crown and to the community; and to receive these presentations, accept the officer elected, and take his oath that they would become a part of the duties of the treasurer and barons of the exchequer. To these, when the citizens or burgesses had made their election, it was notified by letters under their common seal, and the mayor elect was presented to them at the exchequer by two of his fellow-burgesses. The same proceeding was observed with regard to sheriffs, which some of the larger cities and towns acquired power to elect as counties of themselves; and for the like reason, because of the duties they had to render to the king. In course of time many of the smaller towns by charter or otherwise obtained the right to preside over the oaths of their own officers, or they might be tendered to the constable of the nearest royal castle. If such officer performed any official duty without being duly sworn, it was deemed a contempt, and the liberties were liable to be taken away or strangled into the king's hands, unless redeemed by fine or a valid excuse.

But the sole legislative assembly in every municipal town or borough was originally the Saxon folk-mote, or meeting of the whole community, called in many places the hundred, and whenever held within the doors, the hus-ting or the town hall. This meeting was open at all times and under all general determination on the affairs of the community, whether in the enacting of local regulations, called burgh-laws (by contraction by-laws, since often corrupted into bye-laws), the levying of local taxes, the selling or leasing of public property, the administration of justice, the ap-
pointment of municipal officers, or any other matter affecting the general interests. In this assembly, held commonly once a week, appeared the body of burgesses in person, to whom, together with their officers, whom they elected annually, each privileged county by the royal counters was granted; and however vested in later times, every power exercised in the antient boroughs has derived its origin from the acts of this assembly. How the increase of population and extension of trade in the larger towns led to new regulations, the introduction of clerks in local legislation, &c., and the natural tendency of its operation towards the production of an aristocratic organization, will be best illustrated in a succinct view of the history of the metropolitan municipality itself, the magnitude of which, the extent of which, the holiest scope for the distinct development of these tendencies.

Although William of Normandy, in consolidating his conquest, had trampled out even those scattered sparks of political vitality which in the course of his invading career he had spared in order to deaden or smother local resistance, yet his successors soon found it to their purpose, though still retaining the arbitrary grasp of the Norman crown upon the municipal liberties and properties of the Anglo-Saxon towns, to exercise that power in the case of the municipally-endowed ports more generously than William had done. Thus it was that London, in particular, and the sea-ports on the south-eastern coast, then of primary importance to the Norman crown for maintaining a free communication with its continental dominions, as well as for supplying its own naval forces, of which the early observer of royal favour—for the time indeed capriciously extended and withdrawn, but settling into permanence with the growth of Anglo-Norman society. Another circumstance contributed to give to these towns the lead in the general progress of the Norman conquest; the recovery of their civil and political freedom. Though the great majority of the burgesses, even in those favoured towns, were necessarily of Anglo-Saxon blood, yet there were soon found among them a certain number of foreign descent, Norman, Angevin, or French, whose ancestors, having settled in the towns as large factors of trade or as landed proprietors, had made the various branches of trade. To these individuals, on account of the identity of race and language, the favour of the Norman government was least reluctantly extended; they became, too, the natural interpreters and mediators between the government and the great body of their fellow-townsmen; and the necessary tendency of these two circumstances combined, was to establish in the great metropolitan municipality a Norman party, vastly inferior to the English one in numbers, but dominant in position. This is by no means a matter of mere speculation, but is marked in the various symptoms of internal city life. The operation of these circumstances is very clearly and strikingly exhibited in the civic commotion in the time of Richard I., in which the main scene was on the rival claims of Saxon descent, to whom, from his adherence to the customs of his forefathers in wearing his beard long, the Normans gave the cognomen à la barbe, and whom our modern historians call William Long-Beard. We find this transaction very particularly detailed in the Latin historians of the time, both on the popular and on the Norman side—Roger de Hoveden, Math. Paris, Math. of Westminster, Ger- vase of Canterbury &c. The facts collected from their joint testimony, as far as they relate to our present inquiry, are as follows.

Among the vexations which the poorer and more numerous class of the citizens had to endure from the more opulent, one of the most frequent was the unfair apportioning of the payment of the taille or tallage, the nature of which arbitrary exactions we have already described; for sometimes the mayor and aldermen, to whom the royal demand of a fixed sum was addressed, would exempt those who were most able to pay from contributing at all; sometimes they ordained that each citizen should contribute the same sum, without regard to the respective amount of property; so that the heaviest burden constantly fell on those who were the least able to bear it. In the year 1196, when Richard I. was engaged abroad in making war upon the King of France, and his officers in England were raising money for the expenses of his campaigns, and for paying the remainder of his ransom due to the Duke of Austria, the city of London was summoned to pay a tallage extraordinary. The mayor and his councillors accordingly convoked a hustings, or common-hall, to deliberate as to the proportions in which the gross sum required should be individually imposed. The Christians among the burgesses, by the royal council, were so made as that the lightest portion of it would fall upon themselves. But the Man of the Long Beard stood forward to oppose their intention. He had often before pleaded the cause of his poor English fellow-citizens with more arbour than address; and now, by the artful representation he gave of his eloquence was vigorous and popular, no Norman clerk excelled him in the art of pleading in French, the only language then admitted in the tribunals. While the use to which he devoted these talents made him dear to the citizens of the middling and lower rate of fortune the Norman party charged him with misleading the multitude, by filling them with 'an inordinate desire of liberty and happiness.' On the occasion in question, they loaded him with reproaches, and accused him of rebellion and treason. Ten years ago he had been fetched by the Holbein monster of Anglo English eloquence was vigorous and popular, no Norman clerk excelled him in the art of pleading in French, the only language then admitted in the tribunals. While the use to which he devoted these talents made him dear to the citizens of the middling and lower rate of fortune the Norman party charged him with misleading the multitude, by filling them with 'an inordinate desire of liberty and happiness.' On the occasion in question, they loaded him with reproaches, and accused him of rebellion and treason. Ten years ago he had been fetched by the Holbein monster of Anglo
tion to resist this demand; and the cause of arbitrary power
was gained as soon as the hostages were led away from
London to confinement in different fortresses. The particu-
lars of the subsequent seizure, summary condemnation, and
disproportionate vengeance, with which the interest of martyrdom bestowed upon him by the popular affection,
are immaterial to our present purpose. This historical
anecdote is introduced merely to exhibit distinctly the
source and operation of the first aristocratic distinction
that ever arose in this country.
But as the distinction of race became lost in the fusion
of blood and the rise of the modern English tongue, other
circumstances sprang up, tending to create and perpetuate
a distinction of civic classes. The progress of individual
wealth, the increase of taxation by arbitrary power, and the commercial resources of the country became developed, was among the most powerful of these causes. The necessity, too, for the con-
venient transposition of the affairs of a multitudinous body,
of establishing a representative council for the management
of all ordinary business, was another cause operating in the
same direction. In London, as early as the close of Henry
III.'s reign, the aldermen, and those calling themselves
the more discreet of the city, made an attempt to elect a
representative assembly, voting for their own aldermen;
and ended in the triumph of the latter, in a general folk-mote
held at St. Paul's Cross. In the reigns of the first three
Edwards, it appears that the same election was made by
the mayor, aldermen, and a varying number of freemen of
the city; but the usurpation of power by the house of
aldermen, being the only council to the mayor in the ad-
ministration of justice and in his other duties, elected
annually by the freemen of the several wards; and from
them the mayor might resort for advice to the commonalty in
matters of affability, and to a great number of the citizens, and the variety of business
to be transacted, made it necessary for them to have a sort
of standing committee of their body, to be consulted by the
mayor and aldermen, and to exercise the power belonging
'to the council of the city.' The mayors, therefore, had
the general administration of the affairs of the community.
The whole of this legislative and administrative body, being
chosen yearly by and from the commonalty at large, acted
under the most direct responsibility to their constituents.
Such a council appears, from the city records, to have existed as early as the year 1294: but though it is now
deemed in law to be a prescriptive body, this is attributable
rather to its not deriving its existence from royal charter,
than to any certainty of its existence before the time of
legislation, because the power and constitution were often
changed. Nearly thirty years after the William of
Lyon was, by charter, of the 15th of Edward III., of the power
in the citizens to make bye-laws, it was, by consent of all the common-
s of the city ordained that each of the mysteries (mas-
teries or crafts), that is, each of the trading companies, should
choose one of their aldermen as the clerk of their company,
and elect a mayoral and aldermen, whatever they should deem advisable;
to elect the mayor and sheriffs; and to give counsel in all
cases where it was formerly sought of the commons. This
was in the 43rd or 44th of Edward III., and was confirmed
in the 7th of the same reign; but the common-hall or
court of hustings of the whole community still retained the
right of rich re-modelling the municipal legislature; and in the
7th of Richard II., the common-council was placed on its
present footing by an act of common-hall, passed in the
presence of the mayor, aldermen, and commons. As in such large assemblies things had been done more
by clamber than by reason, the aldermen, when, on St.
Gregory's day in each year, they were appointed for the
year ensuing, should be firmly charged, fifteen days after
the said day, to assemble their respective wards, and, by
good deliberation, charge them to choose four of the most
sufficient persons in their ward, to be of the common-council for the
year ensuing, &c., provided that of the whole num-
ber no more than eight should be of one mystery.
Except as to the wards of the citizens, which were
heretofore to this act of common-hall took full effect; the
whole administrative powers of the community were
transferred to the legislative body, composed of mayor, aldermen,
and common-councillors, all subject to annual election;
and the ancient hustings-court fell into comparative de-
suetude; although, on one subsequent occasion, in the 23rd
of Henry VII., we find the mayor, aldermen, common-
council, and commons, acting together as one great common-
hall, in accordance with the original constitution.
Such was the natural origin of the courts of aldermen and
common-council in the city of London; and how closely
they are associated with other communities, is abundantly
tested by existing documents.
In those instances where the whole of the citizens or
burgesses were numbered in the several trading companies,
these, for convenience' sake, sometimes formed the basis of
the internal government of the community. In many
borough officers and members of the common council be-
came vested in them. London itself presents at this day a
remarkable instance of incomplete progression from the
household franchise to the adoption of that of the guilds:
the inhabitants of the aldermen and common-
councillors; while the livewermen, or members of the several
companies (so denominated from the distinguishing pecu-
liarities of costume adopted by each fraternity), resident or
non-resident, elect the mayor, sheriffs, chamberlain, and
other officers. But, in many boroughs, this basis of the
guilds wholly superseded the original scot-and-lot franchise;
and in the changes of society which have gradually reduced
the guilds from their original position, that thorough sub-
stitution has been one constantly growing cause of unfair
and undemocratic practices. Thus, a new body of
officers, too, being generally chosen by the inhabitants at large to the highest places in the municipal councils, were often tempted
to seek the perpetuation of their authority without the
necessity of frequent appeals to the popular voice, and even
when they had not. Such usurpations however were often vigorously resisted by the community at large; and the contests were sometimes so
violent and obstinate as to lead to bloodshed. But in course of
time, the Crown itself, so long indifferent to the details
of municipal politics, found itself, on the one hand,
encouraging these endeavours of internal parties to form
close ruling bodies, irresponsible to the general community.
In order to trace the development of this policy, we must
resume the thread of the political history of the municip-
alisms of England.
We find faint indications of it in several of Henry VII.'s
charters; as in one to Bristol in 1499, establishing a self-
elective council of aldermen; who yet, though justices, had
no exclusive power of municipal government. But the fierce-
ness of religious dissension, which divided the whole nation
at the close of the following reign, made the management
of the House of Commons an object of primary importance to
either Catholic or Protestant successor to the crown. This
therefore was the era of the most active exercise of the pre-
cedent powers of the towns, with some of the smaller
within their several bailiwicks, in issuing their precepts for
a general election, which of the municipal towns should,
and which should not, be held to be parliamentary boroughs.
To arbitrarily omit any of the larger towns, or even of the smaller ones, by which legislation had had a prescriptive
right to be so held, was too open an admission of the su-
premacy of the crown to be now ventured upon. The calling
of this right into action in boroughs wherein it had lain dormant from the beginning, or, though once exercised, had fallen
into disuse from alleged poverty, decay, or other causes, was
a more plausible course of proceeding; and notwithstanding
the evident partiality with which it was conducted, was per-
mitted to pass without legislative interference.
Accordingly we find in the reigns of Edward VI.,
Mary, and Elizabeth, besides seventeen boroughs re-
quired to pass through the ordeal of the test vote, more
than two hundred others being requested to send members, making altogether an addition to the
former representation (as no places were now omitted) of
sixty-three places, returning 123 members. But the most
important feature in this policy of the crown at this period—
that which mainly contributed to attain the object of that
policy—was its novel assumption of the right of remoulding,
by governing charters, the municipal constitution of these
new or revived parliamentary boroughs. Most of these
charters expressly vested the local government, and some-
what more or less, the independence of the several
representatives, in small councils, originally nominated by the
crown, to be ever after self-elected.
This was the first great step on the part of the crown in
undermining the political independence of the English mu-
picilalities. The successful working of the application of
the novel principle to the new or restored parliamentary boroughs,
couraged the Stuarts not only to continue this system of
creating close boroughs, but to make a second and a bolder advance in the same direction, by attacking the constitutions of the prescriptive parliamentary municipalities themselves. Already, in Michaelmas term, 40th and 41st of Elizabeth, the judges had given a remarkable decision, extremely favourable to the prosecution of this object. Attempts appear to have been making in several of the boroughs to have popular elections of the principal officers, in opposition to a custom which had grown up of leaving the elections in the hands of the common councils. It was now, therefore, desired to be known whether such elections were legal, in opposition to the words of a charter bestowing the elections indefinitely in the commonalty. It was on application by the Privy Council, that the two chief justices, the chief baron, and the other judges, determined that such custom was good, because the several boroughs had power to make bye-laws, and that no bye-law or regulation was to be found; it might nevertheless be presumed that such bye-law had existed, because such custom must have originated in common consent. And thus it was judicially decided, not only that elections of municipal officers by select common councils were legal, but that where such custom had grown up, the community at large were for ever excluded from such elections.

The inequities involved in this decision, and the disregard of all constitutional principle, are very notable. That the power of the prerogative to impose a prerogative law at its discretion should be excluded, for ages before, all appeal to the inherent right of freemen to a voice in the appointment of those who were to have the direction of their common affairs, is perfectly intelligible. That on the royal charter, and on the common-law principle constantly reiterated throughout the history of these countries, the power of internal organization as they claimed to exercise, is sufficiently manifest. Here the burgesses and the royal judges should seem to have been meeting on common ground. The burgesses simply appealed against a vexation of custom; the growth to a demand and to an assertion of authority of their charter. The judges, instead of vindicating that authority, as it should have been the primary interest of the prerogative to do, asserted—first, that the power of making bye-laws, given by the charter, empowered the charter to make a bye-law among its privileges, an expansion of the same charter; secondly, that there was a particular kind of bye-law, which, though the community had power to enact, they had no power to repeal; and thirdly, that in a certain case, the existence of an express law was to be presumed upon usage commencing within time of memory. This transaction, therefore, presents a most curious example of the compromising, by the crown itself, of the very principles on which the stability of the prerogative most firmly rested, in the eager pursuit of its immediate purpose.

The judicial authority being thus once brought into play to decide, for the crown's own immediate convenience, upon the extent and durability of its powers in the granting of municipal charters, was kept in active operation throughout the Stuart reigns, and the two Stuart judges proceeded so far as to declare that the king could, by his charter, incorporate the people of a town in the form of select classes and commonalty, and vest in the whole corporation the right of sending representatives to parliament, at the same time that select class and select classes; and such was the forward form of all the royal charters which royal charters created or remodelled. After this fashion it was that, under James I. and Charles I., seventeen more parliamentary boroughs were revived; and that James created four, making in all nine, besides the four members, besides the four members for the two English universities, which James first introduced.

That all these acts combined were insufficient to counteract the representative house of the popular spirit, and the spread of political knowledge consequent upon the diffusion of printing, so far as to render that assembly thoroughly subservient to the views of the Court at that period, is a fact too notorious to be here enlarged upon. Charles I. attempted, and succeeded in, the same thing as his predecessor. That fact, we have found it expedient solemnly to forego—the levying of general taxes without consent of the Commons in parliament. This was the true commencement of the struggle. The narrative of the consequent events—of the necessity which drove him once more to have recourse to parliament—the necessity, not less urgent, which drove the Commons to extort from him the act which prevented their being dissolved without their own consent—the distrust which eventually arose between the people and that House of Commons which so long continued in self-constituted permanency—and its final dissolution by force, to make way for the arbitrary modifications introduced by a military dictator—forms rather a conspicuous chapter in the annals of our country, than an incident of that history itself. The endeavours of the Protector to mould a House of Commons which should both second his political views and possess the confidence of the people proved abortive; although, by omitting the more innoxious boroughs, preserving the representation of the others to the population of the several places, and increasing that of the counties, he seems to have made a show at least of seeking to place the general representation on a basis more accordant with the relative numbers and importance of the several places containing such representation.

' A free parliament' was as much the national watchword in 1660 as it had been in 1640; and Charles II.'s hereditary claim would have availed him little without that parliament's declaration of it.

The thirteenth year of this reign is memorable for the enactment of the statute, commonly known as the Corporation Act, which so long operated to the exclusion both of Roman Catholics and of Dissenters from all corporate offices. It provides that 'no person or persons shall be placed, elected, or chosen to be a mayor, or alderman, or borough-monger, or a constable, or a porter, or a reeve, or a night-watchman, or a master baker, or a master brewer, or a reeve, or a master mason, or a master plaster, or a master carpenter, or a master molder, or a master gilder, or a master leather, or a master draper, or a master tailor, recorder, bailiff, town clerk, common-councilman, or other offices of magistracy, or place or trust, or other employment relating to or concerning the government of any city, corporation, borough, county, or any of their divisions, unless an English, a Welsh, or a Scottish subject by birth or adoption.' The Act, which was passed on June 13, 1662, and which, without the first clause, would have nullified the important provision of the Act of Settlement of 1672, that shall not have, one year before such election or choice, taken the Sacrament of the Lord's Supper according to the rites of the Church of England. But this legislative measure, which was dictated by the public opinion of the time, and was a direct blow at the levelling spirit of the Puritans, was but a short and insignificant interlude in the popular career of Charles. Tweed, that shall not have, one year before such election or choice, taken the Sacrament of the Lord's Supper according to the rites of the Church of England. But this legislative measure, which was dictated by the public opinion of the time, and was a direct blow at the levelling spirit of the Puritans, was but a short and insignificant interlude in the popular career of Charles. Tweed, that shall not have, one year before such election or choice, taken the Sacrament of the Lord's Supper according to the rites of the Church of England. But this legislative measure, which was dictated by the public opinion of the time, and was a direct blow at the levelling spirit of the Puritans, was but a short and insignificant interlude in the popular career of Charles. Tweed, that shall not have, one year before such election or choice, taken the Sacrament of the Lord's Supper according to the rites of the Church of England. But this legislative measure, which was dictated by the public opinion of the time, and was a direct blow at the levelling spirit of the Puritans, was but a short and insignificant interlude in the popular career of Charles. Tweed, that shall not have, one year before such election or choice, taken the Sacrament of the Lord's Supper according to the rites of the Church of England. But this legislative measure, which was dictated by the public opinion of the time, and was a direct blow at the levelling spirit of the Puritans, was but a short and insignificant interlude in the popular career of Charles.

As the proceedings now adopted against such of the governing charters of cities and boroughs as still sanctioned a corporate or municipal constitution, was a general filing of what are technically termed informations in the old Latin formula of quo warranto, from the prominence of those words in the old Latin formula of the instrument itself, it is necessary that we should briefly explain the origin and use of that form of information on the part of the legal advisers and officers of the crown.

Although many of the ancient boroughs received their first Anglo-Norman charters of liberty from the successors of those military leaders who had received from the Conqueror charters of eight or ten years' standing, with the general relaxation of the feudal bonds at the same time that the relations of the boroughs with the crown became more determinate and regular, brought nearly all of them, at an early period, into immediate dependence, as the dependence of towns on the crown, in addition from the first, upon the validity of royal charters for the management of their own local privileges. When some degree of regularity arose out of the judicial chaos necessarily introduced by such a conquest, the justices itinerant were empowered by the crown to inquire, in their circuit, by what warrant all these charters were claimed any franchise or privilege, or from which all local liberties were assumed to emanate, maintained their title. In the 18th year of Edward I., who laboured strenuously in various ways to infuse order and permanence into the internal administration of the realm. We find the following statute which had been directed to an object quite contrary to that which in the use of the preceding in question the crown so eagerly pursued at a later period. Concerning the writ that is called quo warranto, our lord the king, at the feast of Pencost, in the eighteenth year of his reign, hath established, that
all those who claim to have quiet possession of any franchise before the time of King Richard, without interruption, and can show the same by a lawful inquest, shall well enjoy their possession; and in case that possession be demanded for cause, the sentence of our lord the king shall confirm it by his writ. And those that have not the said charters adjudged according to the tenor and form of them; and those that have lost their liberties since Easter last past by the aforesaid writ, according to the course of pleading in the same writ heretofore used, shall have restitution of the franchise lost, and from henceforth they shall have according to the nature of this present constitution. The proceeding by quo warranto, however, had long been obsolete when the crown lawyers of Charles II. ventured to revive it on so extensive a scale. The selection of this mode of proceeding as a matter of course is a proof of the purpose of it was dishonest. 'The crown lawyers, more violent than learned,' observes Mr. Willecock, in the introduction to his 'Law of Municipal Corporations,' instead of first proceeding by esse factus to repeal the charters on pretence of forfeiture, which they had given the subsequent judgments at least the semblance of being conclusive, mistook their proceeding, and by filing informations in the nature of quo warranto against all the obnoxious corporations, proceeded in such a manner that it was impossible to discharge the municipal corporations of their charges against them, since it could be sustained only under very gross proofs; either that there were no such corporations ever established, and the bodies assuming to act as such were merely self-constituted; or to which the charters and well-known usage were a manifest contradiction; or that all the corporations had been dissolved for want of a sufficient number of officers and members, and the persons assuming to act as such were all mere usurpers; to which the very form of the information offered a plain inconsistency, by admitting that the charters were in force, the officers were charged with being false; as the measure was, judges were found* vile enough for the royal purpose.' London, which in latter times had usually taken the lead in asserting the political independence of the more important English municipalities, and the example of which, from this, in confirmation of its justice, its power, its wealth and power, had ever been so influential, was selected as the first object of attack. At this particular time it was in especial disfavour; for the king having, with a view to deprive the last parliament which he held of the encouragement which was derived from the victory of that powerful and independent city, summoned it to meet at Oxford. London not only re-elected the members which it had returned to the last parliament at Westminster, but voted at the thanks for their spirited conduct. Now, therefore, 'after the long silence, we have heard on the proceedings against London, judgment was given of seizure of its franchise to be a corporation into the king's hands, as forfeited.' The determination of the interference against the metropolis spread consternation throughout the kingdom, by the assistance of which and the intrigues of the court party, almost all the other municipalities were prevailed on either to suffer judgment against them by default, of which the crown made a use as erroneous as of the original proceeding, by treating it as a final and conclusive judgment. In the hope of conciliating the despot's favour. Here, too, the crown lawyers lost the law, or, confiding in the plenteous of arbitrary prerogative, thought its rules unworthy their consideration. New charters were granted without using the quo warranto. The suddenness of which they were wholly inopportune, even should we admit that a municipal corporation has power to surrender the franchise of being a corporation.

The labours of this prince were productive of no advantage to his subjects. The conduct of his ministers, the servility of judges, and the verdicts of party juries, effected the subversion of the corporations and promised a parliament venal as the realm could produce, his alarm at any assembly which might pretend to represent the people. The state of public credit, had never been so great, that he deferred the period of their convention until death undermined the system of contrivance which with his management might have subverted the constitution. This system soon fell after it came under the management of a successor, against whom the whole nation was exasperated. The first and only parliament of James II. displayed the full influence of his brother's measures—the power of the crown, the corruption of the crown and vesting the election of their magistrates in the select classes; a parliament convened ready to forge chains for themselves and the nation,—a parliament whose servility needed only a little duplicity in the king to render it useful in the most important concerns of the state. After having tried in vain to avulse himself of his brother's arrangements, endeavouring when too late to regain popular favour, abandoned them in despair, and issued a proclamation to restore corporations to their original state.

Some of the former officers of quo warranto, or a more constitutional reign; but the select classes of corporations, unwilling to relinquish the influence they had acquired under the new constitutions of Charles, still retained in their grasp the municipal power, and by this means prevented the restoration of popular elections. It was a new case for the tribunals. The operation of the recent proceedings under the shadow of legal form, and of such surrenders and new incorporations, was not generally understood. Many of the former officers had died or removed from the municipalities with which they had been connected; the aristocratic ascendency was not easily overthrown. The doctrine of the case of corporations, above cited, 'that by a bye-law the corporations at large might be divested of the elective vote, that it might by the same method be reposed in the select classes, and that modern usage was sufficient proof of the existence of the same,' was again made to produce the constitution of corporations in the form instituted by Charles, under pretext of lost bye-laws, after the charters were profession ejected.

So dilatory and expensive was it for the freemen to vindicate their rights, so much were they under the private control of the members of the select classes, so easy was it by compromise with the more active individuals to defer the inquiry, and so unimportant this franchise in some cases appear, that at the present day many corporations are extinguished by the processes of their management, and their proceedings have long since fallen into disuse. The information in the nature of a Quo Warranto has been moulded into a regular form of action by the statute of the ninth year of the reign of Anne, aided by that of the thirty-second of George III; and the several points on this part of the law were not settled until the decision of the case of Chester, in the House of Lords, after two trials in the country and one at bar. Since the abdication of King James, the government has abstained from open interference with the liberties of corporations; but they have been incessantly disturbed by the incursions of the tribunals of the crown, for the cause of the returns of members to parliament, the effect of which has been to bring them more frequently under the inspection of the Court of King's Bench, and to introduce a new system of legal proceedings for the investigation of their conduct. The ancient writ of Quo Warranto has long since fallen into disuse. The information in the nature of a Quo Warranto has been moulded into a regular form of action by the statute of the ninth year of the reign of Anne, aided by that of the thirty-second of George III; and the statute of the twentieth of the reign of Anne has also assumed a similar regularity through the liberal interpretation of the statute of Queen Anne, and those of the eleventh and twelfth years of George III.'

* Pemberton, Chief Justice of the King's Bench, was removed to be Chief Justice of the Common Pleas; and Saunders, who had drawn the pleadings and advised the part of the crown, was raised to be Chief Justice of the King's Bench just before the term in which the judgment was given.

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Lords or the withholding of the royal assent, to procure it to be passed at the palatine county of Durham, as well as that of Chester, should send representatives to the Commons' House, it was at length passed into an act, so that the city of Durham, as well as the county, should thenceforth send two members; and two members were granted to Newcastle on the Tyne, in reward of its exertions for Charles I. during the civil war.

It may be remarked, that in the assembly which addressed the Prince of Orange to issue letters for a convention parliament, the city of London again figured very prominently; the mayor, aldermen, and fifty of the common council, being added to the invitation sent to all who had sat in any House of Commons during the reign of Charles II.

The last important modification in the exercise of the parliamentary franchise in cities and boroughs generally, especially in the clerical class, was the provision of an act of the ninth year of Queen Anne, which disqualified every person (except the eldest son of a peer or of a person qualified to be a knight of the shire) from becoming a member for a city, borough, or port, who is not possessed of a freehold or copyhold estate of 300l. annual value, clear of all incumbrances.

Both the Corporation Act, already specified, and the Test Act, which required every officer, civil or military, to receive the Lord's Supper according to the forms of the Established Church, and to make the declaration against transubstantiation, have been in operation since the year 1698. When, in the year 1828, after their repeal had long been advocated by the liberal opposition in the House of Commons, it was made a government measure, and passed into an act.

For some time previous the public opinion against the exclusion of the clergy from the franchise in the House of Commons had so far preponderated, that it was usual, at the close of each session of parliament, to pass an act to indemnify such as had exercised office without complying with their resolution.

This measure, and the more important one which speedily followed it, the complete political emancipation of the Roman Catholics, were passed without any direct view to the amelioration of the representative system. The revolution of 1833, as we have seen, though it restored a popular constitution to the monarchical system that had long been deprived of it, removed none of the vices in the general system. The history of the long period between that event and the introduction of the bill for an extensive and systematic amelioration of the representative system, brought into the House of Commons by the ministers of the crown in 1831, is in a great measure the history of the transfer, from various causes, of the political influence over parliamentary boroughs from the hands of the crown, which, for two centuries, had moulded and adapted them to be an influence to those of the proprietors of the boroughs, among whom were always many members of the House of Lords. Thus there arose a new and unprecedented parliamentary system. That command of a majority of borough votes in the House of Commons, which either the late or the present ministers had wanted means to realize, was obtained in the course of the last century, through the vastly augmented amount of government patronage arising from the great increase of the army, navy, colonies, and other public departments, the establishment and rapid growth of the commonwealth, we have before recorded, and by the manipulation of an admixture with any considerable portion of the public.

It belongs to the general history of the House of Commons to bring out the progress of the great question of 'parliamentary reform,' as the desired object of the representatives of the House of parliament was so long designated.

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We now come to consider the operation of the great change in the political relations of the cities and boroughs, in bringing about the change in their municipal constitutions. In the following new order of movements which received its first impulse from the Reform Act, we may already trace a progress of the reverse of that which had been going on for centuries before. As the vitiation of the municipal constitutions of the towns had been requisite to prepare the way for their political prostration,—so their political emancipation now appeared essential in the extension of the municipal system of government, and it was operated in various ways to force the state of the municipal system into consideration. In the first place, the extinction of the most extremely insignificant or decayed parliamentary boroughs under that Act,—the extension of the franchise to the holders of freeholds in towns immediately operating with the growth of the places beyond their antient limits,—the disfranchisement of the great modern towns,—and above all, the vesting of the franchise substantially in the inhabitant householders,—all combined to exhibit in strong relief the great defects of the yet standing corporation system. The almost superhuman reverence and honor attached to corporations—a reverence which the mystic language of crown lawyers respecting them had constantly been cherishing,—was now utterly dissolved; and men were in a condition to place coolly side by side in their contemplations of public institutions the interests of the corporation itself, and the character of the associated bodies which asserted an imprescriptible right to act as the only instrument for attaining those ends.

One singular result of the mystery which, for purposes which have been sufficiently indicated, had been thrown about the being and end of a corporation, now became distinctly apparent. So little, it should seem, had it been understood that good local government should be the primary object of this body's existence, that in the local elections of parliament which in times past were held for the improvement of nearly all the more considerable towns, the superintendent of the police, and the powers necessary for watching, paving, lighting, cleansing, and supplying the towns with water, instead of being intrusted to the interests of the corporation, were committed to various distinct and independent bodies,—although none of these towns were too extensive to be embraced by one system of municipal government;—not indeed that the inhabitants in any case desired that their municipal authorities should exercise these new powers; for although they had not yet discovered what or should be the use of a municipal corporation, they were convinced that in the great majority of instances, constituted as it then was, it was not an engine working to the production of their local welfare.

It is the less wonderful that the inhabitants of corporate towns should have come to this conclusion, when we find, as appeared in the recent inquiry, that few corporations admitted any positive obligation to spend the surplus of their income for objects of public advantage. They regarded such expenditure as a spontaneous act of private generosity, rather than a well-considered application of the public revenue; and the credit to which the corporation, in such a case, generally considered itself entitled, was not that of a public corporation, but that which flowed from the individual property; and accordingly we find that at Cambridge the practice of turning the corporation property to the profit of individuals was avowed and defended before the municipal commissioners by a member of the common council. The following example of the effect upon the local affairs of those boroughs in particular which it wholly disinfraction, and of others in which it destroyed the exclusive influence, afforded additional illustration at least as to what was not the use of a municipal corporation in their own particular boroughs. The corporation were inadequate to the wants of the municipality, and the deficiency had been supplied either from the funds of the patron or by the members for the borough. In some, before the passing of the Reform Act, the members or the patron paid all the municipal expenses; but since that epoch these
contribution had ceased, and such corporations had no longer the means of maintaining municipal institutions of any great importance. Great corporations had been granted to the borough upon its disfranchisement, and the corporations books and accounts had not been found since; nor had any new mayor been elected until the year in which the late
commission of municipal inquiry issued.
John Adney, M.P., addressed to the House of Commons, this royal commission to inquire as to the existing state of the municipal corporations in England and Wales, and to collect information respecting the defects in their constitution; and to make inquiry also into their jurisdictions and peculiar institutions of justice, and in all other respects; and also into the mode in which elections and appointments of the members and officers of such corporations, and into the privileges of the freemen and other members thereof, and into the nature and management of the income, revenues, and property of the said corporations, and into the several local jurisdictions in the several towns, cities, and boroughs in England and Wales, was issued in July, 1833; and the general report of the commissioners was laid before the king, and before the House of Commons, who ordered it to be printed, in March, 1835. On this general report, with the particular reports upon the several places appended to it, was founded the ministerial bill for the regulation of municipal corporations in England and Wales.

The total number of municipal corporations in England and Wales was found by the commissioners to be 246. A considerable number, it is true, has ceased to exist; and the remainder, in most cases, have undergone a great transformation, being left for future legislation, and London, the greatest and most complicated of all, with its many wealthy trading companies, each an important corporation, being reserved as the subject of a distinct bill not yet brought in. The third section of the Act, as to the towns, and ports, reconstituted, under the general name of 'boroughs,' by the Municipal Reform Act, is 178. The act arranges these in two schedules, each divided into two sections. The first schedule (A) comprises those boroughs which any positively have a commission of the peace. Their number is 128, and includes all those whose population is large enough to admit of their division into two or more wards, as also a certain number of those which are not to be divided; the members of their respective councils to be elected under the act, varying, according to the population, from 4 aldermen and 12 councillors, which is the number for Aberystwyth, Abingdon, Andover, &c., and the lowest number allotted by the Act, up to 16 aldermen and 48 councillors, the highest number fixed by the Act, and assigned only to Bristol, Leeds, Liverpool, and Norwich. The schedule is arranged in two sections; the first comprises those boroughs, 84 in number, the enlarged parliamentary limits of which, as settled by the Boundary Act accompanying the Parliamentary Reform Act for England and Wales, have not been altered by act of parliament. These, of course, are all parliamentary boroughs as well as municipal. They are:


The second section of this schedule contains those boroughs, in number 44, the municipal limits of which are to remain as before the passing of this Act, until altered by act of parliament. Of these 29 are also parliamentary; viz. Chichester, Chichester, Clitheroe, Coventry, Exeter, Falmouth, Grantham, Grimby, Hastings, Lancaster, Lincoln, Liskeard, Ludlow, Maidstone, Maldon, Plymouth, Pontefract, Rich mond, St. Ives, Twekebury, Walsall, Welwyn, Went

and 15 are municipal only:

- Bideford, Chesterfield, Congleton, Deal, Doncaster, Gravesend, Kingston-upon-Thames, Louth, Newbury, Oswestry, Penzance, Romsey, Saunton Warden, Stockton, Wisbech.

The second schedule (B) comprises that portion of the boroughs of the smallest class not divided into wards, and having only 4 aldermen and 12 councillors, which are not to have a commission of the peace, except upon petition of their council and grant by the crown. This schedule, too, is divided into two sections, after the same manner as the first. The first section comprises those parochial boroughs whose parliamentary boundary is to be taken until further legislation, in number 9:

- Arundel, Beaumaris, Cardigan, Llanlo稽, Pwllhe, Ruthin, Tenby, Thetford, Totnes.

The second section of this schedule, whose municipal limits are to remain as before the Act until altered by parliament, 23 are also parliamentary:


And 18 are municipal only:


The fixing of the new municipal boundaries is the task of a distinct commission, which has been actively at work since the passing of the act. Anciently there was no distinction between municipal and parliamentary limits, because it was by virtue of its being a municipal town that each borough sent representatives. But in fixing the new parliamentary limits under the Reform Act, regard was had to various circumstances, which, in many instances, occasioned the tracing of a boundary much too wide to serve conveniently as the limit of a borough inhabitancy. In many cases however it is probable that the boundaries will remain as they were before the Act, especially in those larger parliamentary boroughs whose great amount of population made it least necessary, in settling their limits, to describe a circuit extending far beyond the more densely inhabited space.

Besides the general inadequacy at the present day of the antient borough limits in the more populous towns there were two other classes of anomalies in the old system, in relation to this matter, which it is of some importance to notice. The first was, that in some cases, as at Grantham where the borough limits included the town of Bercow, but not included outlyng parishes of ground. The most remarkable instances of this occur in the Cinque Ports. At Hastings, for instance, the corporate magistrates had authority, amongst other places, over two detached precincts distant from that town forty and fifty miles respectively. And the town of Ramsgate, as well as the corporate town of Deal, both at some distance from Sandwich, were under the jurisdiction of the corporation of the latter town. The second class of these anomalies consisted in the precincts being often loosely situated within the limits of the borough, and not included outlyng parishes of ground. Such existed at York, Lincoln, Norwich, Winchester, and Chichester. These had usually originated in ecclesiastical privileges, or had been the site of the castle of the lord of the borough. In the city of Canterbury there were fifteen such precincts, though some of them were in dispute between the county of Kent and the county of the city.

The Municipal Reform Act removes both the above descriptions of inconveniences. In each borough every place included within the general limits of the borough in the schedules is to form part of that borough; but any place hitherto forming part of a city or borough, but not included within the boundary thus indicated, is henceforward to be held as part of the county within which it is locally situated, and not as part of the borough.
of the electoral body; the second division regards its organization for the purposes of local legislation, taxation, and the other branches of public economy, as the administration of public property, whether absolute or in trust; the maintaining of surveillance, and payment of magistrates, officers of justice, police, and other departments; the maintenance of public works and buildings; the paving, lighting, and cleansing of the town; the maintaining and improvement of thoroughfares, and supply of water. The third division, or the municipal corporation, reserves to itself all local judicature, comprising all that relates to the constitution and powers of the local courts and magistrates.

To make the municipal change now effecting distinctly intelligible, we shall compare, under each of these heads, the state of the municipalities previous to the late Act, with the several provisions of the Act itself.

I.—Municipal Organization.

1. Electoral Body or Local Constituency.

Most of the governing charters incorporated the men and inhabitants of the borough; yet, though very few of them unequivocally designated the corporate body as a small and definite number of persons, custom (supported by the silence of the charters as to any general right to the franchise, and by its disuse and oblivion where any such might formerly have existed) had in many places practically established the same restricted constitution. A very numerous class of corporations existed which might be considered as occupying a middle place between those in which the number of corporators was indefinite and fixed by law, and those in which the number was now treated as necessarily definite: this class consisted of the corporations in which, although there is no doubt, both from the wording of the charters and the modern practice, that the number of corporators might be indefinite, it had been the policy of the settlers to restrict the number, so as to retain all the privileges constitutionally belonging to a large and indefinite body in the hands of a small one.

In a great proportion of the instances in which the number of corporators was both in constitution and fact, large and indefinite, the restriction in the management of the corporate affairs: this prevailed to so great an extent, that in such corporations the municipal commissioners often found that the freemen had long ceased to consider themselves as a part of the corporation; which term, in popular language, was applied exclusively to the ruling body. In some places this notion had been further refined upon, and a distinction drawn in the large indefinite body of corporators, between those elected by the ruling body and those claiming by an independent right, the former being treated as forming an integral part of the corporation.

In those boroughs where the number of corporators was definite, or had always been kept small, the principal mode of entering the corporation was by nomination of the ruling body, or by the election of corporators. The persons qualified, the most usual qualification being residence in the borough; in others the choice was uncontrolled by any conditions. This mode of acquiring the freedom was usually said to be by gift or purchase; and in fact, a sum of money varying with the circumstances of the corporation and supposed value of the franchise, was usually paid by each corporator on his election. In the boroughs where, both by charter and in practice, the number of corporators was unlimited, the circumstances under which the freedom was delivered of right were various; but almost all might be classed under the general titles of freedom by birth, by marriage, and by servitude. In a few places the possession or occupation of property gave a title to the freedom. Everywhere, a very few places only excepted, a distinction was made between the freemen and the inhabitants. The right of conferring the freedom by sale or free-gift was claimed and exercised by the ruling body of almost every corporation. Particular officers of the corporation or the mayor, by their authority allowed in a certain number of persons to be admitted to the freedom; but although this practice had nearly acquired the force of positive law, it is not distinguishable in its origin from the general power exercised by the ruling body, who sometimes in the exercise of this power have simply acquiesced in their officers' nomination.

In many towns, as still in London, it was necessary, in order to complete his title, that the party should first be admitted a member of certain guilds or trading companies of antiquated institution within the borough, and still preserving various degrees of connexion with, and subordination to the municipal corporation; a practice which seems to have been inherited from former times. To the grant of a right of admission to these guilds was usually of the same kind as that by which the municipal corporation itself was entered. These guilds were also accommodate to admit by purchase; but such purchasers neither acquired the right of voting, nor could they be admitted directly to the municipal corporation. Occasionally, an incorporated guild has continued to exist after its connexion with the municipal corporation has been almost or wholly dissolved.

The titles from birth, marriage, and apprenticeship, were very various and sometimes peculiar. In some, the right by birth was enjoyed only by the children of freemen within the borough; in others, by children of freemen wherever born; in some, the father's admission at any time conferred the inchoate right on all his children wherever born; in others, only on those born after, and in many, only on the first son born after his admission. Less variety is found in the nature of the title which a freeman's daughter or widow must possess, to enable her to convey the privilege. The right by apprenticeship has usually accrued by service under indentures for seven years to a freeman within the borough: service at sea has generally been considered in the light of service within the borough where the vessel belonged to its port: in some boroughs having trading companies, the binding and service must be to one of the company in the trade peculiar to that company.

2. Freemen. Freemen and corporators are terms of popular application to the corporate bodies used independently of the communities in which they were. In most of them, the right to the freedom, or citizenship, or burgesship, had been restricted to a much smaller class than that which formerly possessed it. Without enquiring of the municipal commissioners, 'when corporations in this country assumed their present form, it may be safely asserted that the body, however named, which was originally intended to share, and which in fact did share, in the rights which the early charters confounded, must have been the great body of the inhabitants. By degrees, exclusive qualifications were insisted on with increasing strictness, and with new exceptions, as the privileges to which these exclusive bodies laid claim rose in importance. Thus importance again was enhanced by the narrowing of the access to the privilege, and the consequent diminution of the number of individuals sharing in its advantages.'

Accordingly in most places all identity of interest between the corporation and the inhabitants had disappeared. This fact is the cause of the great number of independent freemen. It appeared in a more striking degree as the powers of the corporation became restricted to smaller proportions of the resident population, and still more glaringly when the local privileges had been conferred on non-resident freemasons. The term freeman, say the commissioners, 'they rightfully ought to belong.' Some corporations, indeed, were occasionally spoken of as exercising their privileges through a popular body; but in the widest sense in which the term popular body was applied to corporations, it designated only the whole body of freemen; and in most towns the freemen were a small number compared with the respectable inhabitants interested in their municipal government, and possessing every qualification, except a legal one, to take part in it. In the boroughs with a large resident population, including Devonport, exceeding 75,000, the number of freemen was only 437, of whom 145 were non-resident. In Norwich, the great majority of inhabitant householders and rate-payers were excluded from the corporate body; while paupers, lodgers, and others, paying neither rates nor taxes, were admitted to the functions of freemen, and were a considerable part of the corporation. The case of Ipswich affords another remarkable illustration. Out of more than 200 inhabitants, the resident freemen formed about a fifth; these were all rated; of the remainder, the majority were not rated; and of those who were rated many were exempted payment. About one-ninth of the whole were paupers. More than 11-12ths of all the property assessed in this borough belonged to those excluded from the corporation. Of the inhabited houses, exempted for municipal purposes, less than 1-15th were freemen; and the assessed taxes paid in the borough less than 1-20th was paid
by the whole corporate body. The condition of these free-
men exposed them to bribery and undue influence, and
advantage was taken of that condition to establish the most
demoralizing practices. A further illustration of the vast
dispersal existing under the old system between the actual
basis of constituency and the legislative house, to which
would have suggested, appears in a table given in the com-
misurers' Report, of sixteen of the largest English cities
and boroughs, which, with a collective population of 715,702
within their partial boundaries, had only 54,697
freemen of all classes, resident within that
political importance which the election of members
of parliament has in later times conferred upon these go-
vernning bodies, and the rewards for political services thus
henceforth made within the reach of the ruling corporators, had
caused the exercise of the public offices by the latter to be
often regarded as the sole purpose of a municipal institu-
tion; and in some boroughs this right has even survived all
other traces of municipal authority. The custom of keep-
ing the corporators as far as possible is preferable rather to
this cause than to the mere desire of monopolizing the mu-
nicipal authority, which has been coveted almost exclu-
sively as the means of securing the other and more highly
prized privilege. Hence a great number of corporations
have been preserved solely as political engines, the re-
spective towns having on an indefinite period the
benefit from their existence. 'To maintain the political ascend-
ancy of a party,' say the commissioners, 'or the political
influence of a family, has been the one end and object for
which the powers intrusted to a numerous class of these bodies
have been exercised; that the revenues arising from such a
usage, and much of the property inseparable from the view of
the same premises. Any person occupying as above stated
may claim to be rated to the relief of the poor, whether the
landlord of the premises be liable to be so rated or not. And
in the event of his so occupying, or of the landlord of the
rate last payable, the overseers are bound to put his name upon
the rate; and if they omit to do so, he is still to be
debted to be deemed from the period of making such rate.
And where any such premises shall come to any person by
descent, marriage, marriage and settled tenures, or by any
tenure, he will be entitled to reckon the occupancy and rating of the former possessor as his
own, and to add it to his own period of occupancy for the
purpose of enrolment as a burgess. No person may be
so rated as burgess, unless he has been so rated for a
period of at least five years, and that at a rate of at least
August in any year shall have received parochial relief or
other alms, or any pension or charitable allowance from any
fund held by trustees in the borough; but neither charitable
medical or surgical aid given by trustees of the borough,
or any education, or aid in any public or endowed school,
is to disqualify for enrolment.
On the 5th of September in every year, the overseers of
the poor of each parish or township, wholly or partly within
any borough, are to make out an alphabetical list, to be
sent to the burgess of each of them who shall be entitled,
by the qualification above stated, to be enrolled in the
burgess-roll of that year in respect of property within such
parish, &c.; inserting therein the Christian name and sur-
name of each person at full length, the nature of the pro-
"
The burgesses-lists, when revised by the mayor and two assessors (elected as hereafter described), and signed (as provided for in the Act), are to be delivered by the mayor to the town-clerk, who is to keep them, and cause them to be accurately copied into one general alphabetical list, in a book provided by him for that purpose, with every name numbered in regular series. If any burgess be rated for distinct premises in more wards than one, he will be entered to be rated in each, and the vote in such ward as he shall select, but not in more than one. And for the better ascertaining who are the burgesses of any ward, the town-clerk of any borough divided into wards is to cause the burgess-roll to be made out in alphabetical lists of the burgesses of each of the several wards. Lists are to be completed on or before the 22nd of October in every year; and the town-clerk, at the expiration of his office, must deliver them, together with the lists, to his successor. Every such book into which the burgesses-lists have been copied, is to be the burgesses-roll of the burgesses of the borough entitled to vote in any election of councillors, assessors, or auditors of the borough that may take place between the 1st of November inclusive in the year in which such burgess-roll shall have been made, and the 1st of November in the following year. The addition, registration, and enrollment of burgesses are to be free from stamp-duty, which, in a large proportion of cases, formed, under the old system, the heaviest part of the expense of admissions to borough freedom.

The town-clerk is also to cause copies of the burgess-roll in every constituency to be printed or printed, and is to dispose of them to all persons applying for copies, at a reasonable price for each. The proceeds of the sale of these, of the overseers' lists, and of the lists of claims and objections, are to be paid to the treasurer of the borough on account of the borough. With the expense of their preservation, are to be defrayed; and the council are to reimburse the overseers of the poor, out of the borough fund, all reasonable expenses incurred by them in relation to the burgesses-lists.

The reader may refer to the Act itself, or to the abstract in the 'Companion to the Almanac for 1836,' for many of the details of this and other parts of the Act, which it would be unnecessary to insert here.

II.—ORGANIZATION FOR LOCAL GOVERNMENT.

This part of our subject involves the consideration of three distinct though closely related departments, the legislature, the executive, and the ministerial.


Under the late system the legislative body generally consisted of a single select assembly called the common council, presided over by the executive officer of the municipality, or mayor; as Inverness, Carpathan, and Berwick-upon-Tweed, it consisted of the freemen at large. The body of the council however was often composed of two classes, the superior class being generally designated as aldermen, the inferior simply as common councillors. In many places the aldermen, or those of analogous station in the corporation, had real municipal powers beyond those of the other members of the council; in others the distinction was merely honorary; in a few there were more than two classes in the common council; in many, the city council was the only body of councillors. If a city council was necessary to constitute it a legal assembly, the instances being rare in which the aldermen met also by themselves as a separate deliberative chamber; although in some, as at Hull and Pontefract, the executive officer and the aldermen, or analogous functionaries, constituted the whole council. The recorder, a legal officer, was occasionally constituted by charter a member of the common council; and in some towns other corporate officers were members of it ex officio. The same form of legislation, by a mayor and council of aldermen, has been observed in corporations whose number was definite, and in those in which the number, though indefinite, had been purposely kept low; in the former case, the common council generally comprised the whole corporation, and in the latter nearly the whole.

The members of the council were elected, in the great majority of instances, by the council itself, or by that division of it commonly designated as aldermen. In some cases they were nominated by the executive municipal officers usually termed mayor. The election was generally for one, two, or three years, for the mayor, and common council. Here, as in many other instances of the dismissals of those who really constitute the executive department, by large bodies of freemen, both of aldermen and common council, the latter in both cities being chosen annually.

The functions of the governing councils, which the original charters of most boroughs must be considered as having assigned to them, fall under four distinct heads—the appointment of officers, the making of bye-laws or local regulations, the levying of the various denominations of rates or local taxes, and the management of the corporate property and revenues. In a sometimes noted by the members of the executive council, many bye-laws had long fallen into disuse. In some cases they were offered for approval or confirmation to a more popular assembly; and some charters required them to be approved by the judges of assize. Many corporations had the power of enforcing their bye-laws by fine and imprisonment, but these powers had of late been little exercised. In scarcely any instance have the members of the council, as such, legally received any salary or emolument. In London indeed allowances are made for regular attendance on the corporation, but inasmuch as the business is prepared for the consideration of the common council.

The acknowledged defects in the late legislative constitution of the English boroughs bear a close affinity to those above indicated in the composition of the general constitution of the British constitution. In the first place, the exclusive and party spirit which belonged to the whole corporate body, appeared still more strikingly in the councils by which, in most cases, it was governed. It has been stated that the members of these councils were usually self-elected and for life. They were, as is commonly the case in one political party, their proceedings were usually directed to the advancement of that party's ascendency. Individuals of adverse political opinions were, in most cases, systematically excluded from the legislative council. Since the repeal of the Corporation and Test Acts, and the removal of the civil disabilities of the Roman Catholics, we find that either Catholics or Dissenters, though often forming a numerous, respectable, and wealthy portion of the inhabitants, have been chosen into the governing body. These councils, embodying the opinions of a single party, were intrusted with the entire management of magistracy, the executive, and the judicial, frequently of the superintendents of police, and were, or ought to have been, the leaders in every measure that concerned the welfare of their town; yet, so far from being the representatives either of its population or its property, they were, either by being hereditary, or by being elected by a very small body of electors, being for life, their proceedings were unchecked by any consciousness of responsibility. The discharge of their functions was rendered difficult by the dislike and suspicion which the mode of their election inevitably entailed upon them. Hence also the carelessness often observable in the performance of their duties; while persons well qualified for the council were excluded, sometimes for want of vacancies, sometimes through rejection by the electing body, sometimes through their own refusal to identify themselves with their party. Under the present system, they are to a great extent reprobated. The common council of London is cited by the constitution as the only exception to the system of self-election for life, and a remarkable instance of the absence of the consequent evils. Again, it has been part of the general system of close corporations, that all their affairs should be managed with the strictest secrecy, something even enforced by an act of the Crown, so that both charters and bye-laws were frequently violated with impunity.
The executive officer of the municipality, or 'head of the corporation,' as he has commonly been called, has, in all instances, been constituted by annual election. In a very few instances, however, the wapentakes of Tweed and Ipswich, the freemen at large had an unrestricted power of choosing any one from their own number. In some, they chose him from the aldermen or the common councillors; in others, from two or more nominated by the governing body. Most commonly, the court of aldermen or common council elected him from the aldermen or common councillors. In some places, he was presented by the jurors of the court leet. In several, the same person was eligible only after a given interval. In a great majority of the boroughs, the office is ex-officio, and usually a fixed term has been fixed for him, besides tolls, which have often been collected exclusively in his name and on his behalf. Having been generally expected to exercise hospitality towards the other members of the corporation, and distinguished visitors of the town, it is probable that the word at large being held in a public way than has been realized from the ordinary emoluments of the office. In some boroughs no emolument whatsoever has been attached to it.

In some cases, the duties of the mayor have been wholly neglected, either from want of capacity or will; occasionally from non-election. In others, the mayor and common councillors same mayor was continued from year to year; and in others it was customary to elect two or three individuals in rotation. The effect of entrusting his election to the freemen, constituted as their body has generally been, was to degrade the office. The charter usually limit the executive officer's power of appointing a deputy to occasions of his illness or necessity. By this, it was an implied condition of his holding that office. But although the mayor was usually resident, the practice of deviating from the charter by appointing a deputy for the whole year had been general.

Changes made by the Municipal Reform Act in the Constitution, Designation, and Powers of the Legislative Body.

It is here that the House of Peers in its legislative capacity has most decisively and importantly interposed. Leaving the constituency on the broad basis fixed for it by the first bill sent up from the Commons, that is, on the rate-paying qualification, more extensive than the 10l. suffrage of the parliamentary constituencies, it proceeded to re-model the simple constitution which the Commons had fixed for the governing councils. They had enacted that for the future three mayors should be elected annually: 

'1. The mayor and burgesses of such or such a borough, and the constitution of each as to be purely popular; the governing council, consisting of one class only, to be chosen one-third yearly by the burgesses at large, and subject to no qualifications except that of being able to introduce a distinct class of aldermen elected for a term of years, so that the future style of every corporation body is to be. The mayor, aldermen, and burgesses of the borough of —, and they have also made high pecuniary qualifications requisite for the holding of any officer, even as a member of the borough or local representative assembly. The governing council then, or local legislature of each borough, is to consist of a mayor, aldermen, and councillors, and to be called 'the council of the borough.'

The number of councillors is to be elected for each ward in which the division is to be fixed by the revising barristers who determine the limits of the wards; and who are, in assigning the proportions, to have regard to the number of persons rated, and the amount of the poor-rates paid in each respectively. The number of councillors in each ward is to be a number divisible by three (as one-third quire office every year), and the particulars of the wards and the limits of each ward are to be submitted to the king in council, and published in the 'London Gazette,' and a copy is to be deposited with the town-clerk of the borough.

The councillors are to be elected by the burgesses who have been nominated in each borough, and in boroughs divided into wards the councillors for each ward are to be elected by the burgesses of that ward only; and should the same person be elected councillor for more than one ward at the same election, he must make choice of one within three days or in default the mayor is to name the ward for which he shall serve. One-third of the number is to go out of office every year, and an annual election of one third of the whole number of councillors is to take place. The order in which those who may be chosen at the first election are actually to retire, is to be that of being returned by the smallest number of votes; and, in case of an equality of votes, the determination is to be made by a majority of the council; and after two-thirds have thus retired, those always who have been for the longest time in office without re-election are to go out; but they may be immediately re-elected if duly qualified.

The number of aldermen in every borough is to be one-third of the number of councillors. They are to be elected every third year by the council for the time being from the councilors, or from the burgesses qualified to be councilors, one-half of each being also elected for the terms of office at each election; so that each alderman will in fact be elected for six years. Immediately after the first election the aldermen who shall retire at the expiration of the first three years are to be named by the councilors, and afterwards the order of retiring will be that of the longest serving without re-election; but the retiring aldermen are not to vote at the election of a new alderman.

We shall here speak of the mayor only as head of the local legislature, leaving his executive and magisterial functions for their separate consideration. He is to be annually elected by the council out of the aldermen or councilors.

The property qualification for mayor, alderman, or councilor is the same; namely, in boroughs divided into four wards or more, the clear possession of 1000l. in real or personal estate, or being rated to the relief of the poor upon the annual value of not less than 30l.; and in boroughs not divided into wards, or divided into less than four, the clear possession of 500l., or being rated upon the annual value of 15l. In order to be elected councillor or alderman a person must be entitled to be on the burgess-roll of the borough; and during his continuance in either of these offices, or in that of mayor, he must also continue to possess the above-named qualification in property or rating to the relief of the poor.

Every person on being elected mayor, alderman, or councilor must make or subscribe before two or more aldermen or councilors the following declaration, or one to the same effect:—

I, A.B., having been elected mayor (or alderman, or (councilor) for the borough of —, do hereby declare that I take the same office upon my own, and will duly and faithfully fulfill the duties the test of my judgment and ability; [end in the case of the party being qualified by estate, any] — And I do hereby declare that I possessed on the [case may be] of an amount of 1000l., or 500l. [as the case may require], over and above what will satisfy all my debts.

The mayor and aldermen are to continue as officers of the council while they hold their respective offices, notwithstanding that it is provided that councilors shall go out of office at the end of three years.

No person in holy orders, or being the regular minister of a dissenting congregation, or holding any office or place of profit, or office of trust, gift or disposal of the council, or having directly or indirectly, by himself or his partner, any share or interest in any contract or employment connected with the council, is to be qualified to be elected, or to be a member of the council; but the proper number of members and the regulation of any public lighting, or supplying water to the borough, are not to be disqualified thereby.

Every person duly qualified who shall have been elected to the office of mayor, alderman, or councilor, must accept such office, or pay to the corporation such a fine, not ex-
ceeding 1000, in the case of mayor; or 50l. in the case of a borough or other corporate body, may be recovered, with full costs, by any one who will sue for it in any of his majesty's courts of record at Westminster.

Powers of the Council, and Regulation of its Meetings.—The appointment of officers, the enacting of local regulations, the levying, assessing, and the raising of local taxes, are distinctly recognized by the Act as the three principal powers to be exercised by the local legislature.

The council are to appoint the town-clerk, the treasurer, and such other officers as have been yearly appointed for the borough, or as they shall think necessary for the execution of the officers and duties of their several employments; and may discontinue such appointments as in their opinion may cease to be necessary; they may take such security as they think proper from each, and are to direct such allowances to be paid to the mayor, town-clerk, treasurer, and other officers as shall be found necessary, and to empower any ministerial officer of the corporation who may be in office at the date of the first election of councillors under this Act, and to fix the compensation to be paid to such officers, subject to appeal to the Lords of the Treasury.

It is also empowered to make bye-laws for the good rule and government of the borough, and for prevention and suppression of all such nuisances as are not already punishable in a summary manner by virtue of any act in force for the purpose of the town or borough, and for the prevention of all abuses, offences, not exceeding 5l. But all bye-laws must be made by two-thirds of the council at least, and are not to take effect until forty days after a copy shall have been sent, sealed with the borough seal, to one of the principal secretaries of state for the time being; and the same shall be in office during the sitting of the council in the borough—within which period the king in council may disallow any such bye-law wholly or in part, or fix some later day for its coming into force. The council are further empowered to levy a borough-rate and a watch-rate, and appoint a convenient officer, and to determine and fix the assessment for the better collection of the same; and to set apart a sum for the public benefit of the borough lands, tenements, &c. under certain restrictions.

All acts done by the council, and all questions brought before them, are to be decided by a majority of the members present; but the whole number present must not be less than four, and of the whole number of members present. The mayor, if present, is to preside; or, in his absence, such alderman, or in the absence of all the aldermen, such councilor, as the assembled council shall choose for chairman of that meeting; and the chairman is to have the casting vote. Minutes of the proceedings of all such meetings are to be kept, signed by the presiding member, and to be open to the inspection of any burgess, on payment of one shilling.

In every instance a summons, signed by the town-clerk, stating the business of the meeting, is to be left at the residence of each of the members of the council on Friday three days before the meeting, and no business is to be transacted at such meeting but that specified in the notice. There must be four quarterly meetings of the council in every year for the transaction of general business, of which no notice need be given.

Mayor, as an executive head of the borough under the new Act.—The mayor has already been spoken of as the president of the borough legislature. In this place we may mention that precedence within the borough is distinctly assigned to the mayor, as signed by the Act; and, in accordance with all previous usage, he is to be returning officer in all parliamentary boroughs, excepting those cities and towns which, being counties of themselves, have sheriffs of their own.

And if from any cause, in any borough wherein the mayor and returning officer, there be no mayor at the time of a parliamentary election, the council are to elect one of the aldermen to be returning officer. And in any case in which there shall be more than one mayor within the limits of a parliamentary borough, the mayor of that municipal borough to which the writ of election is directed is to be the returning officer.

A new class of officers, under the name of assessors, is created by the Act, to assist in each borough, and in each ward, to levy and collect the assessment; and the town-clerk, the treasurer, and the other officers there are to be two in boroughs not divided into wards, and two for each ward in boroughs which are so divided. They are to be annually elected by the burgesses at large; and their pecuniary qualification must be the same in every respect as that of councillors. Every person.
must accept office when elected; and must make and subscribe the declaration of acceptance and qualification within five days, as required in the case of mayor, alderman, and councillor.

The office of the assessors is, to revise the burgesses' lists in the town. They are not to be considered to hold for that purpose; to be present with the mayor or an alderman, in the respective boroughs or wards, at each annual election of councillors, auditors, and of those who are to succeed them in the office of assessor; and to ascertain and declare the result of such elections.

3. Ministerial Officers; their Appointment, Designation, Functions.

The chief ministerial officers of a borough, as hitherto constituted, have been the public secretary and general adviser of the corporation, called most frequently the town-clerk, though sometimes the common-clerk; and the treasurer, or depositary of the public revenue and keeper of the public accounts, commonly styled chamberlain. Both these officers have been appointed during good behaviour, usually by the common council; the former sometimes, and the latter in a great majority of instances, out of their own body.

In a few places, the town-clerk was named by the recorder, and occasionally he was nominated or approved by the freemen. Occasionally he was elected by the freemen from themselves; and in most, it was necessary that he should be a freeman. He was generally required to reside in the borough, and usually was an attorney. He had generally a salary, with a little additional inducement for holding the situation being the legal business, for which he was paid according to the usual scale of professional charges, or the introduction to private practice through his connexion with the members of the corporation.

The chamberlains have, in a few instances, been credited with the revenues, and have paid the requisite payments to the order of the competent authorities, keep the accounts, and superintend the corporation property. In some instances the head of the corporation acted as treasurer; in which case, as in many others, the chambers and the treasurer jointly, or the chambers alone, have the power of controlling the body of the council, even if they do not belong to the body which his accounts were audited. But in some large towns, as London, Bath, and Bristol, this has never been the case.

The chamberlain has sometimes paid by a poundage on the income collected by him, but more frequently as a salary, and by the profit of balances left in his hands in corporations where his receipts were considerable, he was often required to give security.

 Inferior officers were found, more or less numerous, in all the old large and small towns. These were either officers of ceremony, as sword-bearers, mace-bearers, &c., of police, as constables, sergeants at arms, and town-sergeants, and others, as beadle, clerks, &c., whose functions are sufficiently indicated by their appellations. There was, in almost all the larger towns, control of the proceedings of the governing body. Many of them had neither duties, fees, nor salaries; yet they were yearly elected and solemnly sworn to the fulfilment of their nominal functions, the corporations doubting whether they could legally cease to elect any officers in their charters. The common council of London however has assumed the authority of abolishing some useless offices, consolidating others, and attaching to them new and useful functions.

The Constitution of the Ministerial Officers.

'One vice,' say the commissioners, 'which we regard as inherent in the constitution of municipal corporations in England and Wales is, that officers chosen for particular functions are regarded as a necessary part of the legislative body.' More than nominal, it is to have, in sufficient times when the separation of constitutional authorities was not understood; when legislative, judicial, and executive functions were confounded. There are serious objections to the practice of allowing the mayor to act as the treasurer of the corporation, and to have in his office of one of the names is placed in the power over which he presides. In the convenience of an opposite kind occurs where several persons are required to concur in executing the duties of a single office.

To the extent to which some corporations carried the principle of treating the corporate offices as matter of mere patronage, is illustrated in the commissioners' general report, by two instances where, in two considerable towns, that principle had been applied to the very important office of town-clerk.

Ministerial Offices, as now to be regulated.—The new Act provides not for the discontinuance of useless offices, but for the more effective, regular, and faithful discharge of the duties of essential utility. The provisions for the town-clerk are still to be styled town-clerk; but for the designation of chamberlain, that of treasurer is in all cases to be substituted.

It is directed in the Act, that the council of every borough, on the 9th of November, 1835, shall appoint a fit person to be a town-clerk; but by order in council of October 6th, the first appointment of town-clerk under this Act was postponed to the 1st of January, 1836. The town-clerk so appointed is to hold his office during pleasure. He may be an attorney of one of the superior courts at Westminster, but he may also be any legal officer, judge, or counsel. To the contrary: he must give such security as the council may require, for the due execution of his office; but he must not be the treasurer of the borough, nor a member of the council, nor will he be eligible as auditor or assessor; and his salary is to be determined by the council, who may fill up any vacancy in the office by a fresh appointment.

The town-clerk of every borough is to perform the duties connected with the registering and enrolment of burgesses. In cities and boroughs returning a member or members to Parliament, he is to perform the duties of returning officer, and the due registration of the freemen or burgesses, according to the provisions of the Reform Act. He is to be exempted from serving on any jury, either in the borough, or in the county wherein the borough is situated. He is also to have the custody of the seal, and be the official officer of the council.

The council are directed to appoint every year a fit person to be treasurer; he is to give such security as the council may require. He must not be the town-clerk of the borough, nor a member of the council, nor will he be eligible as auditor or assessor. The salary is to be determined by the council, who may fill up any vacancy by a fresh appointment. He is to keep true accounts, entered in books kept for that purpose, of all sums received and paid by him, and of the several matters for which such sums shall have been received and paid. The books shall be open at all times to the inspection of any of the aldermen or councillors of the borough. And he is to submit all the accounts, with all vouchers and papers touching or relating to the auditing thereof, twice in every year; and after they have been examined and audited by the auditors in the month of September in every year, he is to make out in writing, and cause to be printed, a full abstract of his accounts for the year; a copy of which is to be open to the inspection of the auditors of the borough, and copies are to be delivered to all ratepayers applying for them, on payment of a reasonable price for each copy.

III. OPERATION OF OLD ORGANIZATION FOR LOCAL GOVERNMENT AND DIFFERENT METHODS UNDER THE REFORM ACT FOR ENGLAND AND WALES:—1. IN LOCAL REGULATIONS.—2. IN MANAGEMENT OF CORPORATE PROPERTY AND REVENUES.—3. IN LOCAL TAXATION.—4. AS TO SPECIFIC TRUSTS AND PATRONAGE.

1. Local Regulations.

The police belonging to municipal corporations, under the old system, was for the most part very insufficient. In a great many of towns there were no watchmen, nor police officers of any kind, except the constables, who were unpaid. The chief of the police, on occasions of great public safety, was the mayor, or some other person elected by the corporation, and the commissions of the peace to that person for the time being. There were courts of peace, the justices of the peace, who were the judges of the peace, and to its general municipal authority. Many of these had courts of pie-poudre, which were disliked in the majority of instances.

Already we have marred the general resort which has been made to the English Act for American Cities, and the old limitations of the deficiencies of the old municipal regulations; and that the superintendence of the police, and the powers necessary for watching, paving, lighting, cleansing, and supplying the towns with water, were for the most part committed, in each town, under these acts to one or more bodies of corporate commissioners, independent of the municipal corporation. Sometimes, indeed, these powers were shared between the corporate authorities and the commissioners; and often
many of the corporate functionaries were named in these acts as commissioners, by virtue of their corporate offices. But much confusion resulted from this divided authority. In several towns, owing to the general distrust of the corporate authorities, the inhabitants availed themselves of the provisions of these local acts. Great jealousy often subsisted between the officers of police acting under the corporation, and those under the local commissions: and the corporate body seldom took any active share in the duties of the board of which its members formed a part. At Bristol (one of the principal towns of which the corporations, after the Revolution, clung to the new governing charter imposed by Charles II.), a notoriously ineffective police could not be improved, chiefly through the jealousy subsisting between the corporation and the inhabitants. At Hull, owing to the disunion between the governing body and the inhabitants, arising chiefly out of a dispute about the tolls and duties, only seven persons attended to suppress a riot, out of a thousand who had been sworn in as special constables, and on another similar occasion none whatever attended. At Coventry serious riots and disturbances frequently occurred; and the officers of police, being usually chosen from one political party, often actively fomented them. In some instances the separate and conflicting acts of the corporation and commission were avowedly used to counterbalance the political influence of the corporation. An ineffectual endeavour to obviate the evils resulting from the want of a well-organized system has been made in some towns by subscriptions for private watchmen. Nor has the superintendence of lighting, which in some corporate towns has been hitherto in a more satisfactory state.

For the police of the reformed municipalities, the Act of 1835 makes, among others, the following uniform provisions:

The council, immediately after their first election, and from time to time, are to appoint, for such time as they may think proper, a watch committee, consisting of the mayor and a sufficient number of councillors, of whom three are to be citizens within the town within three weeks after their first appointment, and from time to time, this committee is to appoint, and cause to be sworn in before a justice having jurisdiction within the borough, a sufficient number of fit men to act as constables by day and night, for preserving the peace, preventing crimes, and for the better guarding and assisting the constables, as well as for the safety of them and their machinery, and for the use of the highway.

The constables are to have the usual powers, privileges, duties, and responsibilities, not only within the borough, but also in the county in which the borough or part of it is situated; every county that is within seven miles of any part of the borough is to be considered as being parts of the county; and are to obey all lawful commands of any justice of the peace having jurisdiction in such borough or county.

The treasurer of the borough is to pay such wages and allowances as the watch committee, subject to the approbation of the council, shall think fit, for men employed in the police, and also such sums as they may award, subject to the same approbation, as a reward for extraordinary diligence and exertion, or as compensation for wounds and injuries received in the performance of duty, or as an allowance to those engaged in the maintenance of the said machinery, and any other expenses for the constabulary force, so directed and approved; also any extraordinary expenses necessarily incurred in apprehending offenders and executing any orders of any justice of the peace for the borough, ordered by the council; and such expenses having been first approved by the justices.

Two or more justices having jurisdiction within any borough are, in the month of October in every year, to point, under their hands, so many inhabitants (not legally exempt) as they shall think fit, to act as special constables when required by a justice's warrant, reciting that in the opinion of the justice granting it the ordinary police force is insufficient at that time to maintain the peace. And every person so appointed shall be a constable within the Act of 1 & 2 Will. IV. cap. 41, and to have the powers and immunities, and be liable to the duties and penalties therein enacted; and is to receive out of the borough fund £3. 6d. for each day during which he is called out to act.

The watch committee, on the Ist of January, April, July, and October, in every year, are to transmit to one of the secretaries of state a report of the number of constables or policemen, the description of arms, accoutrements, clothing, and necessary, furnished to each man, their wages and allowances, and the number and situation of all station-houses in the borough; as also a copy of all rules, orders, &c., made from time to time for the regulation of the constables or policemen.

With a view to the merging in the general authority of the municipal council of the powers vested in so many of the boroughs, by the local acts of which we have already spoken, in the hands of independent boards of commissioners, it is provided that the trustees appointed by virtue of any Act of Parliament for the purpose of watching, regulating, supplying with water, or improving any borough or part thereof, wherein they or the persons whose trusts they may be are not beneficially interested, may, at a meeting called for that purpose, transfer, in writing under their hands, and sealed with their seals, the whole or any part of the powers and duties as if their names had been originally inserted in the act, or they had been elected under its provisions. A list of boroughs, and of the Acts of Parliament for the above-named purposes, the powers and duties under which the trustees are appointed, and to whom the powers and duties are transferred, is annexed to the council of such boroughs, is given in schedule (E) appended to the act; but it is provided that no such transfer shall be made of powers under the acts therein mentioned, relating to the town of Cambridge, with the consent of the magistrates and ratepayers. And in Schedule (F), the same is provided for the transfer of powers relating to lighting.

With respect to lighting, it is further provided that the council of any borough having a local act for lighting part thereof only, may make an order to include any other part within its provisions after a certain day named. And after such day it is to be so included, so far as relates to lighting or to any rates authorized to be levied for that purpose.

And every such part is to be lighted like the other parts of the borough, and to pay for that purpose a rate not exceeding the average expenses in the pound of the lighting of those other parts. If the council of any borough shall, by notice fixed in a public place within the borough, declare that on a certain day named (not within twenty-one days), they will take upon themselves the powers given to other corporations in the schedule (E), so far as it relates to lighting the whole or any part of a borough not within the provisions of any local act, or in which there is no power of levying rates for lighting, the council of such borough are to have, after the day named, the same powers as if the borough was named in the above-mentioned act, for lighting and levying rates for that purpose, so far as they are consistent with the provisions of this act.

And the council alone are to fix the sum to be called for in any year for lighting such part, which must not exceed sixpence on the pound, and every such sum is to be raised by rates levied in the borough. And every such rate is to be paid to the officers named in the schedule (E) of the above-mentioned act, and is to be paid to such officers by the council of the borough for the county, and in such case, the inhabitants of such part of the borough are not to have power to decide that the provisions of the above-named act shall cease to be acted upon.

2. Management of Corporate Property and Revenues.

Many of the old corporations had considerable revenues derived from various sources: from lands, leases of tithes, and other property; from tolls of markets and fairs; from tolls or other charges imposed on inward or outward traffic, on the importation of merchandise, commonly called town dues; from other duties, as quay dues, anchorage, &c.; and from fees payable on the admission of corporate officers and burgesses, as well as from various other sources. The corporation, through a refusing municipal office. In many corporations the revenue was sufficient for the maintenance of all necessary municipal institutions; but in these they were often but partially applied to really municipal purposes. In most, however, the commissioners declare that the revenue derived from these sources was not sufficient for any public purposes, even though they had been wholly expended upon them.

There were many instances among the parliamentary boroughs in which, the revenue being inadequate to the wants of the municipality, the deficiency had been supplied either by the political patronage of the borough. In some, before the passing of the Parliamentary Reform Act of 1832, the members or the patron paid all the municipal expenses; and these contributions having ceased since that time, such corporations have no longer had the means of maintaining municipal institutions of any kind.
In numerous instances, too, individual corporators were ac-
countable to receive pecuniary allowances from the patron; which source of revenue was not a proper measure since the passing of the Reform Act, a principal inducement to belong to the corporate body was thereby in many places taken away.

The income derived from market and fair tolls, and that from the proceeds of any other objects of general com-
plaint, grounded as well on the consideration that the money thus levied has seldom been applied for the good of the community, as on the vexatious and injurious nature of that kind of taxation—arising, in some places, from the exorbit-
ance of the tax—in others, as far as it seems, in order to limit the trade of the port; besides that, whatever may have been the origin of these tolls, in latter times they have been paid, in many instances, without any equivalent being rendered by the corporations which have enforced them. The levying of cessations, a tax intended to serve corporate offices has also been a source of rea-
sonable complaint, where such fines have been levied, not really for the purpose of compelling individuals to serve, but for the sake of increasing the funds of the corporation.

The management of these various offices from the vantage-
point of the corporate property. Some corporations have been accustomed to let their lands by private contract to members of their own body, on rents and at fines wholly disproportioned to their value, and frequently for long terms of years, and thus the corporation has been, more or less, to a certain extent, a property for inadequate considerations. In large towns how-
ever the prevalent species of malversation has been, not so much the clandestine appropriation of the corporate prop-
erty, as the misappropriation of the monies in the administra-
tion of the municipal funds, and an exclusive distribution of patronage among friends and partisans.

In some towns large sums have been spent in bribery and other illegal practices at contested parliamentary elections. The corporation of Leicester, for instance, in 1826, expended 10,000l. to secure the return of a political partisan, and mortgaged some of their property to discharge the liabilities thus incurred. At Barnstaple and Liverpool, in like man-
ner, the funds of the corporation have been wasted in de-
formity of the objects intended by them, in the hands of persons who had been proved guilty of bribery. In general, the corporate funds have been only partially applied to municipal purposes, as the providing an efficient police, the watching and lighting the town, &c., but have frequently been ex-
propriated and appropriated in the interests of important offices. The allowance to the head of the corporation was very often large; and it was well understood that he was to spend it in public entertainments. The practice of having periodical dinners, &c., for the members of the common council, at the cost of which a large part of the funds, if not of the corporate funds, was almost universal, and in some places consumed a large portion of the revenues.

The commissioners found the debt of many corporations to be extremely heavy, owing often to neglectful and impro-
per administration of the funds, in which the interest has absorbed a very large proportion of the income; others were absolutely insolvent. Many of the close corporations had become indebted to the patron of the borough for sums of money advanced to them for municipal and other purposes.

Some check might have been imposed on these abuses by the force of public opinion, had the corporate accounts been regularly kept and regularly subjected to public inspection; but so irregularly had they been kept, that in the course of the late municipal inquiry, the facts relating to the management of corporate property, the expenditure, and the debts, were in many places elicited with difficulty and imperfectly. In some places no accounts at all were kept; in others they were kept very incompletely; in very few was there any regular and efficient audit, and in still fewer any publication of them.

The new Act will be found to provide efficient remedies for these defects in the financial department of municipal government.

After the election of the treasurer, the rents and profits of all corporate offices, and the interest, dividends, and annual proceeds of all monies, dueces, chattels, and valuable se-
curities belonging to the former body corporate of such borough, named in the schedules (A) and (B), to any member or officer thereof in his corporate capacity, is a penalty fine for any offence against this act; the application of which is not otherwise therein provided for, is to be paid to

the treasurer of the borough, and to be carried by him to the
account of a fund to be called 'the borough fund.' This fund is the payment of legal debts due from the late body corporate contracted before the passing of this act, with all interest accruing while any part shall remain unredeemed, and saving all rights or claims in or upon the real or personal estate of such body corporate by virtue of any estate, trust, or right in law or equity, or by virtue

gorage or otherwise, is to be applied towards the payment of the salary of the mayor, and of the recorder and the police-

magistrate (where the latter functionaries shall be created), the salaries of the town-clerk, treasurer, and every other officer apportioned by the laws, as also towards the pay-
ment of the expenses incurred from time to time in pre-
paring burgess lists, ward lists, and notices, and in other matters connected with the borough elections, and for other necessary and useful purposes mentioned in the act.

This levy is not the payment of legal debts due from the late body corporate contracted before the passing of this act, with all interest accruing while any part shall remain unredeemed, and saving all rights or claims in or upon the real or personal estate of such body corporate by virtue of any estate, trust, or right in law or equity, or by virtue of any other source, or alienate any part of the borough lands, tenements, or hereditaments; and leases granted by them are to be for a term not exceeding thirty-one years from the date of the lease, or of a pre-
vious agreement, should there be one; and leases are to be at the particular rates without any fine: excepting that the yearly value of the property shall arise principally from buildings, or the property shall consist of land for the erec-
tion of buildings, on which the lessee shall covenant to erect buildings of greater yearly value than the land, or for lay-
ning out gardens, parks, or other appurtenances to buildings, in which case the lease may be for any term not exceeding seventy-five years.

In special cases the council may sell, or alienate, or de-

tate, or lease, or grant, for a term of years; or grant, by patent, or on the recommendation of the council, representing the circumstances to the Lords of the Treasury, and obtaining their approbation of the act, and of the terms and conditions; but in such case the council must give one month's notice, fixed in some public place in the borough, of their intended application, and the proceeds of the sale or grant be sent to the Lords of the Treasury must lie during that period in the town-clerk's office, open to the inspection of every burgess.

Not only the regular keeping and the publicity of accounts, but the importance of the financial department of bo-

tough government, the regular and responsible auditing of them, are now first uniformly and effectively provided for. Two auditors are to be elected for each borough or ward by the burgesses, in precisely the same manner as already de-

scribed in the inhabitants; and in the case of any suspension or absence of the regular financial audit, the auditors are to examine and audit the treasurer's accounts, in con-

junction with a member of the council to be named by the mayor.

3. Local Taxation.

Municipal taxation under the old system was as irregular as all its other financial arrangements. The almost uni-

versal persuasion on the part of the members of corpora-

tions, that the permanent income derived from rents, tills, &c., was entirely applicable to their private and public use, corporators themselves, and the consequent unprofitable expenditure of that income, called the powers of local tax-

ation, where the corporation possessed them, into additional activity, though generally with no equivalent advantage to the

inhabitants. The introduction, too, in so many places of local acts of parliament for the realization of objects of public utility, which, according to their nature, should have fallen strictly within the province of municipal administra-
tion, might have brought the boroughs into a collision with the boards of commissioners appointed under such acts. In some bor-

oughs the corporation levied on the inhabitants a rate in the nature of a county-rate, and destined to similar objects.

The Municipal Reform Act, as amended by the Municipal Rates Act, has opened the way for transferring the powers of the local boards to the municipal councils, and so introducing one general and uniform system of municipal taxation. After providing, as above described, for the faithful appropriation of the

income of the borough in public objects, it proceeds to direct how such additional funds are to be raised as may be necessary to defray the charges of those arrangements for the public convenience and security of which it ensures the execution.

4. Specific Trusts and Patronage.

Besides the property applicable to all municipal purposes,
various funds and revenues have at different times been entrusted to corporations for specific objects. Tolls and dues, for instance, have been granted for some purpose of local utility, as the maintenance of a navigation or a harbour, and granted for such purpose exclusively. Financial abuses, of the same nature as those which we have already noticed, have appeared in the management and application of those funds. Other corporations are connected with charitable institutions and the administration of charity funds; and here again we find mismanagement and misappropriation to a considerable extent: the patronage connected with these trusts has very often been secured by the corporate body, and used to fill general offices both in the municipal and the parliamentary elections. In many instances, too, the corporations have possessed ecclesiastical patronage, presenting to livings, and appointing lecturers; as well as the more obvious duties of churchwardens.

The new body corporate of any borough named in the schedules to the Municipal Reform Act are to be trustees for executing, through the council, the provisions of all Acts of Parliament made before the passing of this Act, and of all Acts which shall be necessary for the good government of the borough. They shall be members or nominees of the former corporation or any of its members as such, or any particular number of persons appointed by it, with certain exceptions. The mayor, aldermen, and other officers of the municipal body shall be freeholders or owner-occupiers, or shall have resided for ten years within the borough; and the mayor and corporation shall continue in office until the election of the new council. The council is to consist of as many members as the county council may from time to time determine. In each borough, there is to be an elected mayor, who is to be the chief executive officer of the borough council. The council is to have the power to levy and expend money for the purpose of carrying out the provisions of the Act.

As regards charitable trusts, it is deemed expedient that the obligations of the municipal corporation should be limited to the public funds of the municipality: therefore, wherever the former body corporate, or any of its members as such, or any particular number of persons appointed by it, or the council of the Mayor and corporation, or any other persons shall have been connected with any charitable trust, or have had any interest in the income thereof, the new corporation is not to hold or dispose of any such property or any interest therein.

The anticipated influx of dissenters into the new municipal councils rendered the ecclesiastical patronage of the corporations in many cases a source of pecuniary profit. In the event of municipal reform, the difficulty has been obviated thus: Where any former body corporate, or any number of its members or any particular number of persons appointed by it, possessed any property other than charitable trusts to which any adowson or right of present interest was attached, or possessed any adowson in gross, or any right so to present or nominate, such adowson, and right of presentation or nomination, is to be sold under the direction of the ecclesiastical commissioners, so that the best price may be obtained; the proceeds are to be applied to the public funds of the municipality. Any vacant curacy occurring before the effecting of such sale is directed to be filled up by the bishop of the diocese in which the prebend is situated.

IV. Organization for Local Jurisdiction.

Magistracy.—In almost all the principal boroughs there were municipal magistrates whose authority as justices of the peace extended over the whole borough. In some cases the county magistrates possessed a concurrent jurisdiction within the borough; but more commonly that of the county magistrates was exclusive; and even where the county magistrates possessed a concurrent jurisdiction within the municipal limits, they rarely exercised it. The head of the corporation was always the chief municipal magistrate named in the charters; and in some few instances he has been, by virtue of his municipal office, a magistrate also of the neighbouring county. In many of the large cities and boroughs all the aldermen were magistrates: in others only those who had 'passed the chair' is, who had served the executive office. At Norwich, the aldermen who had not passed the chair were magistrates in their several wards. In other towns only a certain number of the aldermen were elected, and only the senior aldermen were magistrates: in Doncaster, three aldermen were chosen to be magistrates as long as they continued aldermen: in Ripon, the two aldermen who had last been mayors were magistrates in Richmond, the last mayor only was so constituted.

The judicial officer styled Recorder was also usually one of the justices. The chief amount of magisterial business was done by the mayor: in some corporations his magisterial authority continued for a year, or a longer time beyond the term of his mayoralty, under the terms of the charter or by a customary election.

Defects, &c.—The magistrates were usually chosen from the aldermen, and the aldermen were generally political partizans. Hence, even in those cases where injustice was not absolutely committed, a strong suspicion of it was excited: so that the corporate magistrates generally were not regarded by the inhabitants with favour or respect, but often with positive distrust and dislike. In many places there were heavy complaints of their non-residence.

Municipal Reform Act.—Among the municipal officers, the mayor alone is to be a justice of the peace by virtue of his office, in every borough, not only during his year of office, but during the whole of the year next following, if he continue to be peculiarly qualified. The other executive officers are to be nominated by the mayor from the council at large, as shall be equal in number to the members or nominees of the former corporate body acting as such trustees or exercising such functions. As regards charitable trusts, it is deemed expedient that the obligations of the municipal corporation should be limited to the public funds of the municipality: therefore, wherever the former body corporate, or any of its members as such, or any particular number of persons appointed by it, or the council of the Mayor and corporation, or any other persons shall have been connected with any charitable trust, or have had any interest in the income thereof, the new corporation is not to hold or dispose of any such property or any interest therein.

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The judicial officer styled Recorder was also usually one of the justices. The chief amount of magisterial business was done by the mayor: in some corporations his magisterial authority continued for a year, or a longer time beyond the term of his mayoralty, under the terms of the charter or by a customary election.

Defects, &c.—The magistrates were usually chosen from the aldermen, and the aldermen were generally political partizans. Hence, even in those cases where injustice was not absolutely committed, a strong suspicion of it was excited: so that the corporate magistrates generally were not regarded by the inhabitants with favour or respect, but often with positive distrust and dislike. In many places there were heavy complaints of their non-residence.

Municipal Reform Act.—Among the municipal officers, the mayor alone is to be a justice of the peace by virtue of his office, in every borough, not only during his year of office, but during the whole of the year next following, if he continue to be peculiarly qualified. The other executive officers are to be nominated by the mayor from the council at large, as shall be equal in number to the members or nominees of the former corporate body acting as such trustees or exercising such functions. As regards charitable trusts, it is deemed expedient that the obligations of the municipal corporation should be limited to the public funds of the municipality: therefore, wherever the former body corporate, or any of its members as such, or any particular number of persons appointed by it, or the council of the Mayor and trust,—or were, by any statute, charter, by-law, or custom, lawfully exercising any powers or functions not otherwise provided for by this Act,—provision is made for the transferring of such joint trusteeship to so many members of the council as shall be equal in number to the members or nominees of the former corporate body acting as such trustees or exercising such functions.

The anticipated influx of dissenters into the new municipal councils rendered the ecclesiastical patronage of the corporations in many cases a source of pecuniary profit. In the event of municipal reform, the difficulty has been obviated thus: Where any former body corporate, or any number of its members as such, or any particular number of persons appointed by it, possessed any property other than charitable trusts to which any adowson or right of present interest was attached, or possessed any adowson in gross, or any right so to present or nominate, such adowson, and right of presentation or nomination, is to be sold under the direction of the ecclesiastical commissioners, so that the best price may be obtained; the proceeds are to be applied to the public funds of the municipality. Any vacancy occurring before the effecting of such sale is directed to be filled up by the bishop of the diocese in which the prebend is situated.

IV. Organization for Local Jurisdiction.

Magistracy.—In almost all the principal boroughs there were municipal magistrates whose authority as justices of the peace extended over the whole borough. In some cases the county magistrates possessed a concurrent jurisdiction within the borough; but more commonly that of the county magistrates was exclusive; and even where the county magistrates possessed a concurrent jurisdiction within the municipal limits, they rarely exercised it. The head of the corporation was always the chief municipal magistrate named in the charters; and in some few instances he has been, by virtue of his municipal office, a
Defects, &c.—The method of appointing this influential officer is reported by the English commissioners to have been often very objectionable. At Newport, in the Isle of Wight, for instance, he was appointed formally by the crown, but actually on the patron's dictation. On one occasion no person was chosen recorder there whose connexion with the patronage of the borough is not described; and, in other instances, for managing the property of a deceased patron. At Woodstock the office had been vacant for several years because the patron's nominee was opposed. In some boroughs the recorder was elected by one of those demoralized constituencies of freemen which we have already described; and, Berwick a recorder so chosen tried capital felonies. In some cases, too, this officer united functions improperly joined; as, for instance, when, living in the neighbourhood, he acted as a resident magistrate at the same time that, by virtue of his office, he sat on the corporation's court. In many instances he performed no duties whatever; and his nominal connexion with the borough was merely a form through which he exercised over it an uncontrolable power. The power of appointing deputies, as hitherto exercised, is strongly objected to by the commissioners. 'Such exercise,' say they, 'has been occasionally useful; but the practice of appointing a deputy permanently to discharge all the duties of the recorder has been very mischievous.'

Recorder under the new Act.—In the appointment of this lucrative office, for which, above all others, boroughs vie with each other, the new Act makes some improvements. The recorder's election is to be by the justices excluding the mayor, nomination by the crown to be substituted for election by the members of the corporation. The council of every borough, desirous of having a separate body of councillors, is to petition the king in council for one, who is to be a sort of municipal president of the state of the gaol, and the salary they will pay the recorder; and his Majesty, if he be pleased to grant such court, will appoint a recorder of the borough, or one for two or more boroughs conjointly, who is to be a barrister of five years' standing; with all the usual duties of a good barrister, or, when any vacancy occurs, appoint another such person to fill the office.

Town Clerk as a Judicial Officer.—In some boroughs the duties of town clerk have been separated from those of at-torney. The new Act requires that in all boroughs not containing an attorney, the clerk is to be the public prosecutor of the borough, and the office of justice of the peace be vested in the clerk; and it also empowers the recorder to appoint, on the same terms as before, a clerk to the magistrates, or justice's clerk; clerk of the peace, that is, of the criminal courts, in every borough. It also makes this clerk a member of the court of record, or civil court. Moreover, he was often appointed deputy recorder, and usually conducted inquests when the head of the corporation was coroner ex officio.

Deffects, &c.—'The most inconsiderate offices,' observe the commissioners, 'are the office of attorney, and that of the town-clerk. He very frequently acts as deputy recorder; which practice, in our opinion, cannot be too strongly condemned. He is often, practically, the principal attorney for the prosecution of offenders tried at the borough sessions, whereas, in former times, he had previously advised in the character of clerk to the magistrates. Even when his name does not appear to the prosecution, the same evil often ensues from its being in the hands of his partner. In York and Hull great complaints have been made of the conduct of the borough attorney, who has received by deputy the advantages which the rules of practice give him over other attorneys. In Preston the town-clerk is a member of the council, and his partner is the senior alderman, a magistrate, and a coroner. A strange incongruity, sometimes appears in the election of the town clerk to the office of mayor: in some places where this has occurred an attempt has been made to gloss over the irregularity, by appointing another town-clerk during the year of his mayorality. Whilst the same officer thus unites the characters of judge and prosecutor, he is entirely committed to his discretion, and it cannot be a matter of surprise that suspicions of unfairness and partiality should be excited.' In the civil courts, likewise, when the recorder did not attend, the town-clerk became the real judge, from the incompetence of the other magistrates to perform the duty. 'At Reading,' say the commissioners, 'the town-clerk, during his mayoralty, tried and taxed the costs of a cause in which his partner was one of the attorneys. In many towns, although he does not practise in the court of record as an attorney in his own name, he is the real attorney in the cause. At Kendal the town-clerk's partner, who is an alderman, practises in the civil court. At Wakefield, the same thing is also the case. The town-clerk acts as assessor in the civil court, and it also taxes the costs. This union of conflicting duties is very adverse to the proper administration of justice; it is a frequent cause of suspicion and jealousy amongst the inhabitants, even where the character of the officer is secured against improper conduct. It is justly the subject of complaint, that, the town-clerk should act as an attorney of the court, either in his own name or that of his partner or agent, as in fact it places the whole power over the proceedings of the court in the hands of an attorney.' Besides that the town-clerk often selected the juries in these as well as in the criminal courts.

Improvements, &c.—Provision is made by the Corporation Reform Act for obviating that vicious union of incompatible functions, especially in the magistral and judicial departments, which made the office of town-clerk one of the most inglorious anomalies in the old municipal system, and in particular for keeping the office of clerk of the peace distinct from that of clerk to the justices. The justice of the peace, upon which a separate commission of the peace shall be granted are to appoint a clerk, removable at his pleasure: but the clerk to the justices must not be an alderman or councillor of the borough; nor must he be the clerk of the peace of the borough, or his partner, nor employed in the affairs of the town. Two persons, directly or indirectly engaged in the prosecution of any officer committed for trial by the justices to whom he is clerk, are immediately on the appointment of a recorder of the borough by the crown, as above described, the borough council are to appoint a clerk of the peace, to hold office during good behaviour.

Sheriffs.—In the twenty-one cities and boroughs of England, with a county within reach, two sherrifs are chosen yearly, whose office is strictly analogous to that of the sheriff of an ordinary shire, but whose appointment is never, like that of the latter, made by the crown, but by election on the part of the whole corporate body, or some class of that body. They are chosen by the livemans from two lists, consisting of the alderman and the mayor's nominees; besides which any elector may name a candidate. At Carmarthen and Poole they were chosen by the freemen from among themselves; at Knaresborough and Beverley, from among themselves; at Canterbury, by the mayor and aldermen from the citizens; at Haverfordwest, by the freemen from the nomination of the common council; in Hull, by the freemen from two persons nominated by the common council, on the nomination of the mayor; and in Newcastle upon Tyne, by the mayor, and in Lincoln, one by the common council, the other by the mayor elect, both from the freemen who had served the office of chamberlain.

The city and borough sheriffs have often had the care of the gaol and the custody of the prisoners confined there. Their emoluments have been the ordinary ones attached to the same offices in counties; besides which, in some towns they have received yearly salaries. They usually performed the duties by deputy.

The office of sherriff in corporate counties remains elective as before, with the same powers and duties. The Municipal Reform Act of 1835 simply provides that the election shall in all cases be made by the council, on the 1st of November in every year; the sheriff elected according to former custom remaining in office until the first election under this Act, and no longer.

Bailiffs, &c.—'In those boroughs in which bailiffs were found among the principal officers belonging to the body of the corporation, they performed the duties of sheriffs. They seem to have been originally receivers and managers for the crown, or other lord of the borough, and not to have had any duties in connexion with the corporate body, until after the property of the soil became vested in the corporation, when the bailiffs also became corporate officers.' They
often had the custody of the gaol. In many places the office had become entirely nominal; in others its original duties had been partially revived; in still others it was sometimes filled by one person, often by two; at Berwick it was vested jointly in five, by three of whom bailable process must be signed. Their remuneration arose from the same sources as those of the sheriffs; in some towns they received an additional sum, actually or potentially commensurate with the profits of part of the corporate property.

Criminal Courts.—A court of criminal judicature has been held until the present time in most of the boroughs of England and Wales, though in some this branch of jurisdiction has long been suspended, and in others it has been partially, but partially exercised, all serious cases being sent by many to the county sessions or assizes. Some of those which formerly exercised jurisdiction over capital offences had since abandoned it: others, as Salisbury, Southampton, and Chichester, still tried capital offences; but where capital punishment was expected to follow conviction, an arrangement was made to prevent a trial before the corporate authorities solely. Several corporations, as those of Berwick, Bristol, Canterbury, Exeter, and Rochester, still exercised their chartered power of trying and executing for capital offences. In a few instances the criminal jurisdiction included that of a court of admiralty; at Bristol, for example, felonies committed on a part of the Bristol channel were triable at the ordinary court of gaol delivery, not as at a court of admiralty, but as in the constable's petty sessions. At Marlborough, where the justices were nominated by the mayor, felonies were tried until 1824, when it was discovered that the corporation possessed no such jurisdiction.

The ordinary criminal courts were those of general sessions and quarter-sessions. Courts of general gaol delivery existed in very few places: in some of these they were held under charter without any commission issuing from the crown, while in London, Oxford, and some other places, they were never held without such a commission. When a commission issued, the corporate magistrates were the sole judges; the time of holding these courts was sometimes discretionary with the corporate magistrates, sometimes regulated by the charter, as at Exeter, where they must be held four times a year, and in practice have been opened at the feast of St. Thomas the Martyr. The general sessions, too, the ordinary criminal court of the cities and boroughs, seldom differed, as to the time and manner of holding them, from the county quarter-sessions. In all the corporate courts one or more magistrates were specially named, who, unless those in whose presence the court could not be held, usually it was the mayor or the recorder, sometimes both. In some cases where the presence of the recorder was not necessary for holding the court, he did not attend, but in many the whole business was conducted before him. At Bristol he tried a case in which the gaol delivered the prisoners over to the quarter-sessions, the prisoners at the latter being tried before the mayor and aldermen, but virtually by the town-clerk, who there was necessary a barrister. The jurors were generally summoned from the inhabitants at large, without strict reference to any qualification; sometimes from the freemen alone. In the latter case, the number out of whom they were chosen was often inconveniently small.

In many boroughs no fund was provided for paying the expenses of prosecutions; in some they were paid from the county-rate; in others from a borough-rate in the nature of a county-rate; in others from the poor-rate. In many of the principal towns, as Liverpool, Leeds, Bristol, Hull, York, Newcastle, Berwick, the criminal courts were attended by barristers; but in most of the smaller places the business was conducted solely by attorneys.

Civil Courts.—A great majority of the English and Welsh municipalities possessed also a civil jurisdiction co-extensive with the borough limits. These in general had their own charter or chart, and were generally dispensed with by prescription. They varied considerably as to the nature of the actions they might entertain. In general they had cognizance of all personal actions; and in some instances of actions real, personal, and mixed. The amount for which suits were maintainable was generally limited to the power of removal), while in several cases it was restricted to the recovery of debts under a given amount. The presiding judge in these courts was generally the mayor, whose they were not unfrequently termed the mayor's court. Sometimes the bailiffs presided with the mayor; in other instances the recorder, and occasionally the mayor and recorder. In several cases the recorder, though a magistrate of the borough, was not a judge of the court of record; in many the town-clerk practically officiated as such. The officers of these courts were generally the town-clerk and the bailiffs or sergeants-at-mace. None of these offices was hereditary; those belonging to the office of sheriff; he issued writs, filed and enrolled the proceedings, granted rules, taxed the costs, and signed the judgments. The bailiffs or sergeants-at-mace performed the duties which, in actions brought in the superior courts of common law, were devolved upon the sheriffs of counties. To them writs were directed; by them they were served and returned, and generally they were answerable, like sheriffs of counties, for any irregularity in the service. It must be understood, however, that the character of the charge imposed by the charter on the officers of the boroughs; but in every court there was, under some name, a functionary performing these duties.

The borough courts of record, in their general constitution, resembled the superior courts of common law. Where created by charter, the proceedings were according to the practice of some one of the courts at Westminster. Being however seldom regulated by any printed or written rules, their practice was very ill defined, though in some few instances rules have been prepared and published, after approval, by the corporation, but these rules have not as yet been commenced, in case of serviceable process, by summons, and of bailable process, by capias. As regards the times of the returning of process, and consequently the period of obtaining judgment, the practice has been various. In many instances the natural time fixed by the charter, or the other steps in the cause were taken, weekly; in others, only every fortnight or three weeks. In contested cases, judgment could be obtained in few under six weeks; in general the period was longer. In some boroughs, as Chichester, the suitant and defendant might, after a certain period of pleading pronounced by the courts of common law. In some the process was by distraints, or distress of the defendant's goods, and renditiones exponas, or exposure to sale, in cases where the debt exceeded 40s. This was generally found on affidavit of the debt; but at Berwick it issued without affidavit when the demand was under 15s., and at Lancaster when it was under 40s. At Preston, burgesses were exempt from this process. Several courts, as in London, Bristol, and Exeter, have had the custom of foreign attachment, by which a plaintiff may distrain the goods of his debtor, the latter being held in a third party with the borough, and in default of appearance, cause them to be applied in satisfaction of his debt. In Lancaster, only the goods of non-freemen could be thus attached. This custom, where existing, has extensively extended since 1688.

Defects of the Judicial Organization in general.—The corporate magistrates were often selected from a class incompetent to the discharge of judicial functions. The magistrates of one borough (Malmesbury) were often unable either to write or read; and at another, having extensive and exclusive jurisdiction, they have known to be blank warrants. Even where they have belonged to a superior class, they were often selected from the senior aldermen only, who, from age and infirmity, soon became incapable of performing the duties of their office, while a mistaken notion of dignity kept them from asking to be relieved. All these defects, and others, are so gross defects in other parts of the judicial system. The juries of the borough courts were often taken exclusively from the freemen, who, besides being of an inferior class, were strongly tainted with party-feelings. At Carmarthen, for instance, the commissioners showed that 23 juries were frequently given against justice, from party bias; and at Haverfordwest, where juries could only be impannelled from the freemen, they had been openly reprimanded by judges and magistrates for improper acquittals of Burgess's case. The general opinion was that it was "impossible to convict a burgess." Closely similar were the defects in the administration of civil justice. The vicious consequences of the union of incompatible functions in the persons of the town-clerk and the mayor, as well as the necessity of their being selected from the same objectionable class as in the criminal courts; at Portsmouth they were selected by one of the sergeants-at-mace, chosen out of two by the plaintiff's attorney; at Chichester they were summoned by an officer who was
one of the four nominal attorneys in court, the real attorney in the cause having the power of selecting the nominal attorney. The serjeants-at-mace and other ministerial officers of the court, exercising the functions of sheriff, were often called serjeants-at-law and had a summary responsibility to afford any security to the court to be given. The costs of a suit were in general very considerable: those of a plaintiff often varying from 15l. to 20l., of a defendant from 8l. to 12l.

The whole system of costs and fees was objectionable; there was generally no authorized table of them, and frequently no well-defined practice; they were most commonly in the town-clerk's discretion, though in some places taxed by the mayor; they bore little relation to the services in respect of which they were paid, and no reasonable proportion to the average value of the cases in question. One cause among others which led to the disuse of these courts was the want of professional skill in the judges. Nor can we doubt that the intimacy which must often have necessarily subsisted between the judge and the parties appearing before him, was one source of the frequent procrastination to which these tribunals, at which a few minutes would convert the tradesman and the customer into the judge and the suitor. Another reason was, the facility of removing the causes, and the general inclination of legal practitioners to sue in the superior courts. When a plaintiff had procured execution, he could use it only within the limits of the local jurisdiction; hence his process was often fruitless, the defendant removing himself and his goods beyond the limits of the court. The unlimited power of imprisonment possessed by these courts, and the frequent suspension of the proceedings of the inferior courts, were also mischievous.

One general observation remains to be made on the judicial powers lately exercised by the municipal corporations of England and Wales. Their extent was wholly disproportionate to the importance of the town or the probable results of any action: for instance, with a population exceeding 50,000, no felonies could be tried, but all must be sent to a distance varying from eighteen to fifty miles; while in Winchester, with a population of only 1,728, and in Dunwich, with only 232, the same courts have the power of trying all felonies. The decision of concurrent or exclusive authority more correspondent to the relative importance of the respective places, or to the principles of expediency arising out of their situation and their means of communicating with the seat of county jurisdiction, is a grant of exclusive power seems either to have depended entirely on accident or caprice, or to have been determined by circumstances which have long ceased. Many corporations have disused the jurisdiction conferred by charter; generally from unwillingness in the corporate magistracy to undertake the responsible exercise of power. On the other hand, many of the evils above enumerated in the administration of criminal and civil justice have resulted from the continuance of jurisdiction after the decay of the borough. In many instances the limits are extended to an extraordinary degree by the practice of finding competent persons to act as magistrates, even in petty sessions, although a sufficient number might be found capable of superintending the police, and the paving, lighting, &c. of the town. Even if this were not in the interest of the corporation, the violence committed by outlaws, great injustice resided from intruding the powers of sitting as magistrates in quarter-sessions, and as judges of civil procedure, to persons without professional knowledge and experience.

Notwithstanding all the defects of the local civil courts, the inhabitants bear marked testimony to the general desire of the inhabitants for their continuance or revival. Any system, say they, which would have the effect of distributing justice where the parties interested reside, would be regarded as one of the greatest boons which the legislature could confer.

Borough Courts under the Reform Act of 1835.

Criminal Courts.—After the 1st of May, 1835, all criminal business in boroughs is henceforward granted to any corporate or chartered officer or justice in any borough, and all right to elect or nominate any justice of the peace for the borough, or to act as such, other than as is provided in this act, are to cease. But any court now held hereafter in any borough under the authority of the 1st of May, 1835. On the passing of this act, all claims whatsoever by boroughs, or their freemen or inhabitants, of exemption from the jurisdiction of the Court of Admiralty, or of possession of any such local admiralty jurisdiction, however granted, are repealed—except the jurisdiction and office of the lord warden as admiral of the Cinque Ports.

Once in every quarter of a year, or oftener, at his discretion, or at his majesty's direction, the recorder is to hold a court of quarter-sessions for the borough, of which he is to sit as sole judge. It is the business of the court of record, and have cognizance of all crimes, offences, and matters cognizable by any county court of quarter-sessions, the powers of which the recorder is to possess. But he is not to make or levy any county rate or similar rate, or to grant tavern licences, or exercise any of the powers specifically vested in the county courts. In the absence of the recorder and deputy recorder, the mayor is to open and adjourn the court of quarter-sessions, at the proper times, and to require recognizances until a further day, to be proclaimed by him; but the mayor is to have no power to act as judge, or to do anything more therein than is above stated.

After the 1st of May, 1836, every person then committed for trial at any borough court, charged with any offence which the recorder has jurisdiction to try, may be removed to the prison of the county, to take his trial at the next sessions or assizes.

Also, after the 1st of May, 1836, the justices of the county in which any borough, not having received the grant of a separate court of quarter-sessions, is situated, are to exercise full jurisdiction within such borough. But no part of any borough that shall have a separate court of quarter-sessions is to be within the jurisdiction of the justices of any county from which the borough was exempt before the passing of this act.

Every county gaol, house of correction, or lunatic asylum, court of justice, or judge's lodging, which at the time of the passing of this act was for any purpose taken to be within a county, is, for all such purposes, still to be so taken, although included within the limits of a county rate vested in the county council. Civil Courts.—In every borough in which, by charter or custom, there is or ought to be held a court of record for the trial of civil actions, not regulated by any local act, or in which, at the time of the passing of this act, a barrister of five years' standing shall act as judge of the court of record, or in his absence, or if there be not one, such officer of the borough as, by charter or custom, is the judge of the court, is to continue and act as such. The council, in every case, is to have the power of appointing the necessary officer, if he be not the recorder; and every such judge or officer, except he be the mayor, is to hold his office during good behaviour. And he is to hold his court at such times and places, and with such rules of practice, and with the same powers and jurisdiction, as before the passing of this act.

The authority of any such court, in which a barrister of five years' standing shall act as judge or assessor, is to be extended (if it have not already such authority) to the trial of the actions of tenement, covenant, debt by specialty or on simple contract, trespass on the goods of another, and the like, where the damage shall not exceed £10, and of ejectment between landlord and tenant where the annual rent shall not exceed £10, without any fine. And any such court may make rules, from time to time, for regulating the practice of his court, which rules are not to be in force till allowed and confirmed by three or more judges of the superior courts of common law at Westminster. The jurisdiction of such court is to extend to the bounds of the borough, but no such judge, wherein the title to land or any other tenure, or to tithe, toll, market, fair, or other franchise, shall be in question, in any court which, before the passing of this act, had not authority to try actions respecting such titles.

Borough council courts.—Every borough having a separate court of quarter-sessions, or of record to be held, is to appoint a registrar, where the town-clerk acts as registrar, and other officers and servants to carry on the business and execute the process of the court.

Criminal Courts.—Every borough, having a separate court of quarter-sessions or of record to be held, is to be qualified and liable to serve on grand juries, and on juries for the trial of issues in such court (unless exempt or disqualified, otherwise than in respect of property, under the Act of Geo. IV. c. 50), to serve on petty sessions in any borough, not oftener than once in one year. The burgesses of every borough having a separate court of quarter-sessions are to be exempt from serving on juries at any sessions for the county. After the passing of this act, no person in any
Borough is to continue exempt from serving on juries by virtue of any grant, charter, or other special exemption; and so much of the Act of Geo. IV. cap. 50 as continues such exemption is repealed.

Fees.—The council of every borough shall have a separate court of quarter-sessions, and a commission of the peace; or a court of record, to be made and sit, within six months after their election, a table of fees to be taken by the clerk of the peace, the clerk to the justices, and the registrar and officers of the court of record; and such tables are to be submitted to one of the secretaries of state and confirmed with or without alterations, as he shall think proper. The council may from time to time make new tables to be confirmed, as above directed.

Penalties and Proceedings.—Any penalties recoverable in any quarter-sessions or by any act made payable to the king, to a body corporate, or to any person whatever, except it be the informer or some party aggrieved, are, if recovered before any justice of a borough having a separate court of quarter-sessions, to be adjudged to be paid to the treasurer on account of the borough fund, and no one else; except being made all of penalties or forfeitures recovered under any act relating to the customs, excise, or post-office, to trade or navigation, or to any branch of the king's revenue. The prosecution for any offence punishable on summary conviction may be commenced within three months after its commission.

The justices before whom any person shall be summarily convicted are to cause the conviction, under their hands, to be drawn up according to a form prescribed by the court which may name the date and place of the conviction, the name of the offender, with the time, place, and nature of the offence, the amount of the penalty, and the time fixed for its payment to the treasurer of the borough. It is expressly enacted that all officers who shall either grant any bye-law or regulation made by virtue of this act, are to be punishable on summary conviction in like manner. Provision is made for appeal from such conviction to the next court of general or quarter-sessions, held after twelve days, and for the offender's liberation in the interim, on entering into a recognizance with a sufficient surety to appear personally at the sessions. But no conviction, order, warrant, or other proceeding by virtue of this act is to be quashed through the irregularity, nor removed into any of the courts at Westminster.

Gait.—In nearly all the boroughs having criminal jurisdiction are gaols which have been under the superintendence of the corporation or the municipal magistrates. The gaols are from time to time repaired, in part by corporation funds; in others, from a borough-rate; in others, from the poor-rate. In many boroughs the same gaol was used indiscriminately for criminals and for prisoners committed by the civil court. In some few poor debtors, who were not confined for a small debt, were committed to the corporation. In those where the municipal magistrates committed to the county gaol, the borough gaols were used only for temporary detention. Sometimes prisoners were committed at once to the county gaol until trial, brought back for trial in the borough sessions, and again sent again to the county gaol to undergo their punishment. But debtors taken under process from the civil court must remain in the borough gaol.

Defects.—The state of the borough gaols is far from favourable. We are not aware of a single case of the evils of continuing the late constitution of the local tribunals. They have rarely admitted of any proper classification of the prisoners. In some large towns, as Berwick, Southampton, and Southwark, they were found in a very discreditible condition: in many of the smaller ones, they were 'totally unfit for the confinement of human beings,' often without sufficient air and light, frequently mere dungeons under the town-hall. In such receptacles it was impossible to set a prisoner to work, and for the reception of criminals from the courts. Felons might often be committed to the county gaol, while the borough gaol was in an unfit state; but as this power did not extend to prisoners committed from the civil court, debtors might be lodged in places of confinement thought unfit for the reception of criminals from the courts. Consequently, to the commissioners that the gaol of the borough was so notoriously improper a state for receiving prisoners, that plaintiffs were unwilling to consign to it defendants against whom they had obtained execution. At one place the same feeling was said to prevent the prosecution of criminals. Where the corporate bodies have had the means of improving the state of the gaols, their neglect, as the commissioners remark, admits of no palliation; but many, they state, were unable to defray the expense of more suitable arrangements. The rents from all the old borough rights, by birth, marriage, and apprenticeship, present or future, are reserved for the use of all persons having any share in them at the dissolution of the old corporations, in so far as regards their claim, by charter, law, or custom, to a portion in the real and personal estate, the rents and profits of any borough, or in any charter.
ritable trusts, the benefit of which latter was in many instances exclusively appropriated to the freemen, their widows, or children. But, before the proceeds of any such property are so divided, it is directed that the interest of all lawful debts chargeable upon it, the salaries of municipal officers, and all expenses of the town that on the 5th June, 1833, were defrayed out of it, shall be discharged. In like manner every person possessing, on the 5th June, 1835, any such active or inchoate title to freedom, is to have the same exemption as formerly from any borough tolls or dues, provided that he pays any sum of money, which, in consideration of his freedom or of any such right, he would, on the old system, have been liable to pay, and fulfils every other condition heretofore required, as far as is consistent with the provisions of this act. But all other exemptions from municipal tolls or dues, or all the pluriannual rights of trading which existed in many boroughs, are at once abolished.

The reservation of the freemen's title to the parliamentary franchise, included in the Parliamentary Reform Act of 1832, is distinctly maintained in the Municipal Regulation Act.

In anticipation that the several provisions of this act could not be carried into effect in the first year (1835), within the periods fixed in the act itself for that and all succeeding years, one of its clauses empowered the king in council to appoint, for the first year only, any other days before the 1st of May for the several elections to which the provisions of the several stages in the introduction of the new system; accordingly, the times for the several proceedings in question, as regards the first year only, have, by Order in council, been extended for about two months respectively. The following table will be found useful as excluding all old, clear, compact, and chronological view, each separate stage of the proceedings under the new system, with the precise date for each of the first year, in comparison with that fixed by the act for all following years.

### Nature of Proceeding.

<table>
<thead>
<tr>
<th>Dates fixed by the Act to the subsequent Years</th>
<th>Dates fixed by Orders in Council as altered. Year's Proceeding</th>
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<tr>
<td>Nor July, 1835</td>
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<td>Between July and7th Nov., 1835</td>
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As regards the ceasing of the old offices and the commencement of the new, it is directed that, after the first election of councillors under this act, the mayor, aldermen, and all other members of the old governing body of the borough, as named in the schedules to the act, by whatever style they may be designated, are to go out of office, and their whole powers and duties are to cease; but any of them may be elected according to the new regulations. Every person holding, on the day of the passing of this act, any office, a new election to which would by that act be introduced, if a charter, or custom, have taken place between that day and the 1st of May, 1836, is to continue to hold such office, with all its duties and emoluments, until the time provided by this Act for his going out of office. 'Every bailiff, treas-
old municipal order to the new, it is not for us to estimate with what degree of uniformity or rapidity that local and general good shall result which we so confidently anticipate. In the words of the recent writer, that as, in former days, municipal corruption was found to be the grand inlet to parliamentary subserviency, so municipal regeneration, by promoting civic virtue, activity, and intelligence, among the inhabitants of towns, thus brought to exercise a free voice, and a vigilant eye, was the surest instrument of public safety and government, will eventually accelerate the thorough infusion into the representative house itself, of that steadily popular and independent spirit which alone can give the highest usefulness and stability to the government of a great empire in its various departments. We then find various places denominated burghs or boroughs, and some with that term as a component part of their name, as Edinburgh, Roxburgh, Jedburgh, Musselburgh. The towns now mentioned will also illustrate the condition of the Scottish boroughs, some being the property of the sovereign, as Musselburgh the property of a subject. Musselburgh belonged to the church, and from the territory on which it stood being erected first into a barony, and afterwards into a regality with exclusive jurisdiction, it was successively a burgh of barony, a city, and a county. In some particular villages, more villages, but some, like Berwick, were raised from that and higher conditions to be burghs of the king in demesne. The burghs were at this time the property of the sovereign or other lord, and disposed of accordingly. Thus in the munificence of King David to the soul of a man, strange things of Scotland, Renfrew was included. So the burgh of Dundee was bestowed by William the Lyon on his brother David Earl of Huntingdon, who also received a grant of Inverbervie from the same monarch, as Cospatrick Earl of Northumbria, and James, King of Scotland, in terms of the latter of Colom IV. In like manner King Malcolm IV. bestowed on the steward of Scotland, by grant, a portion of land in every royal burgh in the kingdom as a place of residence; and we find that the constable of Scotland had likewise, of right, a tenement burgage in each of the royal burghs, derived no doubt in a similar way.

The following series of the royal boroughs of Scotland has been made by Chalmers (Caledonia, vol. i. p. 775), as they successively appeared to him in charters. Under A.D. 1111, we have King David’s charter to Berwick, Inverkeithing, Perth, and Aberdeen; the three last of which obtained their respective charters from King William the Lion. Under David I., Jedburgh, Haddington, Linlithgow, Rutherglen, Renfrew, St. Andrews, Dunfermline, Caithness, Fife, and five burghs of Carlisle, Granton, Leith, St. Andrews, and Berwick. Under David II., many charters to burghs, Dumfries, Lanark, Glasgow, Irvine, Ayre, Forfar, Dundee, Arbroath, Montrose, Inverurie, Kintore, Banff, Cullen, and Nairn. Under Alexander II., Annan, Dumarton, Dingwall, and Rosemarkie. Under John, we find charters to such burghs as Dunbarton, Righdon, Urquhart, Robert I., Kirkcaldy, Queensferry, and Lochmaben. Under David II., Cumbernauld, Inverurie, Dunbar, Brechin, Lauderdale, and Wigtown. Under Robert III., North Berwick and Rothesay. Under James I., Kirkcudbright. Under James II., Lanark, Ayr, and Dunbar. Under James III., Tain, Cremarty, and Kinlochbervie. Under William III., Cardross, and Ardros, though the charters here mentioned, and to which reference has been made, ever must not be taken as perfectly accurate, and indeed Chalmers himself furnishes materials for its correction. Thus Lanark is placed under the reign of William the Lyon, but in the third volume of the Caledonia we find the author saying, ‘it was certainly a royal town as early, at least, as the reign of Malcolm IV., who in granting a toft in Lanark, says it is in burgo me.’ (Caledonia, vol. iii. p. 607.) On the other hand, he tells us (vol. ii. p. 658) that Queensferry, though long ago, and not a borough so late as 1536. The most antient existing charters to the boroughs of Scotland are, for the most part, grants or confirmations of particular privileges to the burgeses, and do not, any more than the early charters to the towns of England, explain the meaning of this most artificial stage in the progress of the burghs had been already passed, namely, that of their erection into bodies corporate, if indeed the mere association of the inhabitants had not in those days this effect. Nay, the charter on which the burgh of Montrose is founded is not of a local but of a personal andambulatory nature. It is by King Malcolm IV., 'to the burgesses of the Bishop of St. Andrews,' and confirms to them all the liberties and customs which the king's own burgesses have, 'pertinent to their mean, or quay.' (Connet on the Election Law, p. 470.) The charters are however generally of one description, and convey to the burg and burgesses, or to the burgesses of the burgh, the privileges mentioned in the royal charter. There were probably for punishment or for trade free of toll or tributes, that they shall not be disbarred but for their own debts, and that they shall have a certain market. Other privileges are sometimes conferred, such as the right of a merchant guild. These privileges were not confined to the royal burghs; similar concessions were granted by the sovereign to the burghs of subjects; and in their turn imitated the royal example, and, like the monastery of Dunfermline, to our burgesses of Dunfermline and their heirs for ever,' confirmed or bestowed various privileges, until the time of the Reformation. The antient foundation of burgess-ship appears to have been possession of a tenement of land within burgh. An exception was early made in favour of a son not yet foris-familiae, and this was subsequently extended in various directions. And for a time, when a burg commune was not in a person that thus became a burgess avowedly to the king and his bailies and the community of the burgh, and became bound to pay to the king a certain annual sum for, and to watch and ward his land. The borough mailles was a duty to pay an annual rent or revenue, and it was the duty of the great chamberlains of the kingdom to take account of their payment. The other principal source of the royal revenue from the burghs were the customs, great and small; and every town, at least those indifferently of the number of King John's burgesses, was granted certain customs and paid them over to the chamberlain, under deduction of course not only of accustomed charges, but also of sums directed by royal precept to be paid out of the customs or firms of the borough. About the beginning of the fourteenth century the kings of Scotland adopted the method which had been followed in England, of granting feus or perpetual leases of the boroughs and of the petty customs to the communities of these boroughs, in return for which they stipulated a fixed annual redemption of money, together with a rent varying in proportion to the size of the boroughs granted to boroughs; which, instead of concessions of particular mercantile privileges, began then to take the form of regular feudal grants of the town in free-farm to the burgesses and community for a money redem. King Robert Bruce seems to have been the first of the Scottish monarchs who adopted this practice, and his example was followed not only by his royal successors, but also by the monasteries and lay nobles towards their burghs. On the accession of King James I., however, probably from an idea of the advantage which such grants would have in collecting the customs and rents of burgs, were prejudicial to the revenue, an act was passed annexing the customs and borough mailles to the town for the king's maintenance; and by a statute passed in 1597 all alienations, annuities, and purchases of the annexed property, as well as of the customs, made before lawful dissolution (disannexion) in parliament, were declared null. But neither of these statutes appear to have interfered with the method of granting royal charters to the boroughs, and it is certain that the monasteries continued to enjoyed the privilege of their charters; and in early times no difference seems to have existed between the privileges granted by the crown to the king's own burghs and those so granted to the burghs of subjects. Thus King David I. granted to the canons of Holyrood a charter in 1123, allowing them to sell their goods in their church and his house of Edinburgh, and the burgesses were enabled by him to buy and sell and traffic as freely and fully as his burgesses of Edinburgh. So Dun-
bor was made a royal borough by King Alexander I.;
yet the same king, twenty years afterwards, granted a
charter to the Bishop of Glasgow, allowing his burgesses
and their successors to hold borough courts for the
same purpose as they had done before Dunbarton was made a royal burg,
and without any hindrance from the bailies of Dunbarton. By various acts of the Scottish legislature also, mercantile
privileges were conferred on the free burgesses generally without
regard to the title of the county, or of the crown or
boroughs of barony or regality. However, by an
act of the first parliament of King Charles I., the privileges
of exporting merchandise, of using merchandise, and buy-
ing wine, wax, silk, and the like, and of packing and peli-
ing it, by importation of foreign goods and shipping the
burrowers royal that have vote in parliament and bear
burden with the rest of the burrowers, and to no others; and though
its extent has since that time varied at different times, an
exclusive monopoly is still enjoyed by the royal boroughs, and such
right as the state could annex to it is communicable to them. When we find that it was so
long before the monopoly of the royal boroughs showed itself,
it may be thought strange to say that monopoly is the spirit of the system, but circumstances can only be given for its late
appearance; it cannot appear till the influence of the church
and of the lay nobility in favour of their respective
burghs had fallen, and the influence of the crown pre-
availed. The Scottish burgh by its monopoly reigns undisputed among its own people and wherever its
constituents may be. Besides these, several minor associations
are to be found, consisting of
particular portions of the community asserting exclusive
privileges. Of these the most antient is the guild which
appears in Scotland to have always designated properly an
appropriate class. Other orders of burghs are the example of their merchant fellow-burghers, and formed
themselves into crafts, which, notwithstanding much oppo-
sition, at last obtained a legal establishment; they now exist in the towns of Scotland by royal charter, by seal of
councils, and by the practice adopted both on the continent
and in England of presenting them to some of the king’s great officers on
their obtaining the magistracy, seem to countenance the idea
that the royal burghs, of which there are a large number, and
elsewhere, is in Scotland, from the record of records, little
better than conjecture. As early as the ‘Legas Burgorum’
the magistrates were elected at the Michaelmas head court,
de consilio communi proborum hominum villae qui sunt
fidelis etque farmae, and in the borough of Aberdeen,
where we have the oldest borough records extant, they were
elected, prior to the year 1469, either by the whole burghers
or at least by the guildy. In the year now mentioned
however an important change in the whole system of
burghs is to be noticed. The Corporation of Edinburgh was
introduced which lasted nearly four centuries, and well
proved the ruin of the boroughs. By the act 1469, c. 30,
'Touching the election of officers in burrowers, as aldermen,
bailies, and other officers, because of great contention
yearly,' it is enacted, that 'no such officers shall be
named, but in their stead are to be named, through the
clamour of communes, simple persons;' it is thought
expedient that no officers may be named after the
king’s lawes of burrowers, further than one yea, and that
the chusing of new officers be in this wise: that is to say,
the usual council of the town shall choose the new council,
in sack number as accorded to the town; and the new

cel and the auld, in the yeir foresaid, sal chuse all officiers
pertaining to the toun, as alderman, bailies, deen of gild, and
other officiers. And that ilk craft sal chuse a person of
the same craft, that sal have voit in the said election of
officiers for the time, in likewise yeir by yeir.'

As in England, so in early times in Scotland, there were
certain borough courts at which all the burghers were re-
quired to attend; the most eminent of which were the three
bushsquare, where chiefly the cultural and municipal
affairs of the borough, where tenants owed suit to their
lords. Here, as we have seen, the burgesses elect their
courts, and the chief business of the borough was transacted. But
these borough courts soon fell into disuse: the attendance
and the solemn machinery were left to be performed into the hands of a few persons, and the magistrates alone
exercised burgal jurisdiction. This jurisdiction also became
your very ample, particularly in the royal burghs; in
personal actions it was unlimited, and in dispensation actions it
was of a very large: all such officers and imprison
debts fill they found bail; they had jurisdiction in
brieves, in sequestrations, and in the registration of
deeds; they acted also as commissioners of supply and as
justices of the peace; and their criminal jurisdiction
extended in scope, to say the lands and of this jurisdic-
tion the greater part still remains. For its due execution
most of the burghs have assessors, learned in the law;
and the deans of guild and his council acquired title of
the crown. The magistrates of several burghs were also, as in
England, erected into counties corporate, with a jurisdiction of sheriffship within
themselves; such are Edinburgh, Stirling, Linlithgow, Perth,
Inverness, and Forres.

The control of the magistrates, and generally of the whole
affairs of the burghs, particularly of the king’s burghs,
was vested in the great chamberlain of Scotland, a high
officer of the crown, who appears in the full exercise of
his powers before the reign of King David I. in the twelfth cen-
tury. This great officer had jurisdiction throughout the
kingdom, at which the magistrates and
burghers of the several burghs were bound to give
attendance, and where the chamberlain heard and determined
the various charges for breach of official or other duties
against the burghers, and took their sureties against the various classes of the inhabitants, such as
butchers, bakers, brewers, and the like. He also levied
the different revenues accruing to the crown from the burghs,
and investigated into the employment or disposal of the
common good, that is to say, the lands and revenues be-
longing to the community of the burghs. For about two
centuries and upwards the office of chamberlain was mostly
held by ecclesiastics; it afterwards came to be vested in the
nobility and higher gentry; and at length in the beginning
of the sixteenth century it was given as a reward to
the practice adopted both on the continent and in England
officers on their obtaining the magistracy, seem to countenance
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expedient that no officiers may be named after the
king’s lawes of burrowers, further than one yea, and that
the chusing of new officiers be in this wise: that is to say,
the usual council of the town shall choose the new council,
in sack number as accorded to the town; and the new

* This expression, atbara perhaps in its modern acceptation, ceased con-
siderable merrieret in the debates of the House of Commons on the Scottish
Reform Bill, by which the statute in the text was repealed. But we appro-
ved of it being taken as descriptive not of mental character but of
a civil condition; and was employed, as in numerous other instances in old-
other writers, to designate the commonly as distinguished from the gentry,
and so to be merely expositive of the preceding term in the set, 'communes.'
was chamberlain of Scotland, and just before his resignation of the office in favour of his eldest son, a court of the Four Bourgeois was held at Stirling, where it was resolved that two or three depots, for the deposit of the royal boroughs' money, of the Spey should convene yearly with the court of Four Bourgeois to consider and conclude on all matters affecting the common welfare of the royal boroughs, their liberties, and court. No explanation has hitherto, we believe, been given of the reasons why the boroughs were excluded from this assembly, any more than for the fact that boroughs so far south and so few in number, as Edinburgh, Stirling, Berwick, and Roxburgh, should have formed the court of Four Bourgeois, though it is known that the north of Scotland has been long been inhabited by a rude and industrious people. But the fact is, that the burgesses of the north were enjoying their own house. So early as the reign of William the Lyon a royal charter was granted to the king's burgesses of Aberdeen, and of Moray, and all beyond the Forth, whereby the burgesses were admitted, as fully and honourably as their predecessors had done in the time of the royal grantor's grandfather. (Kennedy's Annals of Aberdeen, vol. i. p. 8.) There appear to be no records extant of this northern convention; but there can be little doubt that it was held with the expression of a limitation, that the convention of boroughs south of the Spey was formed. This latter assembly, though it was appointed to meet in the same place with the court of Four Bourgeois, formed no constituent part of that court, and soon afterwards it had ceased as a separate occurrence. In 1487, when probably the superior advantages of one general mercantile convention was perceived, deputies from all the boroughs 'bath suth and north' were invited to meet and, on the day named in the act, the value of the boroughs of Inverkeithing, to confer and treat upon the welfare of trade, the gude rule and statutes for the common profit of burrowes, and to provide for remeit upon the skait and injuries sustained within the burrowes. It was then that the chamberlain's ayres were substantially superseded, and a foundation laid for the entire abolition of the office of lord chamberlain, whose place in the convention is now occupied by the lord provost of Edinburgh, who, though not a member of the convention, has the same powers and duties in that capacity. The attendance of a burgess on the convention is not to be met with in the books of the Scottish lawyers: but it appears to be this. The convention did not continue long to assemble at the ancient yet little borough of Inverkeithing, but like the other supreme courts of Scotland it was closed, not by the death of its president, but by the decay of the boroughs. The convention of Alexander Lord Home, who was appointed great chamberlain almost immediately after the passing of the above act of 1487; and that as person was at one time both lord provost of Edinburgh and lord chamberlain of the kingdom, and held both offices at the last time the latter exercised its duties in person, hence no doubt arose the practice of the lord provost of Edinburgh being the permanent preses, and the town-clerk of Edinburgh the perpetual clerk of the convention. This civic parliament has continued to hold its sitting annually at Edinburgh on the second Tuesday of July.

The precise time at which the royal burghs first sent representatives to the general parliament of the kingdom is uncertain. In the year 1326, when the tenth penny of all the revenue of the land was assessed, the burghs appear as a constituent part of parliament; but perhaps they did not continue permanently to do so till some time afterwards. After their admission the parliament comprises the bishops, the barons, and the representatives of the boroughs, in which ayres, as well as the last time of the exercise of its duties in person, hence no doubt arose the practice of the lord provost of Edinburgh being the permanent preses, and the town-clerk of Edinburgh the perpetual clerk of the convention. This civic parliament has continued to hold its sitting annually at Edinburgh on the second Tuesday of July.

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however, states that he cannot learn that this right was exercised in England, although it certainly was in Scotland, until abolished by Malcolm III, and in some parts of France; and even if it were, the reason, as it regards the youngest son only, is obviously absurd. Perhaps (the adds) a more rational account than either may be fetched (though at a sufficient distance) from the practice of the Tartars; among whom, according to Father Duhalde, this custom of descent to the youngest son also prevails. That nation is composed totally of shepherds and herdsmen, and the elder sons, as soon as they are capable of leading a pastoral life, migrate from their fathers with a certain allotment of cattle, and go to seek a new habitation. The youngest son, therefore, who continues latest with the father, is naturally the heir of his house, the rest being already provided for. So that possibly this custom, wherever it prevails, may be the remnant of that pastoral state of our British and German ancestors which Caesar and Tacitus describe. But it is unnecessary to go so far for the origin of a custom which the name itself and other circumstances show to be of English origin.

BOROUGH-Bridge, a m. t., bor., and t., in the par. of Aldborough, in the W. Riding of Yorkshire, and in the lower division of the wap. of Claro. It is situated on the S. bank of the Ure, over which there is a stone bridge. Pop. 596. It is about 205 m. by W. from London, being about half way between the metropolis and Edinburgh. It sent two members to parliament from 1553 to the time of the Reform Act, when it was disfranchised. Boroughbridge arose out of the remains of Aldborough, the antient Iseru or Isiru, derived, according to Hutton, from Is, or Isbar, a deity worshipped here, and Ure or Ure, the river on which the city stood. In accounting for the decay of Isirium (Aldborough) and the rise of Boroughbridge, Hutton remarks, the first depression Isirium felt was the removal of the royal residence from this city to York, in the days of Severus. The second calamity was the Danes burning the city to ashes in the eighth century; and the third, which completed her destruction, was turning the great north road, which ran through the centre, by removing the bridge. This made Boroughbridge superior to Isirium, and left Isirium desolate. (Hutton's Trip to Cootham.)

This town was granted, together with Aldborough and Knaresborough Castle, to Hubert de Burgh in the fifteenth of Henry III; but it was forfeited by his son for aiding Simon de Montfort at the battle of Evesham. Edward II. afterwards gave it to his favourite, Piers Gaveston. In 1321 a sanguinary battle was fought here between Edward II. and the discontented barons, headed by Thomas Earl of Lancaster, who was afterwards beheaded at Pontefract. Till recently the manor was in the possession of the Duke of Newcastle, by whose ancestors it was purchased in 1701. The town and par. abound with antiquities, which are continually being turned up by the plough. In 1831 a beautiful tesselated pavement was discovered, which is the best in the place, if not superior to any in the kingdom.

The most curious remains are perhaps the Arrows, which are at a short distance on the W. side of the town. The following sketch, with slight additions, is from Hutton, and will explain the situation of some of these interesting objects.

Many of the inh. have British and Roman antiquities to show and for sale;—small heads of brass, chains of gold, signet stones, urns, lamps, tiles, and coins. Some coins have been found of gold, and some of silver; but the greater number are of brass, and include those of the Emperor Augustus, C. Iulius, and the Roman emperors. Augustus, Iulius, Cae- sars, Trajan, Nerva, Trajan, Hadrian, Antoninus, Septimius, Valerian, Aurelian, Diocletian, Constantine, Carus- sius, and Julian. The chief importance which Borough- bridge at present possesses is from its situation on the great north road, the antient Ermine Street. It was formerly noted for its traffic in hardwoods, but at present its principal business consists in the shipment of agricultural produce. The Ure is navigable as high as Ripon for small craft, and several warehouses connected with its commerce have been lately erected on the S. bank of the river. Boroughbridge is supplied with water from the river Ouse; with Leeds, Wakefield, and the manufacturing districts, by the Ure, the Ouse, and the Aire and Calder navigation.

The chapel of ease is a perpetual curacy in the patronage of the vicar of Aldborough, and in the diocese of Chester. There is a national school for 100 children, established in 1814; and an infant school of recent date. The Methodists have a place of worship here. The town also supports a small subscription-library and news-room. The houses are large and well built, and the market, with its stone column; the market is held on Saturday, and is chiefly for corn; several fairs are held in the course of the year; that in June was formerly of great importance for the sale of hardwoods, and lasted for a fortnight; it was attended by the farmers of the neighbourhood and other parts of the kingdom. It is still frequently dealt by dealers from Sheff- field, Wolverhampton, and Birmingham, and continues for several days; the other fairs are chiefly for cattle. (Com- munication from Yorkshire.)

BORROMEO, ST. CHARLES, son of Gilberto Borromeo, Count of Arona, Lord of Anghiari, &c., and Margherita de Medici, sister to Pope Pius IV., was born at Arona, in October, 1538. He studied at Pavia under the famous professor, and then returned to the service of his father. After his uncle Pius IV. called him to Rome, and made him a cardinal and archbishop of Milan, and gave him all his confidence. Borromeo established an academy in the Vatican for the promotion of learning, and he published its conferences under the title "Letters Vaticanise." He urged the Pope to hasten the termination of the Council of Trent; and upon its conclusion in 1563, he was commissioned to draw up an exposition of the doctrine of the Roman Catholic Church, as sanctioned by that council. This exposition is known to posterity as the "Institutio Christi et Mari". After the death of Pius IV., in 1665, Cardinal Borromeo went to his diocese, where he devoted himself entirely to his episcopal duties. He reformed his expensive style of living, and employed the greater part of his revenues in charitable purposes. He also endeavored to reform in the clergy, especially among the monastic orders. The monks called Umillati gave most scandal by their openly licentious conduct; and Borromeo having exerted himself to check their disorders, one of them made an attempt upon the life of the cardinal, by firing at him as he was praying in his chapel. The ball perforated his garments without hurting his person. The assassin, named Farina, was taken and executed, together with two of his superiors who had instigated the crime. Pope Pius V. suppressed the order, and applied their revenues to other purposes.

Cardinal Borromeo used to visit every part of his diocese, reforming abuses, examining the conduct of his clergy, and providing for the wants of the poor. He established colleges and schools, and asylums for destitute children. He held several provincial synods, the transactions of which are found in his "Acta Ecclesiae Mediolanensis," fol. 1599. When the plague broke out at Milan in 1576, he exerted himself, at the risk of his life, in assisting the sick, and relieving the wants of the population. He was in that calamitous time, accused by his enemies of having overstepped the limits of his authority; and he had several disputes with the Spanish governors of Lombardy on matters of jurisdiction. In some of these disputes Cardinal Borromeo published a book, in which he entered into the motives of his acts, and adduced arguments in favour of the opinions of his age, for we find that he believed in the existence of sorcery. His conduct, however, was exemplary; and he zeal for the flock committed to his care unremitting. He

![Image](Image1.png)

died the 3rd of November, 1594. His body, dressed in his pontifical robes, is to be seen in a sarophagus of natural crystal, in the subterranean chapel of the cathedral of Milan. Charles Borromeo was canonized by Pope Paul V. in 1610. He has left many theological and ascetic works, homilies, and sermons, of which a catalogue is given by Mazzuchelli. His letters, which are a complete history of his life, have been published in three volumes, and are a valuable source of information.

BORROMEO, FEDERICO, the son of Giulio Cesare Borromeo, uncle of St. Charles, and of Margherita Triulzi, was born at Milan, in 1564. He resided first at Bologna and then at Pavia, and afterwards went to Rome, where he entered as a religious in a society of his own creation, both a classical and oriental scholar; and was intimate at Rome with Baronio, Bellarmino, and the pious philanthropist Filippo Neri. In 1595 he was made Archbishop of Milan, where he soon after made his entrance in the midst of public rejoicings and solemnations. In the following year he adopted the mantle of his cousin and predecessor St. Charles, and enforced his regulations concerning discipline with great success. He was not to be moved by all the differences, however remote and obscure, in his diocese; and his indefatigable zeal for the good of his flock, his sincerity and enlightened piety, are attested by Ripamonti and other contemporary writers, and have been lately again eloquently eulogized by Manzoni, in his Promessi Spiri. He was the founder of the Ambrosian Library, and first undertook the first great and largest undertaking that typography had undertaken. He employed various learned men, who went about several parts of Europe and the East, for the purpose of collecting MSS. Olgiate was sent to Germany, Holland, and France; Ferrar to Spain, Salmazni to Greece, a Maronite priest, called a professor in the University of Louvain. After he had collected, Cardinal Borromeo established a printing press, annexed to the library; and appointed several learned professors to examine and make known to the world these literary treasures. He also established several academies, schools, and charitable foundations. By his philanthropic charity, and energy of mind, were exhibited especially on the occasion of the famine which afflicted Milan in 1627-8; and also during the great plague of 1636. He died the 22nd of September, 1631, universally regretted, and was buried in the church of San Satiro, the most ancient of the Faucini, of St. Charles. Mazzuchelli gives a list of his printed works. He left also a number of works in MS.

BORROMINI, FRANCIS. Such is the injurious cele-

brity which this architect's caprices have obtained for him, almost rendering his name a synonym with bad taste, that it secures him a place in every work of general biography. Even the very excess of his derision and his capricious extravagance render him a sort of landmark in the history of the art, for both his works and his example deteriorated it to a height of licence. The son to whose early life was born in the district of Como, in the year 1559, and at the early age of nine was sent by his father, who was an architect, to study sculpture at Milan. After passing seven years there, and having collected in his storehouse of his recollections, Carlo Maderno, was then employed in finishing St. Peter's. On the death of Maderno, in 1629, although Bernini was appointed to succeed him as architect to that building, Borromini continued under him as he had done under his predecessor; yet, instead of the connexion thus established leading to any friendship between them, it only occasioned extreme jealousy—at least on the part of Borromini, who could not brook the superiority conferred upon one who was his senior only by a few months. He therefore endeavoured to secure for himself the patronage and supplant his rival, by having a plan offered, and so far succeeded as to ingratiate himself with Urban VIII. Owing to the patronage of that pontiff, he was employed upon a variety of important works, most of which would have afforded ample scope for the display of architecture and ornament, but in which the artist was not permitted to act as his own master. When, therefore, the appointment to the College of Propaganda; the oratory of the fathers of the Church of the Pio Maggiore, and the church of the Pio Maggiore, and the College of Propaganda; the oratory of the Fathers of the Society of Jesus, which is perhaps one of the least faulty productions, after the church of St. Agnes, the façade of the Doric Palace, "a building," says Woolf, "monstrous in every sense, but all the same a wonder, is situated at the head of a range of similar windows loaded with enormous mouldings, and overcharged in all parts, produces an effect of great grandeur, as seen obliquely in the narrow Corso." However, his church of San Carlo alle Quattro Fontane is generally considered one of the most perfect buildings of the late Renaissance, perhaps on account of the waving lines and surfaces of its façade; but not that there is even stronger evidence of bad taste in other respects, and of a kind not easily to be described by words. Besides the above and a great many other works, he had his name associated with those of other architects, being sometimes stored, or more properly speaking, modernized, the nave of San Giovanni Laterano, which, capricious as the parts and decorations are, has nevertheless something grand and im-
posing in its general character. It is not unlikely that even the absurdities and extravagancies of this architect carried along with them their own antidote; and after the mere figure of Langeais, the bolder and larger, but beyond their very excess to lead to the rejection of such puerilities.

**BORROWDALE**, a valley in Cumberland, remarkable for beauty of scenery. Its lower boundary may be placed at the stream which forms the waterfall at Barrow, about 21 miles north of Keswick, and it extends to the head of the lake Ullswater being slightly to the W., to the N. skirt of Scawfell, the nucleus of the Cumbrian group of mountains. It is watered in its whole length by the river Grange, which takes its rise in two streams from Scawfell: one coming from Sprinkling Tarn and Grisedale Tarn, the other descending from Esk Hause (the *échec*, to use a provincial term, or depression between Scawfell and Bowfell), which, with the bluff face of rock called Great End, forms the true termination of the great valley of Borrowdale. At the head of Borrowdale stands the Pikes, which is 3160 ft. above the sea. These streams, after their junction, form a powerful mountain torrent, which traversing Derwentwater, takes the name of Derwent after it issues from that lake. The level ground of the valley hardly begins before their junction; from which to Grange Bridge is about 6 miles. The breadth of the gorge where Castle Crag juts out into the centre of the valley, there is only room for the bed of the river; and this is one of the most beautiful spots in England: higher up the valley expands, varying in width to almost half a mile. The ridge of Grasmoor, which in Borrowdale is called Langstrath, a wild upland valley about 4 m. long, and in some places about 4 m. broad, entirely devoted to pasture, and terminated by Borrowdale Pike. Borrowdale is a chapelry of the parish of Crosthwaite, and the living is a perpetual curacy in the gift of the vicar of that parish. The chapel, which was rebuilt and a little enlarged, about twelve years ago, is near Rosthwaite. It is divided into four hamlets, Grange, Rosthwaite, Seathwaite, and Stonethwaite. Borrowdale formerly belonged to the abbey of Furness.

The flat bottom of the valley contains about 2000 acres; there are about 600 acres of arable land, of which about 1300 are under barley and oats, which are the chief crops; hay meadows; but in the upper valley it frequently is not housed before September, the climate being wet and cold. The mountain sheep-walks form the chief dependence of the farmer. There is a good deal of coarse wood, but very little timber. The best wine is made from the crimson hazel of the valley, as its same or scassa, to form an article of some account to the small proprietors. A sheep-fair is held on the first Wednesday in September. There is slate of good quality in the hill side opposite Castle Crag, but it has not been worked for upwards of 20 years. Formerly a quarry was worked on the top of that eminence; it is now we believe discontinued. Traces of fortification attributed to the Romans were formerly visible on it; but the combined effects of quarrying and planting have rendered it difficult to find them, and perhaps they are entirely obliterated.

There is a tolerably good carriage-road from Grange Bridge to the farm of Seatholm, between four and five miles; from thence to Seathwaite it is hardly practicable except for carts. From thence there is a horse road over the High Street leading to Wasdale Head to Westmoreland and the west coast. This, though scarcely passable except by the country horses (for the ascent from Borrowdale is very steep, and the descent to Wasdale Head is as steep and considerably longer, comprising probably not less than 1250 feet of perpendicular descent) has been frequently traversed though it might be supposed, not only by tourists, but as the readiest means of communication between the central mountain district and the coast. Horses laden with heavy packs of wool, &c., traverse it; and the path is kept in some sort of repair by the parishes. Two roads diverge from this main line; one a mere horse-path, leading by Stonethwaite to Grasmere and onwards; the other, which is hardly surpassed in grandeur even by Sty Head to Langdale, and thence to Ambleside, or Coniston; the other, which is just practicable for light carts, from Seatoller to Buttermere. Both these routes are very beautiful. There is a small lake in the Borrowdale district, known as Grasmere. Borrowdale belongs to the central division of the Cumbrian slate formation, which contains the highest peaks and the most romantic scenery. The most remarkable objects in it, next to the wad mine, are the Bowder stone, an immense detached block of stone, estimated to contain 23,000 cubic feet, and a remarkable group of yew-trees (celebrated in verse by Wordsworth) between Seatolhar and the wad mine, on the W. side of the valley. The largest is said to be 21 ft. in girth, and is in perfect freshness and vigour; it is one of the most interesting vegetable productions which we have seen in England.

**BORROWSTOUNNESS.** [Linlithgowshire.]

**BORSOD, BORSCHOD, or BORSODSKA, a co. in the prov. of the Hithel Thesias, in the N. part of the kingdom of Hungary, is bounded by the following counties: on the N. by Gömör and Torna, on the E. by Abaujvar, Zemplin, and Szabolcs, and on the S. and W. by Heves and Szabolcs. Its area is 1385 sq. m. The mountains which traverse it in the W., are the last declivities of the Thaya, a range of hills of which the highest is the Besk, of which subsides in this county; the first separating into two branches at Hámor, and forming the celebrated valley of Dios Györna. Both branches also throw out a number of subsidiary ones into the N. and S. of the county. The north branch runs into the river Tarna, near the Ostr, of Verbo, and the Nykryuk near Vainy. The last branches of the Neitra range occupy a corner of Borsod between the Bodva and Sayö, and the mountains in the N.E. parts, likewise branches of that range, subsides into the plains between Hidas and Nemesi, and the Karapata. The S.E. districts are one continued and beautiful plain, irrigated by rivers in every quarter. The principal rivers in Borsod are the Sayö, which enters its N.W. border at Putnok, and winds in a S.E. direction to Onod, where it receives the Bodva. At the northern point of the Karapata, there having received the Greater Hernád. The Hernád skirts the county for a short distance in the E. The Bodva passes into it from Torna, and flows past Szendró and Edefény, and the Thesias touches its S.E. extremity. The soil is highly cultivated, being adapted for grain, the vine, and the rearing of cattle. The finest wheat in Hungary is raised in the neighbourhood of Miskolcz, and of this wheat as of rye, barley, oats, and buck-wheat, considerable quantities are exported. The other productions of Borsod are chiefly the growth of Miskolcz, St. Peter, Karaszn, and Harsházy. The other vegetable productions are fruit, including almonds and chestnuts, tobacco (particularly in the S. districts), hemp, flax, and timber in abundance from the mountainous parts. The extent of available soil is estimated at about 731,530 acres, about four-fifths of the whole surface of the country; and of these there are actually under the plough 307,800, converted into vineyards 40,000, and used as meadows 38,160. The remainder consists mostly of meadows, pasture land, and woodland. The hills and pasture grounds, support a great quantity of cattle, sheep, and swine; the woods abound in game, and the rivers in fish. A great number of horses are likewise bred in the county.

Borsod possesses considerable mineral resources; copper is raised at Rudo Bánys, and excellent iron, from which the best common and cast steel in all the kingdom is manufactured, near Úpomy, Tapolsan, and other places. A beautiful kind of marble is obtained from Felso-Jarkány; there is also slate, which is worked at Kajos; there is a smelting furnace at Visoly; and coals are dug at Sayö-Nemesi and Dios Györna. In every respect indeed Borsod has justly been designated Hungary in miniature.

The pop. is estimated at about 74,000, more than one-half of whom are Germans. The county contains 10 m. l., 167 vil., and 57 predia, or privileges.

Many of the Jews settled in it are farmers; but the enterprising German has contrived to monopolize the trade of this and several other provinces in Hungary, and he has no
rival in Miskoltz either for the splendour of his dwelling, the beauty of his vineyards, fields, and meadows, or the luxuriance of his fruit. But the beauty of the town is largely
means neglected (for in Miskoltz alone five different sects have
distinct schools), more than common deprivity is said to prevail among the people in general. Borsod pays 63,411 florins (about 6300l.) as its quota to the war depart-
ment, of which the chief towns are Mezi-Kereke (2500 inh.),
and Mezi-Koves (3600 inh.); —St. Peter, in the N.W., capital Sayo St. Peter, on the right bank of the Sayo, a town full of Jews, and noted for the excellent wine its environs produce; — and Szendró, in the N.E., of which the Bohemian poet the Bishop of Prague, Böhm, was a native.

BORTHWICK, DAVID, of Lochlhill, lord advocate of
Scotland in the reign of King James VI, afterwards King
James I, of England. The early history of this learned
person is involved in the obscurity which shrouds the rise
of some of the brightest names in the juridical and literary
annals of the country, no particulars being known of his
birth or early life. When he first appears in the records
he is designated 'Mr. David Borthwick of Audalston,' an
estate which he probably acquired by descent. Whether
the title of lord advocate was conferred upon him by
Royal licence or not is uncertain; in any case, the ecclesiastical character is uncertain: it frequently did so
at that time; and we know that nearly all the first advoca-
tes of the college of justice, of which he became one, were
more or less connected with the church. In the spring of
1581, Borthwick was appointed one of the judges of the
court of session, or college of justice, that court
made choice of nine advocates 'being persons of gude con-
science and understanding, to procure (i.e. practice in suits)
before thame in all actions and causes.' Borthwick was one of these judges in 1582 he was a member of the public
commission then appointed to treat with the com-
missioners of England on the affairs of the borders between
the two kingdoms. On the 6th May, 1562, he appears as
one of the prosecutors in the indictment against two indi-
guals, Ferguson and Wright, for hagsenmack and*
and the murder of Mr. John Borthwick of Restalrig. (Pitcairn's
Criminal Trials.) On the 6th June, 1564, he was of counsel for the
magistrates and town council of the city of Edinburgh
in the prosecution against them for liberating on bail a
prisoner committed on a charge of assault and murder (id. th.).
At times he was employed on several important occasions.
He seems to have been standing counsel for the
nobles families of Huntley and Bothwell (Act Parl. vol.
ii. p. 573), which had recently been united by the
intermarriage of Lady Margaret Gordon with John James
of Borthwick. On behalf of that nobleman took instru-
ments of Queen Mary's pardon and forgiveness of him
and his accomplices for her abduction to Dunbar, which her
Majesty pronounced in court on 12th May, 1567 (Act.
Sed. 10).

On the death of Spens of Condie, in 1573, Borthwick
was associated with his executors for the estate of the
admirable Crichton, and who had been connived to Spens
in the office of king's advocate, and also advanced to the seat
on the bench of the court of session vacant by Spens's
death; for it was then usual to make the king's advocate
(for that time be had two or one of them) a lord of session.
The like practice existed in the old parliaments of France, after which, indeed, the
court of session is said to have been at first modelled; and in
both cases, we apprehend, for the same reason, namely,
to attend to the crown's interest there; both courts at
that time deliberating (like the ecclesiastical tribunals
from whence they were derived) in secret with shut doors.
Accordingly, besides the king's advocate, other officers
of the crown had also seats on the bench, such as the treasurer
and the comptroller. These latter, being the latters of
the lord justiciar of Scotland, but for about a
century and a half he had acted also as public prosecutor
in the justiciar's court, and for the preceding fifty years
had devolved his duties at the table on a deputy. The king's
advocate however was now advancing on the clerk's usurped
province, and by the beginning of the following century
had brought his power into its full action. It is true
Borthwick is also remarkable in being, as it seems, the
first who had the title of 'Lord Advocate.' The learned Baron
Hume (Commentaries, vol. ii. p. 181) supposes this title
to occur in the records for the first time in the year 1598.
But the first time that it is a subject for remark, for we find
the king's advocate so addressed at the bar in the year 1573 (Pitcairn's
Criminal Trials), and again on the 23rd Oct. 1576 (id. ib.); and
in the Act 1567, c. 115, the title appears as the accustomed style
of that officer. The salary of the lord advocate at this
time was 40l. Scots yearly, and that of a lord of session
amounted to about the same sum. What the profits of
the bar then were may be guessed from Sir David Lindsay's
'Purman and Pardoner,' where the former says

1 half a gird but just an English groat.

So that the emoluments and practice of the learned
lord must have yielded him at least 100l. per annum, which though
but £5, £6, £7 sterling was a large income in those
days. Borthwick retained the situations of a lord of session
and lord advocate till his death, which took place in Jan.
1581, when his colleague Creighton, to whom the places
had long been objects of much desire, became sole lord advocate,
and also succeeded to the vacant seat on the bench.

An anecdote of this learned person is told by Scott of
Stenhouse. Borthwick had acquired various lands in
different counties of Scotland under the name of Culross or Fife;
but having seized his son James in several of them,
he had the mortification to see them sold or charged with
debt by the thrifless youth. When on his deathbed, hear-
ing that his son had sold the estate of Ballencrieff, the name
of which Borthwick had changed to Lochlhill, and that he
would descend with that of his posterity, the old man is
said to have bitterly cried out, 'What shall I say? I
do give him to the devil that doth get a fool and maketh not
a fool of him' which words became proverbial as Mr. David
Borthwick's testament.

BORYSTHENES. [DNIPPER.]

BOS. [BISON, BUFFALO, OX.]

BOS, LAMBERT, an eminent physician, was born at
Worcum in Friesland, November 3, 1670, where his father
was an emigrant, from a family in the village of Sleen,* and
the mother of David, was aunt to Vitringa. Having gone through
the classes in his father's school he became private tutor to the
children of a man of rank, in whose house he continued to
improve his knowledge in classics; then he went to the
University of Franeker, where his relation Vitringa
was professor of the Oriental languages, divinity, and sacred
history. In October, 1696, he was permitted to teach Greek
in the university, and in the month of February of the fol-
lowing year he was made a licentiate in that language.
In 1704, when the Greek professorship in
that university became vacant by the death of Nicholas
Blancard, the curators appointed Bos to be his successor,
who on taking the chair read a dissertation on the propa-
gation of learning by the Greeks through their colonies.
About the end of 1716 he was attacked by a malignant
fever, which ended in a consumption, a disorder which he
inherited from his mother. He died January 3rd, 1717.
About five years before his death he married the widow of
the celebrated English poet, John Dryden, also the
wife of Sir H. Schaffer, 2o. 8vo. Leips. 1807. 2. Observations Philosophica,
in quibus Novi Fedcris nonnulla loco pro
fonnis maxime auctoriis Graeciae illustrantur, 8vo. Franck. 1700;
republished in an enlarged form with the addition of
several Latin sermons by the Revd. Mr. Bymolgii Graeca, 8vo. Franck. 1713;
2. Mystere Ellini ad Grecos versus, 8vo. Franck. 1702. Of this work there have been numerous
editions. It was edited by Chr. Schottgsm, 12mo. Leips.
1713; by Nich. Schwelwe, 8vo. Norimb. 1763; and
with additions by Chr. B. Michaelis, 8vo. Hal. 1763.
Another edition of this work, published by the Rev. Mr.
Leips. 1689. 4. Oratio Inaug. de eruditione Graeci-
rum per Coloniae eorum propaganda, fol. Franck. 1744; 5.
Observationes Miscellaneae ad loca qaudam ovm Novi

* This is a term known in the law both of England and Scotland, and
attests the lord to a particular estate or place. The term is synonymous
with hargary, or nocturnal housebreaking; but this is not its meaning in
the law of Scotland. There it is the perfume seeking or invasion of a
peaceable house or tenement, breaking house with intent to
assault the owner; and this either by night or day.
Pheidias, tum extornerum Scipiorum Graecorum. Accedit Horatii Vitrigiae Amadversionem ad Iohannis Vorstii Philologiam sacrum Specimen, 8vo. Franca, 1707; 6. An encomium of the Sepulcher, elegantly and polemogena, 8vo., tom. 4to. 1709; 7. Antiquitatum Graecarum, principis Atticarum Descriptio brevis, 12mo. Franca, 1713. Of this work, which became a school-book, there have been various editions; it was republished with improvements by J. M. de Bures, 8vo. Lond. 1758, with a Latin translation into English by Percival Stockdale, 8vo. Lond. 1772; again in an abridged form, but with notes, by the Rev. John Seagar, 8vo. Lond. 1830; and lastly, with an appendix, by George Barber, 12mo. Camb. 1835. A French translation by M. le Grand was published at Paris in 1792.

9. In the same year was published a new edition of Well's "Grammatica Graeca nova," 8vo. Amst., adding two chapters on accentuation and syntax, shorter and more methodical than those of Well: this work was re-edited with Bos's and other notes by I. F. Fischer, 8vo. Leips. 1758. Bos's notes and emendations on Aristides are included in Jebb's edition of that author, 2 vol. 1752-30.

BOSCAN, ALMOGAVER, DON JUAN, was born at Barcelona in the year 1500 of a noble family. On his outlet in life he devoted himself for a short time to the profession of arms. He afterwards travelled, but the countries which he visited are not mentioned in the brief notices that remain of him. He was a man of erudition and became intimately acquainted with literature, it appears that he did not yet entertain the idea of transplanting the forms and manner of Italian poetry into Spain; for the poetry that he wrote in his youth was all in the ancient Spanish. But as the time approached he having lived at the court of Charles V., and having formed an intimate friendship with Andres Navajero, the envoy from Venice, he ventured to follow the counsel of this accomplished Italian, and assumed the character of a reformer of the lyric poetry of his nation, by writing sonnets in the manner of Petrarch in Italy.

The metrical structure of the sonnet had long been known in Spain; but the genius of Castilian poetry was adverse to that form, and a thousand voices were raised against him and his friend and more highly gifted fellow-reformer, Garcilaso de la Vega. Some insisted that a preference should be given to the old Castilian metre, on the ground of euphony. Others went farther, and asserted that the ear could perceive no distinction between the new hendecasyllabic verse and true prose. Finally, a third party discovered that Italian poetry, on which Boscan was translated into Castilian, was as offensive to the women. In fact, the attempt was considered nothing short of treason against poetry; and one of this sort of zealots, Cristobal de Castillego, goes so far in his satires against these innovators, whom he calls Petrarquistas, as to compare them to Cadi by another name of the latter of the religious doctrine, the subverter of the old faith. Boscan states that this violent opposition made him reflect seriously and hesitate in his noble task; but as he was soon convinced of the futility of the reasons urged against his literary reform, he persisted in carrying on; and through his perseverance, and the great talents and powerful example of his friend Garcilaso, his party rapidly increased, and obtained the superiority.

The urbanity of his manners and his abilities recommended him more particularly to the family of Alba, which was then one of the most brilliant among the Castilian nobility, and to which many Spanish poets constantly paid their homage. Boscan was for some time Ayo, or first governor, to the young Don Fernando de Alba, who was afterwards the terror of the enemies of the Spanish monarchy. He appears, however, to have resigned this employment, in order to divide his time between study and the society of literary friends. The year in which he died is not exactly known; it is only ascertained that his death happened before the year 1567.

Boscan's poetry is divided into three books. The first contains his Mar de Amor (the Sea of Love), and exhibits the fantastic flights of the old Spanish muse. The second consists of his Sonescoes and Cantaciones, which, although not a part of the same class of poetry, still play the spirit of the old poetry, in which the mild disposition of Boscan contrasts throughout with the enthusiastic vein of his model.

The third book is occupied chiefly by a paraphrasical translation of the Greek poem of Hero and Leander, the first of the kind which appeared in the Spanish language. It is accompanied with several elegies, and a declaration of the universal opinion, and a dissertation on the whole. The poet pleads for a new style, and his new method is vindicated. To this free translation succeeds a love elegy, the Capitulio, abounding in pleasing images, but too much diluted in words, like most Italian poems of the same kind. In the Answer to Don Diego Mendoza, the best of Boscan's sonnets, it is in other effects full of grace and animation.

Simplicity and dignity, poetic truth and feeling, are the characteristics of Boscan; but his chief merit consists in his courage and perseverance in carrying on the literary reform which was to enable Spain to rival Italy. His modesty moreover contributed not a little to attract to the party the more liberal of his countrymen. Had he commenced his labours by trying to beat down the old school he would probably have failed, for the party he had to contend with was little disposed to improvement, and far less to be taught by an arrogant master.

The eighth volume of the Parnaso Espanol, by Sedano, contains a supplement to the biographical notices which Nicolas Antonio collected under the article 'Boscan.' BOSCAWEN, EDWARD, second son of Hugh Lord Viscount Boscawen, was born at Great Leigh, in August, 1676. He was placed in the navy early in youth, and at the age of twenty-one was lieutenant of the Hector. In 1740 he became captain of a twenty-gun ship, the Shoreham; and in the following year, under Admiral Vernon, acquired considerable distinction for the capture of the Paul Nurse, by the taking of the fortified city of Puerto Bello, on the Isthmus of Darien.

Shortly after, at the siege of Carthagena, he led on a body of seamen, and resolutely attacked and took possession of a fascine battery of fifteen 24-pounders, as well as a line of fifteen 12-pounders from an adjoining fort. On the death of Lord Boscawen, he took upon the command of the Prince Frederick of 70 guns. In 1742 he returned to England, married the daughter of William Glanville, Esq. of Kent, and in the same year was elected a member of parliament for Truro. In Cornwall he saw the declaration of war with France, and he took the command of the Dreadnought, captured in April, 1744, the French ship Medea, and landed at Spithead with 800 prisoners. As captain of the Namur of 74 guns, he greatly signified his zeal and goodwill by an efficient engagement of Cape Finisterre, when a capture was made of two large French ships of war. In the commencement of the action he was struck in the shoulder with a musket ball. He was made in the same year rear-admiral of the blue, and returned to England, where he served for some time as commodore of the ships sent to the coast of China, and afterwards as a commissioner for the war in India; and he sailed in November from St. Helen's Road, in the Isle of Wight, with six ships of the line, five frigates, and 3000 soldiers. In July, 1749, his fleet appeared before the fort of St. David's, which is 15 m. S. E. of Pendine, and having marched his army to Pendine, and begun the siege, he was obliged, in consequence of the sickness of his men, and the approach of the mousons, to return to his ships; and is said to have made the retreat with prudence and skill. He soon afterwards joined with Admiral Mostyn and Admiral Cranfie, in the engagement of Pencaw, when the news of the declaration of peace, was delivered up to him by the French. In 1750 he arrived in the Exeter at St. Helen's, and found that in his absence he had become rear-admiral of the white. In the course of the following year he was made a lord of the board of admiralty, an elev in the Order of the Garter, and again a representative for Truro. In company with Admiral Mostyn, he sailed in April, 1755, from Spithead with twenty-four ships, to intercept the French squadron bound to America with supplies. Of the coast of Newfoundland they took in with their fire two prizes, and captured early in the year 1500 prisoners, including the French commander Hoquart, who had twice before been defeated and taken prisoner by Boscawen. On his return to Spithead with his prizes, he received for this important service the thanks of the country, and his ship was decorated with the Colours of Great Britain, and sent to America, ordered to North America. A fleet of 161 ships (Ann. Reg. vol. 4. p. 70), with 14,000 men, was fitted out, and Boscawen, now promoted to the rank of admiral of the blue, was
appointed commander-in-chief of the expedition. In February, 1758, accompanied by General, afterwards Lord Amherst and General Wolfe, he sailed with these forces for Halifax, and on the 3rd of June arrived off the island of Cape Breton and St. John, were taken, after some severe engagements, by the English admiral. In the following year, 1759, he was stationed with fourteen ships of the line and several frigates in the Mediterranean, where for the last part of the year he commanded the fleet of twelve large ships of war, through the Straits of Gibraltar to the Bay of Lagoons; where he overtook them and fought a furious battle, which terminated in the burning of two of the enemy's ships, and the taking of three others, with 200 prisoners. The British fleet, under Victory, under Nelson, on shore and died, in consequence of being struck by a cannon-ball which carried off both his legs. Upon the return of Boscawen from England, the thanks of parliament were again conferred, with a pension of 300L. per annum, which was a matter of the privy council. At this time he received also the additional appointment of general of the Marines. In the summer of 1760 his fleet was lying unemployed in the Bay of Quiberon, on the western coast of France, and it is worth recording, as honourable to the humanity of the great man, that when a great many among his crews were suffering from the scurvy, to which seamen were at that time very liable, he landed on a little island near the river Vannes, and daily for several months employed himself with a party of his men in curing the garden, in order to procure vegetables and wholesome provisions for his men. On January 10th, 1761, he died at Hatchland Park, his residence, near Guildford, at the age of fifty, and was interred in the church of St. Michael Penkevill in Cornwall, where a beautiful monument by Rysbrach, said to have been to his memory. The mind of Boscawen appears to have been wholly intent upon his professional pursuits, and but little influenced by the spirit of political parties. His ability and courage as a naval and even as a military officer were highly appreciated by Lord Chatham, who is said to have often observed, that when he proposed expeditions to other commanders he heard of nothing but difficulties; but that when he applied to Boscawen, expeditions were immediately suggested.

BOSCOVICH, ROGER JOSEPH, was born at Reggusa, May 11, 1711 (May 18, 1701, according to Lalande), and entered the order of Jesuits in 1725. He was appointed professor at the Collegio Romano in 1740 (Lalande), and was employed in various scientific duties by several popes. He was a frequent member of the committee of the Curia for the dispute between that state and Tuscany, and at London in a similar character on behalf of his native place (1762). He was recommended by the Royal Society as a proper person to be appointed to observe the transit of Venus at Quito, and his expedition from the neglect of the Jesuits was the cause of that acceptance of the appointment. After this event he was made professor at Pavia and subsequently at Milan. In 1773 he was invited to Paris, where the post of Directeur d'Optique pour la Marine was created for him. He left France subsequently, on account of the hostility of Condorcet and D'Alembert, as Lalande affirms, or because he disliked the irreligion of the French savants, as Hutton states, probably a part of the reason of Lalande's unwillingness to Boscawen (the éloge we have not been able to find). He settled however at Milan, where he was received with distinction, and was appointed to measure a degree in Lombardy. He was seized with melancholy, amounting almost to madness (Hutton from Fabroni), and died February 13, 1767.

Boscawen was a man of very varied attainments and considerable mathematical power. The different accounts of him partake of the bias of their several authors. His countryman, Fabroni, rates him as a man to whom Greece and ancient Rome did not do more honor. He even throw down a hero or two to make room. Lalande, to whom a voluminous and miscellaneous writer was a brother in arms, affirms he had as much talent as D'Alembert, though not so much of the integral calculus. The Jesuits were not in favor with the French government; the ignorant and unskilled writer it is some truth in the account of Lalande with respect to D'Alembert. Delambre says, 'in all his dissertations we see a professor who loves to converse much better than to observe or calculate,' which seems to us perfectly true; but at the same time Boscawen was a man of talent, though not of first-rate power or energy; exceedingly fertile in ideas of merit, but not of first-rate merit. The excessive number of papers in the length of his life are not known than it deserves to be, since there is not among them any one point d'appui for the highest sort of renown.

Boscawen was one of the earliest of the continental Newtonians, and introduced the doctrine of gravitation at Rome. In his first article, he published the first explanation in the comprehensive form of the problem of the orbit of the planet Mercury, in an explanatory tract published at Rome in 1745; but in his Philosophiae Naturalis Theoria, &c., Venice, 1758, he endeavours to apply the same principle to the actions of molecules on each other. It is remarkable that in spite of the objections of the Copernicans and Galileans (the latter by the Superintendents of the Index Expurgatorius), two Jesuits published an edition of Newton in 1758, and a third began to teach it at Rome in 1740. But previously to this (1736) he had distinguished himself by a solution of the problem of the flight of the sun's beams and rotation by observation of the spots, which Delambre calls one of the most elegant which had been given. It was the first of its kind.

In 1756 he began to measure an arc of the meridian from Rome to Rimini, by order of the pope, and the account of this celebrated and useful operation (which was carried on in conjunction with Christopher Maire, another Jesuit) was published in 1755. But Boscawen informs us, that while he was riding about or waiting for his observations, he was often accosted by his own fellow-religious, who entreated him to take a careful, unhurried, and extended examination of the sun and moon. These verses were published at London in 1761 by Millar and Dodalay, in six books, entitled 'De Solis et Lunae deflectibus.' It is lucky for the fame of Boscawen that the degree he measured was not as poetical as his next one, for the same allegorical scheme that can hold a good observation, and the second is best described by Delambre's remark, that it is un instructive to an astronomer and unintelligible to any body else. We have noticed it because we conceive it is the best channel through which an Englishman who reads Latin and who can (in another language) can make a personal acquaintance with this author. Being published in England it is frequently found among the second-hand booksellers; and the notes, which are often more poetical than the text, contain a large collection of his observations.

The degree of the meridian above-mentioned, his theory of comets, application of mathematics to the theory of the telescope, and to the perturbations of Saturn and Jupiter (of which Lagrange said that the motto 'Iam olim, nunc fragmenta' is the most auspicious among his maxims, because a good thing in it), the discussion relative to the invention of the double-refraction micrometer, the application of the differential calculus to problems of spherical trigonometry, together with his dissertations on various points of physics, will be noticed in their place. In the course of his observations they influence the history of the several sciences advanced. He was now merely notice 1. The 'Elementa Universis Mathematica,' &c., Rome, 1754, a course of mathematics for his pupils; 2. The collection of works alluded to above, 'Opera pertinencia ad Opticam et Astronomiam,' &c., 5 vols., Basso, 1765; and 3. The work on the degree of the meridian above-mentioned, 'De Litterariis Expeditione per Pontificem Ditionem ad Metiendo Duas Meridianas Gradus,' &c., Rome, 1755. This work is much more esteemed than the French translation, 'La Grande Exploration des Deux Méridiens,' 1762, which of course is now much reduced. (Bios. Unis.) We may refer for information to the usual authorities and also to the éloge of Lalande (besides that of Fabroni above-mentioned) in the 'Journal des Savans, 1762, p. 411.'

BOSJESMANS, literally 'bushmen,' is the name which the Dutch colonists at the Cape of Good Hope have given to a wild and roaming race of people, who live about the northern skirts of the colony, and as far as the Orange river, without any settled habitations or kraals, and who are not the same as the Bushmen of the interior. If we know nothing of the origin of the Hottentots, it is impossible to say whether the Bosjesmans remained in a wild state while other tribes became settled and partially civilized, or whether they were stragglers from the settled Hottentot.
tribes who fell back to a wild state. Their language ap-
pears to bear some analogy to that of the Hottentot, although the Boesjeman and the Hottentot do not understand each other. What remains of the language of the Boesjeman is, of course, only the Hottentot have it stronger and more frequent, and they draw out more the ends of their sen-
tences.

Lichtenstein says that the Boesjeman are a distinct peo-
pal; he acknowledges that they have the universal distinguishing features of the Hottentot, their broad flat
face, the long prominent cheek-bones, and the yellow-brown
hue of the skin; and that their physiognomy has the same
characteristic features as that of the Hottentot, only more
wild and animal among themselves, and with the whites.

They are neither husbandmen nor sheep-
herds; they have no cattle or flocks, but kill wild animals
with their arrows, catch fish, and also feed on locusts,
snakes, ants’ eggs, and insects, and upon roots and berries.
They are capable of bearing hunger for a long time, and,
like other savages, they eat voraciously when they fall in
with plenty. The Boesjeman are generally very lean,
and of a low stature, if stunted in their growth. A
sheep-skin fastened round the neck with the woolly part
inside, a greasy leather-cap on the head, with their woolly
hair smeared with grease and dust, and tied in a
number of knots hanging down, a jackal-skin fastened with a leather
thong round the middle of the body, sandals of ox-leather
bound round the feet, a low and a quiver with poisoned
arrows, and a wooden sword on the back, and either a
knife or three straw mats, which being placed on sticks form,a
sort of tent,—these constitute all their apparel, furniture,
and utensils. They catch sea-crows in pits on the banks of
the Orange river. They sleep in caves, or more commonly
sleep upon ground. They have no fires, but sleep with
the air and sun. They are not connected in any considerable numbers, but wander about
in small parties, consisting of individuals of one family,
or such as meet by chance. Their wild, shy, suspicious
eye, and cruffy expression of countenance, says Lichten-
stein, “form a striking contrast with the frank open phys-
ionomy of the Hottentot.”

When the Europeans first extended their settlements to the Snow Mountains, there
were no Boesjeman there; the country was peopled by
settled tribes of Hottentots, but the report of the wealth of the
Boesjeman was current at that time, and they were
welcomed by the Orange river. They were then,
and had been from time out of date, in a state of
war with the settled tribes of both Hottentots and Caffres,
whose cattle they stole whenever they had an opportunity.
They are said to be very much against the Dutch colonists,
who, in their turn, waged a war of extermination against them. At last, towards the be-

ing of the present century, attempts were made to
establish some sort of truce between the Boesjeman and the
Caffres. The Boesjeman are considered to be possessors of gold,
tobacco, tea, and other articles. In one instance, the colo-
nists gave to a party of Boesjeman a number of cattle
and sheep, that they might become settled and tend their
flocks; but other parties came from the interior, killed the
cattle, fed on the flesh as long as it lasted, and then
resumed their wandering life.

It appears however that the rapid spread of civilization during the last thirty years has had some effect, even on
the wild Boesjeman. The Rev. John Campbell gives a
narrative of the methods by which these people met both south and north of the Orange river;
he employed them as guides, saw many of them employed as
domestics by the colonists, or by the Kurrana Hottentot,
and they appeared to behave well and faithfully in their
respective capacities. He met kraals of Boesjeman north
of the Orange river who seemed to live in peace under
a chief, who told him “that they had plenty of game and
water, that they took nothing from anybody, and that
they should be glad if any one came to teach them what they
did not know. They have now a regular cattle industry,
and no subsistence beyond hunting and fishing, no
dress but skins, and no weapons but arrows. The great
tract between the northern border of the colony and the
Orange river is still occupied by wild Boesjeman, who
however are becoming civilized. The Kurrana Hottentot,
who live north of the Orange river, are also a check upon them. In fact, the Boesjeman
are beginning to be surrounded by civilization, and con-
sequently they must either become civilized themselves
or become extinct.

(Lichtenstein, Burchell, Campbell, Thompson.)

BOSKOVITZ, a small castle of Brim in Moravia, situated on the banks of the river of Svitvit,
which borders the circle of Oldmitz; the hill itself is
encircled by the riv. Biala and that side of it behind the
town is a mass of precipitous rocks. It is the property
of Count Dietrichstein, and is remarkable both from its site
and its position. It is the residence of a noble family, who
live in a distinct quarter of the town.

The Dietrichstein family have a palace at Boiskowitz,
and are proprietors of the town and the territory near it.

BOSSNA-SARAI (or SARAJEVO), formerly the cap-
pital of the kingdom of Bosnia, and at present one of
the principal towns in the Turkish eyalet or province of
Bosna, is built upon the ruins of the ancient Tiberiopolis.
It contains 50,000 souls, and is situated on a fertile plain
large in circuit as Adrianople; it contains 100 mosques,
great and small, and among which that of Chosrem-beg with its
clock (a great rarity in Turkish towns) best deserves
notice; one serai or palace, erected by the great sultain
Mehmet IV., and the remains of the Minorite order, a number of madressas or schools, baths,
and charitable institutions; two large bazaars or bessetans,
several market-places, between 14,000 and 15,000 houses,
mostly built of wood, with latticed windows, and a pop. of
about 60,000, one-third of whom are Musulmans, and
the remainder Roman Catholics, Jews, Greeks, &c.
The town is handsomely built, and has a gay oriental appearance from the number of minarets and steeples which embellish it.

Bosna was the residence of the governors of the prov-
ince, and is the residence of three times until the aeries committed by one of them drove the inh. to revolt, and he was obliged to flee to Travnik, where his successors have since
continued to reside. The people are an industrious race, and
manufacture armes, utensils of copper, which they sell and use, and even sell to the Turks; and in the
Turkish markets, iron-ware, woolen and worsted stuffs,
morocco-leather, horse-hair bags for holding rice, cottons,
&c.; there are also several tanneries in the town.

Bosna-Sarai, being the staple mart for the whole prov.,
is a place of considerable trade; and is the only place of
importance on the E. of it, as well as of its situation on the declivity of the Dinaron Alps, is to render the climate chilly and bleak,
though not to such an extent as to prevent fruit or even grapes from ripening. On a plain which stretches W. of the
town as far as the banks of the Bosna, are the baths of
Serajeveko.

BOSSNA, or BOSSNA, one of the eyalets or prov.
of Turkey in Europe, derives its name from the riv. Bosna,
which runs through the heart of it; it extends from 42°
40' to 45° 29' N. and from 15° 29' to 15° 40' E. of
long. According to the subdivision laid down by the Turkish
government in 1824, it comprehends 6 sandbezaks, or circles;
namely, Travnik, Banyaluka, Serbernik, Isvorick, Novi-
bazar, and Hersek, the first four being composed of Bosnia
Proper and Turkish Croatia, while Novibazar consists of
that part of Servia which was added to Bosna in 1815, and
bears the name of Racia from its being watered by the
Raca, and Hersek of the Herzegovina and Turkish Dal-
mata. These six sandbezaks are again subdivided into
40 circles; one of these, the bosnitz, or circle, is
bounded on the N. by Austrian Slavonia, the Unna and
Save partly forming the line of demarcation, on the E. by
Servia, on the S.E. by Albania, on the S.W. by Austrian
Dalmatia, and on the N.W. by Austrian Croatia. It is the
strongest in population of all the Turkish provinces, and
contains, according to a recent writer (von Zedlitz) about
22,300 sq. m.; though others, who have probably omitted
to include the late additions of territory in their estimate,
do not assign it a greater area than 16,000 sq. miles.
Bosnia is a mountainous country, and contains many deep valleys, but only one plain of any considerable extent. The principal river is the Drina; some of the other streams of the sandy basin of the little Dinaric range, which enter it on the side of Austria. The Dinaric range, indeed, after traversing the prov. from N.W. to S.E., continues along the S. frontiers, where some of its peaks are above 6000 ft. high; distinct parts of it are known in the shape of detached mountains, as the Krakow, the Uliassa Kossa, Czernagora, Velicki, Radacza, Ivan-Planina, Nissova-Gora, Baba, and Torba-Planina. There are three offsets from the main mass of these Alps, which slope down to the banks of the Save, and divide the land into four natural portions; the one lying between has the Unna and Verbas, the second between the Verbas and Bosnia, the third between the Bosnia and Drina, and the fourth between the Drina and Morava. The lower regions of the Dinaric range are in many parts entirely naked, those immediately above them, however, with patches of forest, the uppermost consist of rocks thinly interspersed with wild rosemary, thyme, and other low plants.

The Save, the principal riv. in Bosnia, first waters its territory in the N.W. at the point where the Unna falls into it, and running in an E. direction somewhat inclined to the S., constitutes the whole N. boundary between Bosnia and the Austrian possessions; its frequent inundations make extensive swamps, the largest of which, the Shirma, lies to the W. of Bogudria. The Unna, one of the tributaries of the Save, forms part of the border between Austria and Bosnia. The waters of Zetina and Vitovogos, not far from Oberenacsa, winds N. past Biaza and Novi, at which last place it receives the Sana, and ultimately flows into the Save, after forming part of the N.W. frontier on the Hungarian side; namely, from the latest of the Carniades, down to and including the Save, it has its efflux. This riv. is not navigable, though even when not flooded it is from 6 to 7 ft. deep, and from 200 to 400 ft. wide. The Verbas, another Bosnian river, rises in the heart of the country at the foot of Mount Radusa or Radun, and flowing through the chief castle of Croatica from the Herzegovina, flows in a N. direction past Bosacsa and Banyaluka, receiving on its right bank the Veliki, Ugar, and Verbanya, and on its left the Pliva, and unites with the Save to the E. of Gradiac, after a course of about 130 miles. The Bosnia rises to the W. of Scrizero on Mount Trebevic, part of the N. declivity of the Ivan-Planina range, flows N., receiving in its course the Miglavaza, Sjubina, Spreca, &c. on its left bank, and the Misna, Feiniczia, Lepenizica, &c. on its left, and after running about 140 m., falls into the Save near the Lukatscher Schantzte (L. Fort), below Brod. Vissoko, Zenica, Vrinduck, Slobeta, Doboli, Kotorsko, and Dobor lie upon its banks. The Drinna, another considerable riv. spring from the foot of the Lesina range to the W. of Sребреница, divides the territory of Bosnia into two (L. Fort). The Servian fervent agriculturists, running N. past Zvornik until it reaches Lebnicez, where it enters a level country, and afterwards the Save to the right and left of the S. and Shabec; its channel in this quarter is again narrowed by mountains. In its course it receives the Travnik, Pima, and Limus. This riv., as well as the Verbas and Drina, is navigable for vessels of about 50 tons, and its waters, like those of the Verbas, bring gold-dust down with them, which the Turks, it is conceived from jealousy, will not allow to be collected. The rivers of importance in S.E. part of the country, and the Moraks or Boyana in the sandshak of Hersek, which runs through the Boysana lake and falls into the Adriatic on the Austrian coast: together with the Baba, Neretva, or Narenta, and Rama, and other tributaries of the Bosna, form the main body that is called the laked rivers of Bosnia, and, second in importance, the largest being the Mostarska Bato. It contains a number of mineral springs, among which the warm baths of Novi-Bazar and Budimir, and the acidulous waters of Lepenicz and Kiselak, are most in repute.

The temperature of the country is liable in the spring to heavy falls of snow, which lie on the low lands for many weeks. In summer heavy falls of rain, and outbursts of water-spouts are of common occurrence, but they are highly beneficial in moderating the heat. The chief crops of the bosnian land, as may be inferred from these facts; that wheat is harvested in July, and grapes are stored in August. The air is said to be healthy at all seasons, though the dry nipping Borra, or north-easter, is frequently prevalent.

The soil of Bosnia, as might be expected from the mountainous character of the country, is in general of a rocky and stony nature, adapted rather for rearing cattle than raising crops. The best pasture is in the valleys near the rivers, which are very productive. Wheat and barley, but not much rye, are grown in the level lands, and maize is a favourite object of cultivation about Novi-Bazar and along the banks of the Unna; the greatest corri- dori or arable districts are on the borders of the Zetina and the Save; and the produce is seldom made into bread, but consumed in the shape of cakes or mamaliga. Pease and beans are extensively raised; and flax and tobacco are grown in the neighbourhood of Zvornik and Novi-Bazar. Fruit of course is abundant in a country which has whole forests of fruit trees; the chestnut and mulberry are common, but no silk is produced. The plum is of great use in making a species of brandy, called Stivavica, which is chiefly consumed by the Bosnians themselves; and a luscious liquor, termed Pomace, is manufactured from the fruits of chestnut. The wines are strong and fiery, but owing to ignorance of the art of making them, they will not keep: the best are made in the environs of Mostar and Novi-Bazar.

The high lands and mountains of Bosnia are so densely covered with forests, as to many parts to form impenetrable wildernesses; the trees of which they are principally composed are the oak, beech, pine, fir, and linden; hence the country produces and exports timber for all purposes, whether for building or fuel, and much pitch, tar, and turpentine. The mountains of the Bosnian province, which despatch large quantities from that spot to Zemlin and other parts of Turkey, by water-carriage along the Drina, Save, Danube, &c. The Bosnian woods abound in wild animals; deer, boars, bears, wolves, lynxes, and foxes; and the killing of domestic animals has received little attention; for instance the breeding of horses, of which Bosnia possesses a strong and hardy race, is neglected almost everywhere except in the innoxious districts of Kljuce and Glamoce, which is wholly devoted to it. The usual type of cattle are kept, and bullocks form a considerable article of Bosnian export. The only buffaloes are those fed for private use in the sandshak of Novi-Bazar. Many of the sheep have upright windings horns, and coarse knotted wool, and are of a large size; the Wallachian and Dalmatian breeds have also been introduced. The Bosnians in general pay much attention to their flocks, and the wool they send to market is considered the best in the Levant. Goats are common; swine are fed by all who reside near the Save and Drina, where they have the advantage of extensive woods of oak and beech; and look a great deal better there where the rivers abound with fish, but the supply is mostly consumed in the country itself. Much honey is made, but the wax is of indifferent quality.

Mining has not been carried to the extent which the undoubted richness of Bosnia would lead one to expect. The Turks have hitherto manifested an almost unaccountable repug- nance to allow them to be turned to account. The mountains round Bosnia-Sarai are said to contain large quantities of gold and silver; and in the centre of an extensive dense wood about 7 m. from Travnik, the excavations of the cele- brated gold-mine of Ilatzniza (literally signifying gold in the Bosnian tongue) are still visible; but the inhabitants are so timid as to be afraid of venturing near them. There are silver-mines near Srebrenica on the Drina, Kuppa on the Unna, and a lead- and tin-mine near the Verbas. The iron-mines in the vicinity of Bosnia-Sarai are worked by gypsies with the simplest mechanical means that can be imagined. They are situated near the Franciscan monasteries of Feiniczia, Sutitska, and Kressovo, where there is a number of smithies, in which horseshoes, nails, locks, iron-plates, and other wares are manufactured; some iron is also raised at Vukup, Stari-Maidan, Kamengrad, Vissoko, and Varos. The quicksilver-mines near the monasteries of Kressovo are rich, but wholly neglected: a lead- mine is said to be the nearest to the Bosanas, but the veins are fine quarrs of free-stone and mill-stones, alabaster, and marble, as well as coal-mines and saline springs; the most remarkable of these springs flows out of a cavern near Tuzla, but it is turned to no account, and all the salt contained in the spring is imported from Hungary.

Bosnia possesses some inconsiderable manufactures of leather, coarse woollens, worsted coverlets, and other woolen stuffs. There is a manufacture of cannon-balls at Kamengrad, a salt-petre work at Jazice, and powder-mills at...
Bhazza, Otsorwze, and Banyaluka. There are iron-ware manufactures at Bosna-Sara; they include fire-arms, swords, and small ware; and similar fabrics are made at Shebse, Banyaluka, and Mostar. In Mostar Damascus blades are also made.

The exports of Bosnia consist of wool, honey, and wax, goats' hair, hiles, morocco and other leather, timber and other articles of wood, worsted coverlets, &c., horses, horned cattle, sheep, goats, swine, poultry, dried fish, mineral water, pitch, and other domestic produce: and the imports consist of linens, woollens, silks, cotton goods, glass-ware, flax, needles, paste of lead, copper and iron-ware, quicksilver, drugs, indigo, colonial produce, &c. The principal

ports of trade are Bosna-Sara, Zvornik, Banyaluka, Mostar, Dervent, and Berb, or Turkish Gradsica. Bosnia carries on a considerable transit-trade with the adjacent countries, and the products chiefly come in through Kostainica, Brol, and Alt-Gradsica, and ports through the six depots established on the frontier, or by caravan to Zara and Spalatro. The roads are bad and almost impassable except for horses, as is the case throughout the Turkish territories. Independently of the great road from Brol through Travnik, and thence to Bosna-Sara and Constantipole, there are only seven other highways for internal intercourse.

It is impossible to give a correct estimate of the pop. of Bosnia. Some writers state it at a million; others at 220,000, and 82,000 to 100,000. (Zanzib.) In his 'Survey of Bosnia, Rasic, the Herzegovina, and Servia in 1823, gives us in one portion of his work the following enumeration:—Bosniaks, the aboriginal race, 220,000; Servians, 120,000; Turks, 220,000; Mortachians, 75,000; Croats, 40,000; kyp- sians, 7,000; Panticapaeans, Arabians, 2,000; and all the rest of the population, 737,800; but in a subsequent page, he speaks of the religious sects into which the inhabitants are distributed as consisting of 450,000 Mohammedans, 250,000 Roman Catholics, 220,000 Greeks, 200 Jews, and 600 Armenians; in 1226, 442,000. The inb. of Bosnia are composed of Bosniaks, a race of Salavonian origin, who chiefly reside between the Verbas and Drinna; Servians, dwelling partly in the sandshak of Novibazar, and partly on the E. bank of the Drinna; Croats, who inhabit places in the vicinity of Yass and Varnak, and Montenegro, principally situated in the sandshak of Hersef; Turks, who are settled in almost every town, and likewise people exclusively the district of Kline; Armenians, a few Greeks; and lastly, Jews. The majority of the pop. are of the Greek faith; a portion of the Bosniaks and other inb. profess the Roman Catholic faith; the Turks and many of the Bosniaks adhere to Mohammedanism.

The civil administration of Bosnia is on the same footing as that of the other eyalates of the Turkish dominions. It is governed by the pasha, who resides at Travnik, and is the head of the six sandshaks, who are pashas of two tails, are subordinate. The judicial system consists of a cadi, who exercises jurisdiction over certain districts, even with reference to such as are not Turks, although the Bosniaks and other non-Mohammedans have their village magistrates, from whose decisions there is seldom any appeal to the cadi.

The revenue of the province is estimated at about 700,000L. or 800,000L. per annum; though not more than 300,000L. is said ultimately to reach the Turkish treasury. The land revenue of Bosnia is derived mainly from the cultivation of corn, from nine to thirty shillings a year, which every male non-Mohammedan pays after attaining his seventh year; of taxes on land, houses, trades, &c.; excise duties, customs dues, and judicial penalties.

The greater part of the land of Bosnia is divided into six sandshaks, which are of varying size and strength. The dominant town of each sandshak is Travnik, which lies in the S.E. part of Bosnia Proper, Bosna-Sara on the Migliazzia; and Travnik, at the confluence of the Lasha and Voroilaca, where the pasha of the province resides, about 8000 in.; Banyaluka, in the W. part of the country, is the residence of the Viceroy; Pagra, the town of the same name, lying on the Verbas, which is fortified and has about 16,000 in.; Yaiaca, formerly the capital of Bosnia, at the junction of the Pliva with the Verbas, a walled town with a pop. of about 3000; Kamangrad, a market town, lies about 14 miles from Yaiaca, and is the seat of the Austrian town of Gradsica, a strongly fortified place; Srebrenik, in the centre of Bosnia, between the Oktina and Drinna, has the town of that name for its capital; it is situated on a small stream that joins the Save; Zvornik or Zvornik, in the N.E. part of Bosnia, also takes its name from the principal town, which lies on the left bank of the Drinna, is defended by two castles and other works, and contains about 15,000 in.; Novibazar, in the E. part of Bosnia, of which the chief town Novi or Venibazar is situated on a small tributary of the Ybar, in the bosom of a highly productive district, defended by a citadel, and having about 10,000 in.; and Nican, the chief place in which is Trebinga, on the Trebinje, a strongly fortified town with about 10,000 in.; and next to this, Mostar, on the Narenta, a fortified town with a pop. of about 8000.

BOSPHORUS, often incorrectly written BOSPHERUS, is a pure Greek word (Βόσπορος) according to mythological tradition it derives its name from the passage of Io over one of the straits so called, when she was turned into a cow (Aesch. Prom. 735); the Bosporus, as thus explained, literally signifies the passage of the cow. Two straits are mentioned by Homer, the Greek and the Roman or Black Sea. One, now more commonly called the Channel of Constantipole, unites the Propontis, or Sea of Marmora, to the Black Sea. This narrow channel was often called the Thracian Bosporus, by way of distinction from the other named the Cimmerian.

The present straits of the Bosporus were formed when the straits of Kaffa or Yenikel, is the narrow passage which connects the Palsus Maecis or Sea of Azo with the Black Sea. (Azo.)

A narrow strip of low and fertile land on the S.E. margin of the Taurus-Chersonesus, the modern Crimea, formed the ancient kingdom of Bosporus. It extended about 60 m. in length, direct distance, from Theodosia or Thodosia, now Feodosia or Kaffa, on the W. to Panticapaeum or Bosporus, now Kerch, on the straits of Yenikel. Both Theodosia Panticapaeum, and Kerch, have lost their ancient character; the cadi's seat is a small town with good ports; and between them was Nymphium, which also, had a good harbour. Panticapaeum was a Milesian colony.

The territory already described, the Greek kings of Bosporus possessed Phanagoria, now Gudauta, on the E. shore of the straits of Yenikel; and finally they seem to have become masters of the whole Crimean. The series of Greek kings from c. 430 to B.c. 304 (so far as yet known) is as follows:—Ar- chanaxieide (Diog. xii. 31) c. 480; Spartaces L. 436; Spartan, 428; Mithridates the Young, 421; King unknown; Satyrus I. 407; Leucos, 393; Spartaces II. 353; Parysades (Pariades on his medals), 316; Satyrus II. 310; Pytanias; Eumolus, 309; and Spartaces III., c. 304. (Clinton, Fast., vol. i.) All of these kings were known to us from Demosthenes (Oration Against Leptines), who may be considered his contemporary. During the reign of Leucos, and that of Satyrus his predecessor, the Athenians imported large quantities of grain from the Bosporus: indeed Demosthenes asserts that the Greek kings of Bosporus were the only source of all the corn imported from all other foreign places. A mutual good understanding subsisted for some time between Athens and the king of the Bosporus.

A later date the Bosporus formed part of the kingdom of the great Mithridates, who is said to have died at Panticapaeum. The kingdom of the Bosporus, with all the neighbouring districts, fell into the hands of the Romans, who gave it to Pharnaces, the son of Mithridates, Pharmaces having intraded Pontus and exercised great power over the Bosporus, and had called himself Roman king by the aid of the Cossars and Creuses. He fled to his kingdom of Bosporus, where he was immediately murdered, and his throne was given by the dictator to Mithridates of Pergamus (about c. 47). This kingdom of Bosporus continued under the Roman emperors, but was only known to us from occasional interferences of the Cossars in the nomination of a king, or in attempts to restore tranquillity. (Tacit. Annal. xii. 13—21.) A race of half Greek, half barbaric kings continued to possess the Crimea and the neighbouring coasts of the Black Sea, and the kingdom of Bosporus almost survived the Roman Empire, and only expired under the ravages of the Huns.

A great quantity of Greek antiquities, including coins and inscriptions, have been dug up at Panticapaeum and other places in the Bosporus; but none were discovered at Bosporus. Coins of Leucos, of Pariades, of the town of Panticapaeum, and others, have been found: some of these, such as the coin of Pariades, are exceedingly fine; others that belong to the period of the Roman Empire are ruder. Rasoul-Bochette has published two medals of Rhescuporis,
on one of which he is styled Julius, and on another Tiber-
ianus Iulius. R. Rochette conjectures that Rhesecourts took
this medal about A.D. 6 or 7, when Tiberius, during the reign of
Augustus, was in Illyria with a powerful army. (Dion
Cas., lib. iv. c. 27, &c.; Sueton. Tiber. 16, 17.) Two coins
of Cotys are also published by R. Rochette, but it is difficult
to determine what prince or princes these medals are to be
attributed to. (Strabo, pp. 309, 493, &c.; Raoul-Rochette,
Antiquités Grecques du Bosphore-Cimmérien, Paris, 1822.)

BOSSINEY with TREVENNA, a bor. and m. t. in the
dist. of St. Ives, co. of Cornwall, 13 m. n. by w. from Penzance,
and 258 W. by S. from London.

The bor. of Bossiney extends over a great part of the bor.
of Tintagel, and comprises about 360 English acres. The
property is partly a borough by prescription; but it appears
from the charters that the present town hall is a house above the value of 10l., and none above that of 20l.
The assessed taxes on 5th April, 1831, were 45l. 15s. 4d.

Bossiney has a market on Thursday, and a fair, which is
now held at Trevenna, principally for horned cattle, on the
first Tuesday of March, and the Tuesday of Ascension. The
town hall is chiefly used as a charity-school, to the master of which the corporation pay a salary of 10l. per annum.

Bossiney is situated on a wild bleak part of the N. coast of
Cornwall, and appears formerly to have been of a place of
some importance, Leland, in speaking of it, says—"Bossi-
ney hath beene a bygge thing of a fischar towne, and
luth grete privilages grunted unto it. A man may see there
the ruins of a grete number of houses." Near this place is the castle of Tintagel, supposed to have been the birth-place of the famous King Arthur. Built on a high rock that juts out into the sea, by which it is nearly surrounded, this castle must have been a place of
considerable strength. Both Norden and Carew speak of it
as almost inaccessible, and Leland calls it "a marvellous
strong and notable fortress, and almost situ loci inapprau-
vable." In his time a chapel seems to have occupied part
of the site of the keep, which he calls the dungeon of St.
Ulette, alias Uianne.

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s’Histoire Universelle, which he published in 1681. It consists of three parts, the first of which contains an abridgment of universal history, from the Creation to the reign of Charlemagne; the second embraces the chief proofs of Christianity; and the third attempts to unravel the causes of the rise and decline of nations. Upon this work Voltaire, in his History of France, observes, that it is the most eminent eloquence; and of the first part, which most readers would suppose to be little more than a dry index, a later critic (Mr. Charles Butler) has declared that it scarcely contains a sentence in which there is not some noun or verb that conveys an image or suggests a sentiment of the noblest kind.

The chief reward with which Louis compensated the services of Bossuet in the education of the Dauphin was the bishopric of Meaux, to which he was consecrated in 1651. He filled also the high posts of master of the domain, president of the College of the Sorbonne, councillor of state, and first almoner to the duchess of Burgundy. He had the distinguished honour of heading, jointly with Mdl. de Maintenon, the deputation appointed to receive the last-named princess when she came from Bavaria on her marriage. On that occasion Madame de Sevigné writes, with not less than causticity, ‘if the duchess thinks all the men and women in France resemble the two who have been sent to her she will be egregiously disappointed.

The bishop’s residence was chiefly occupied in his diocese where he devoted himself to the humble but useful task of pastoral instruction. Among his posthumous works are three catechisms, respectively, for beginners, for the instructed, and for the well-instructed. He composed also a manual for the worship of the Temple, the church hymn. His health continued uniformly good, and allowed the performance of all ministerial duties till the last year of his life, when he suffered under the stone. During intervals of ease he framed a commentary on the twenty-second psalm (the twenty-third of the Latin version) in vigour to any of his earlier compositions. On the 12th of April, 1704, he died at Paris, having passed his seventy-sixth year. Soon after the death of Bossuet his works were collected in twelve 4to. volumes, for which three posthumous writings were added, The History of M. de Sevigné, a complete collection of his works, which, we believe, is still unfinished, and extending to twenty quarto volumes.

Bossuet is esteemed by the Roman Catholics as the most eminent advocate of their creed; but whatever might be the influence which his controversial writings exercised at the time of their appearance, it is not upon these that his fame rests most securely at present. To give an exact catalogue of his works would far exceed our limits, and we shall confine ourselves to his chief productions. He held the post of master of the Jesuit college in Paris, after the death of M. de Paul Ferri, a Hueguenot minister at Metz; we find him, not long afterwards, vehemently engaged with Caffaro, a Theatine monk, in the reproduction of theatrical entertainments. Bourssart, a dramatic writer who enjoyed some contemporary reputation, was affected by scruples of conscience concerning the subjects to which his talents had been directed, and was relieved from his penitentury burthen by a letter which Father Caffaro addressed to him, and which may be found (if it is now to be found at all) printed at the foot of another paper of the same author, ‘Maximes sur la Comédie.’ But the most celebrated of Bossuet’s polemical works are his ‘Exposition de la Doctrine de l’Eglise Catholique sur les matières de Controversie’ (1671) and his ‘Histoire des Variations des Églises Protestant.’ This last work contains a comprehensive presentation of the marquis de Dangeau; and it is said that an accidental perusal of it greatly contributed to the conversion of the Maréchal de Turenne. It was circulated in MS. long before its publication, and attained the final state which it now exhibits by very gradual increments. Just as, according to Bossuet, on Tradition, and on the Authority of the Church, were wanting in the original sketch, and the Sorbonne, when applied to for their approbation, privately censured many parts which they conceived to be unsound.

Nine years elapsed and considerable alterations took place before it received the approval of the Holy See, and it is asserted that much of the doctrine which is pressed by others were declared to be scandalous and pernicious. Clement IX. positively refused to acknowledge it, but two briefs were issued in its behalf by Innocent XIth; one, Nov. 22nd, 1675; the other, July 12th, in the year following. The latter Brief, in which it is declared that it contained their doctrine, and an authority of our own time, which few of the Roman persuasion will be inclined to dispute (Mr. Charles Butler) has stated that ‘the Romish Church has but one opinion of it; in private and public, by the learned and the unlearned, it is equally acknowledged to be a full and faithful exhibition of the doctrine of their church.’ It has been translated into almost every European language, but unhappily the English version by the Abbé Montagu in 1672 bears a bad character. It is said that it has been very unsatisfactory, and rests, as Sir Walter Scott has shown, on very slight authority (Life of Dryden, Works, i. 339). In the Bodleian Library (Oxford) there is a translation published in London 1663, in the title page of which is the following note in the hand of Baron’s handwriting:— By Mr. Dryden, then only a poet, now a papist too; may be he was a papist before, but not known till of late. Wake, afterwards archbishop of Canterbury, and M. de St. Bastide, a French Protestant minister, are the most distinguished opponents of the points in dispute in which it is otherwise correct.

The ‘Exposition’ awakened much attention in France; and out of it arose a personal conference between Bossuet and M. de Claude, whom the Protestants considered to be their head, held in 1681, in the presence and at the request of the deputy of the Sorbonne; a meeting which they neither sought an excuse for the change of faith in which she had received to imitate her uncle. One of the chief questions debated was the authority by which Jesus Christ directed that his future church should be guided in case of dissensions. The debate was conducted with much regard to courtesy, but terminated, like all but a few debates, without any approach to conviction. Each party published its own account of the conference, and each claimed the victory, after representing the contest with so much effusion that they might be supposed to relate to wholly distinct occurrences. The language in which Bossuet expressed himself concerning this disagreement is singularly free from the bitterness which has too frequently distinguished controversy, and which has rendered the mutual hatred of the French Protestants since the Reformation. ‘It is not my intention,’ he says, ‘to accuse M. Claude of wilful misrepresentation. It is difficult to remember with precision the things which have been said, or the order in which they have been spoken. The mind often confounds with one another the expressions which are used and over- wards, and thus, without the slightest intentional abuse from it, truth is often disfigured.’ Bossuet was admitted to the academy in 1761, and his next great controversial work appeared in 1688. The first five books of his ‘Histoire des Révolutions des États protestants en France, and of the Progress of the Reformation in Germany; the sixth is devoted to a consideration of the sanction given by Luther and Melancthon to the adulterous marriage of the Landgrave of Hesse; the seventh and eight books contain the most remarkable ecclesiastical and political events of Henry VIII. and of Edward VI. and a continuation of that of Germany. The French Calvinists are discussed in book ix., and the assistance afforded to them by Queen Elizabeth, on the avowed principle that subjects might levy war against their king, under the pretence of religious difference (a doctrine which Bossuet asserts to have been inculcated by the reformers), forms the groundwork of book x. Book xi. treats of the Albigenses and other sects from the ninth to the twelfth centuries, who are usually esteemed precursors of the reformers. Books xii. and xiii. continue the Hueguenot history till the synod of Gap. The xiv gives an account of the dissensions at Dort, Charenton, and Geneva; and the xvth and last book endeavours to prove the divine authority and therefore the infallibility of the true church, and to show, by exhibiting the testimonies of the earliest writers, that to that title. Basnage, Jurieu, and Bishop Burnet may be mentioned among the chief opponents of this work, to a perusal of which, in conjunction with that of the ‘Exposition,’ Gibbon attributes his short-lived adherence to popery.

I saw, I applauded, I believed, and sincerely I fell by a noble hand.

No 301. [THE PENNY CYCLOPAEDIA.]
The fanciful project of a union between the Lutheran and Gallican churches occupied much of Bossuet's attention, and led to a correspondence of deep interest with Leibnitz. On matters of discipline the Bishop of Meaux pronounced, as he did in the French crown, that we should be induced to renounce our compromise, (concerning which the Council of Trent was his final appeal) he peremptorily declared that there could not be any compromise. The discussion lasted during ten years: it is replete with learning, but it proved utterly fruitless.

At the chamber of the clergy of France, convened in order to restrain the aggressions made by Innocent XII. on the régule: a right always claimed by the kings of that country, and almost always virtually tolerated by the Holy See, which vested in the French crown the revenues of any vacant bishopric, and the collation to simple benefices within their dominions. The Bishop of Meaux was selected to preach at the opening of this synod; and the four following articles, which were published as its declaration, registered by all the parliaments, and confirmed by a royal edict which forbade the appointment of any person as professor of theology who did not previously consent to preach the doctrines contained in them, are known to be his production. 'The last three,' Mr. Butler remarks, 'are still subjects of dispute; but the Pope's claim to temporal power by divine right has not perhaps at this time a single advocate.'

The first article declares that the power which Jesus Christ has given to St. Peter and his successors, vicars of Christ, relates only to spiritual things and those which concern the church, but not to things which are temporal; that in temporal, kings and princes are not subject to the ecclesiastical power, and cannot indirectly or directly be deprived by power of the keys, or their subjects discharged by it from the obedience which they owe to their sovereigns, on account of their succession.

The second article declares that the plenitude of the power which resides in the Holy See and the successors of St. Peter, in respect to spiritual concerns, does not derogate from what the Council of Constance has defined in its fourth and fifth sessions on the superior authority of General Councils.

The third article declares that the exercise of the Apostolical power of the Holy See should be governed by the canons which have been enacted by the Spirit of God, and are respected by all the Christian world; and that the rules, customs, and usages received by the kingdom and churches of France, and approved by the Holy See, should be inviolably preserved.

The fourth article declares, that in questions of faith, the Pope, like the Church, is infallible, and that his decisions extend over the universal church and each church in particular; but that, unless they have the consent of the church, they are not irrefragable. (Butler's Life of Bossuet, p. 165.)

Mr. Butler, in dispute with the nuns of Port Royal, relating to the five condemned propositions in Jansenius, Bossuet exerted himself to bring the fair enthusiasts to reason; and in like manner he opposed quietism and Mad. Guyon, till he inquired opposition from Fenelon and displeasure from Mad. de Maintenon. The correspondence with Fenelon is perhaps the single transaction in the life of Bossuet which his admirers would desire not to be remembered. Now that the question is almost as much forgotten, even among theologians, as if it had never existed, if any of the numerous writers who have taken up the subject of the birth, are ever opened by some curious inquirer, he lays them aside with pain. They create indeed a strong wish that Bossuet had imitated the meekness of his antagonist; and that he had not made the better cause, which he had the good fortune to plead, appear the worse by unseemly violence. He carefully watched the biblical labours of Père Simon, whom he accused of Socinianism. But it is chiefly by his sermons that he is now remembered; although perhaps those by which he attained most celebrity, the sermons delivered to the parishes of various cities, are ill cared for. They belong to a style of composition far too artistic and dramatic for our temperament, but especially adapted to the court of the grand monarque, in which religion, like everything else, was reduced to mere show. The doctrine of Bossuet with Madame de Maintenon, certainly encountered by her conventual seclusion, is among the most pathetic occurrences related in modern history; but few things are less likely to suggest Christian devotion than a show tricked out with ecclesiastical pomp, to exhibit, in the presence of the queen consort whom she had injured, the retirement of a royal mistress, disdained by her licentious and unfearing lover. Three volumes of the Benedictine publication of Bossuet's sermons, collected from the period of his ministry, are, for the most part, well known; but we will not forego the pleasure of transcribing one passage, which, eloquent as it is, is not unfairly selected, and which certainly has not lost any of its sublimity by the version of Mr. Butler, from which we have taken it, "Bible by the mouth of the mouth of the "clergy of France, convened in order to restrain the aggressions "made by Innocent XII. on the régule: a right always "claimed by the kings of that country, and almost always "ordinarily tolerated by the Holy See, which vested in the "French crown the revenues of any vacant bishopric, and the "collation to simple benefices within their dominions. The "Bishop of Meaux was selected to preach at the opening of "this synod; and the four following articles, which were "published as its declaration, registered by all the parliaments, "and confirmed by a royal edict which forbade the appoint- "ment of any person as professor of theology who did not "previously consent to preach the doctrines contained in "them, are known to be his production. "The last three," Mr. Butler remarks, "are still subjects of "dispute; but the Pope's claim to temporal power by divine "right has not perhaps at this time a single advocate."

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Bossuet, Charles, was born at Tartars, in the department of the Rhone and Loire, August 11, 1730. His parents were people of quality. He was educated by an uncle and partly by the college of Jesuits at Lyons. Happening to meet with the abbés of scientific men by Fontenelle at an early age, he was struck with the desire of making his own career resemble those of those he had read: and finding no one to advise him, he went to Fonte- nelle himself, who, though then ninety years of age, an- swered his letter, begged for a position that his young cor- ny was resolved to make the most of the present. This unbounded politeness (which is made a prophecy by his enemy) brought Bossuet to Paris, where he was cordially received by Fonte- nelle, and introduced to D'Alembert and Clairaut. The former became his friend and instructor, and so well versed the Bosse in mathematics, that D'Alembert and Clairaut were accustomed to send those who sought instruction in Bossuet, as Newton did to De Moivre. Camus, in 1759, procured for him the professorship of mathematics in the
school of engineers at Mézières, and in the same year he was made a corresponding member of the Academy of Sciences. He had previously presented a memoir containing new methods in the integral calculus.

But though Euler's talents and fame, for which he was long in high reputation, and procured for him the seats of Scuola, and lost his professorship by the revolution. He succeeded his friend Camus as member of the Academy of Sciences, and as examiner of the candidates for the artillery and engineers. He was one of the contributors to the Encyclopédie, and wrote the great practical and mathematical volumes. His articles are signed I.B. in that work. He gave, in 1772, a complete edition of Pascal, of whose writings he was a great admirer.

His treatise of Hydrodynamics, and his memoirs on that subject in the memoirs of the academy, contributed materially to the connexion between the theory and practice of that science. It is not that much has been done, but that little Bossut may claim an important part. In a memoir which gained the prize in 1736, he endeavoured to account for the powerful motion of a man's mean motion by the ship's position of a resisting medium.

When he lost all his places by the revolution he went into retirement, and wrote his sketch of the history of mathematics. [Bonnycastl.] The second edition of this treatise came out in 1796; it is a delicate sketch, but written, as it appears to us, in strong colouring. Delambre asserts that a misanthropic feeling, the consequence of his misfortunes, made him unjust towards his contemporaries; but at the same time it is the only compendium, or even division of the subject; it is the most delightful of the porches which distinguished him. Perhaps he copied his early sketches on the part of the imaginary revenge on the destruction of himself in the third person [D'Alembert], the tone of which is curiously like the one in the article cited.

Bossut was originally intended for the church, and was indeed an abbé, by which title he bore until the abolition of clerical distinctions. He died Jan. 14, 1814. The preceding account is entirely (as to facts) from Delambre's Life in the Memoirs of the Institute for 1816. We do not know of any other account whatsoever.

**BOSTANJ, from Bostan, a garden.** The class of men who now continue in Turkey, who perform a curious variety of functions, and whose head or chief (Bostan-Bashi) is one of the great dignities of the Turkish empire, seem originally to have been nothing more than the sultan's gardeners, attached to the imperial residence or seraglio of Constantinople. They still work as gardeners in the sultan's pleasure-grounds at Constantinople and on the Bosporus, but the more conscious of their duties are, to mount guard in the seraglio, to row the sultan's barge, to row the caiques of all the officers of the palace, to follow those great men, on foot, when they ride on business through the city, and to attend to the execution of the numerous orders of the bostan-bashi. They were aggregated with the janissaries, with whom they formerly did military duty in the field, but the bostanji were not suppressed at the sanguinary dissolution of 1808. They are erected, and are still the dignities of the Ottoman court.

When the Ottoman Court was in its splendour, the bostanji corps amounted to 2500 men, who were divided into oras, or companies, like the janissaries. The distinctive part of their costume was an enormous bonnet, or hat, called the bostan-bashi.

The bostan-bashi, who has the rank of a pasha, is governor of the seraglio and the other imperial residences. He is inspector-general of the woods and forests in the neighbourhood of Constantinople. The shores of the Bosporus are territories from the mouth of the Black Sea to the Straits of the Dardanelles, under his jurisdiction, and formerly no person whatsoever could build or even repair a house on those coasts without his permission. For this license fees were exacted, which were generally fixed in the most arbitrary manner. Whenever the sultan makes an excursion by water (and in the fine seasons he rarely travels in any other way) the bostan-bashi stands or sits behind him, and steers the magnificent barge, which is rowed by the bostanji. This brings him into frequent contact and conversation with the sovereign, who never traverses the Bosporus, except for seraglio purposes, in the absence of the bostan-bashi is almost as great a man as the kialaragha (chief of the black eunuchs) or the scelurca (the sultan's word bearer). He used also to exercise the functions of provost-master-general, presiding at the bow-stringing of the Turkish gondla when the vessels of state are launched, and superintending the tortures applied in the prison of that palace, to force from obstinate ministers and government functionaries the confession of their guilt and the disclosure of their property; which latter was always confined to the sultan. A comment on this is, that the imperial barges used rarely to be seen abroad before dawn; 'no doubt,' says D'Ohsouan, with much naifeté, 'on account of the sensation produced by the presence of the supreme minister of executions.'

Another very lucrative duty attached to this composite office was the inspection of the trade in wine, and lime, and mortar for building, carried on in the capital and its vicinity.

Of late years, however, since Sultan Mahmoud has become a reformer, both the money-getting branches of the office, and the military function of the bostan-bashi, have been considerably abridged; and in time we may hope to see him as harmless a character as the commander of a royal yacht or a court chamberlain in Christendom.

**BOSTON (Lincolnshire), a sea port, bor., and m., on the Witham, in the division of Lindsey, in the county of Lincoln.** This division of the county is, as is now seen in the parts of Kesteven and Holland, which form the S. division of the county, and is one of the polling-places for the election of knights of the shire. 'A small addition is made to the par. by the Boundary Act to constitute the new borough.' (Corp. Rep.) These additions make the whole return the number of the inhabitants of the town, and the feoffment of Skirbeck-Quarter. Boston has sent two members to parliament since the 37th Henry VIII., when it was first made a free borough. It sent members to three councils in the reign of Edward III.

**Origin, History, Antiquities.** The original and ancient history of Boston is obscure. The great canal or drain, called the Car-dyke, which extends forty miles in length from the Welland, in the S. of the county, near Lincoln, to the Witham, is generally attributed to the Romans. It is stated on various authorities that Roman coins have been found in the vicinity of Boston, which is a continuance of the drain from Lincoln to the Trent at Torksey, and appears to have been the work of the same hands. The Westhicle, another ancient drain in the parts of Holland, carries off the upland waters, by its communication with the Welland at Spalding. The old sea dyke is a great barrier erected along the coast, in order to render the drains safe from the influx of the ocean. (Dugdale's History of Embanking and Draining.)

The marshes and fens which had been hitherto, or at least for some previous centuries, extensive lakes of stagnant water, were now drained, and furnished large tracts of rich land, suitable for every agricultural purpose. The country was intersected with canals, and guarded from the future inroads of the sea by stupendous works of embankment, erected by orders of the provincial civil and Roman generals and commanders. (Noble's Gazetteer of Lincolnshire.)

Several of the great works here alluded to are said to have been performed in Nero's time, and during the procuratorship of Catus Decianus. (The county of Lincoln was the Roman province of Plantica, Caesarivsia, and there were several military stations in different parts of the county. Whether Boston was one of them is a disputed point among antiquaries. By one authority it is considered, with a great degree of plausibility, that the town is mentioned in the Itinerarium of Dr. William Stukeley, and his 'account of Richard of Cirencester, may be consulted with satisfaction. Three of the principal Roman roads were carried through Lincolnshire, but none of them passed through Boston, and it..."
is by no means certain that there was a branch road to it. Lincolnshire was a part of the kingdom of Mercia during the heptarchy, and the Saxон Chronicle informs us that 'St. Botolph built a monastery here, a.d. 654,' which existed till the county was ravaged by the Danes, a.d. 870. Bede says that St. Botolph had a monastery at Icanhoe. Leofric, king of Mercia, founded a church on this site, the spot where the monastery was built. From the testimony of many antiquaries, Boston appears to have been the antient Icanhoe, and the site of St. Botolph's monastery. Some topographers are satisfied with concluding that Boston is a corruption of Botolph's name. Stukeley says, 'Icanhoe, Icanhoe, or as it was commonly called, according to Dug-dale, Wенно, is supposed to have been the antient name of Boston; and also that it was the last bounds northwards of the Ican; he therefore concludes its old name was Icanhoe. (Thompson's Collections for a History of Boston.)

Boston not being mentioned in 'Domesday Book,' Mr. P. Thompson supposes that it was included with Skirbeck, for 'at the present day, it is very nearly surrounded by Skirbeck, and appears to occupy the very centre of the land which, in the Domesday Survey, was returned as belonging to that parish.'

Modern History.—Little worthy of notice is recorded of Boston during the early part of the Norman government. In the year 1204 it was a wealthy town; for when the goods and chattels of a fifteenth part of land and goods, at the several ports of England, the merchants of Boston paid 780l.; London paid 830l. (Madox's Hist. of the Exchequer.) London paid the largest sum of any port, and Boston was the second, in amount of goods. A great fair was held at Boston; at what date established is unknown, but it is on record that it was resorted to from Norwich, Bridlington, and Craven during the thirteenth century. Articles of dress, wine, and groceries formed part of its commerce. In 1281 part of Boston was destroyed by fire; and in 1396 a great part of the town and the surrounding district suffered from an inundation. This flood is probably the same as that mentioned in Stowe's Chronicle, p. 229. 'An intolerable number of men, women, and children were overwhelmed with the waters, though good churches and other buildings in the town or city which was a place of great resort, whereof was destroyed. It was one of the towns, appointed by the statute of staple (27th Edward III.), where the staple of 'wools, leather, woollens, and lead,' should be held. A staple town is described by Weever as a 'place to which, by authority and privilege, wools, hides, wine, corn, and other foreign merchandise are conveyed to be sold; or, it is a town or city whither the merchants of England, by command, order, or commandment, did carry their lead, tin, or other home produce for sale to foreign merchants. Merchants from the commercial towns of the continent resided at Boston during this early period, and it is probable that both the above characteristics of a staple town were combined in it. It also ranked high as one of the sea-ports of the kingdom, its situation at the mouth of the Witham giving it advantages equal to those of any other port on the eastern coast. The advantages which Boston possessed as a place of trade, brought over the merchants of the Hanseatic league, who established their guild here. In 1359 Edward III. assessed eighty members of this shipmoney. At the beginning of the reign of Henry IV. the town, by Act of Parliament, was given to the Bishop of Lincoln, and to the Bishop of Norwich, and in 1377 it was sold to the Bishop of Lincoln, who sold it to the town; the sale was confirmed by Act of Parliament in 1379. In the same year the town was incorporated, and the freedom was granted to every freeman of the town. (Archaeologia, and Thompson's Collections.)

About 1470 the town of Boston received a check in consequence of some dispute, when 'one Humphrey Littleby, Mayor of Boston, killed one of the King's officers, and was hanged, but the town was allowed to be the same as the Hanseatic merchants'; this caused the Esterlings to quit Boston, and syns the town sore decayed. (Leland's Itinerary, vol. vii.) At the time when Leland wrote his account of Boston (1531), the commonalty of the town seems to have been in the 'great and famous fair,' and of the 'old glory and riches that it had,' as matters of history, and says, 'the staple and stilel country, houses yet there remayne, but the stilel is little or nothing at all occupied.' The stilel-house was the ancient custom-house, and the merchants of the steelyard were so called, from the circumstances of their trading almost entirely by weight, and using the steelyard as their weighing apparatus. Boston was still further reduced by the dissolution of the monasteries by Henry VIII. Some amendments were made by Henry in granting the town a charter of incorporation; it was thus made a free borough; the admiral court was established, and the manor, the site of which the monastery was built. From the charter, granted in the 37th of Henry VIII., the borough is at present chiefly governed. Philip and Mary, in the first year of their reign, endowed the corporation with a rich grant of lands and messuages, to assist in maintaining the bridge and port, for supporting school in the town, for finding two presbyters for the celebration of divine worship in the parish church, and for the maintenance of four beadsmen to pray there for ever for the good and prosperous state of the queen while living. This valuable endowment, so important, and so liberal, was used by the original charter, the Lord Rolle's, consisted of fifty messuages, ten gardens, and 227 acres of land, situated immediately near Boston. The late municipal inquiry however shows the property to be 511 acres, 1 rood, and 21 perches of land, and some houses, and yields a yearly rent of 2145l. 16s. 6d.' This difference is accounted for partly by a previous assessment of the measurements, and partly by the circumstance of many allotments having been made to the corporation under Inclosure Acts. (Corporation Reports.)

During the reign of Elizabeth the port continued to decline; the merchants no longer visited the town, and the mayor and burgesses a charter of admiralty, giving them power to levy certain duties on ships entering the 'Norman Deeps.' In 1571 Boston and the surrounding district suffered much from a violent tempest, an account of which is given by Holinshed. During the Commonwealth the town was again visited in 1644. In 1643, Boston was strongly fortified for the king and parliament, but it was soon crowded with the parliamentary soldiery, and made the head-quarters of Cromwell's army. The principal men of the district favoured the interests of the Royalists. In June 1643, Colonel Cavendish defeated the parliamentary troops at Donington, near Boston, and soon after Cromwell removed his quarters to Sleaford. On the restoration of Charles II. a warrant was issued, by which some of the officers of the town and district were exempt from the payment of the poll tax, which had shown in the cause of Cromwell. About the middle of the eighteenth century, the commerce of Boston fell into still greater decay, 'through the ruinous state into which the river and haven had fallen, in consequence of neglect and mismanagement, and from errors committed in the execution of works of drainage.' (Thompson.)

Ecclesiastical History.—Dr. Stukeley supposes that the monastery of St. Botolph stood 'on the south of the present church; he saw vast stone walls dug up there, and a plain stone cross of uncertain date.' The site of the church was once held in consequence of neglect and mismanagement, and from errors committed in the execution of works of drainage.' (Thompson.)

The Augustinian friars had a priory at Boston, founded in 1301, and various small grants of land from pious individuals, and from Henry IV.; and their order was patronized by Thomas Earl of Rutland. Not a vestige of the old priory remains, except the site of the church, which, it is supposed, was the site of the mansion house, and is visible on the west side of the town, near the old church; the priory church is said to have had only meretale objects in view. The guild of Corpus Christi is thought to have been a religious one; at the Dissolution it was called a college. The guild of the woolmen was highly esteemed for its splendid magnificence, and in its purposes partly religious. Its balle is preserved by the corporation for their judicial proceedings, public dinners, &c. The council-chamber contains a portrait of Sir Joseph Banks, by Lawrence, which was presented to the city by the corporation on his election to the office of recorder of Boston.
in 1809. The gulf of St. Peter and St. Paul was a religious establishment, and had a chapel, or an altar in the parish church. St. George's gulf was a trading community, and the church of St. George of that name is still known. The possessions of all these guls were vested in the corporation of Boston when the religious houses were dissolved.

The first stone of the present church of St. Botolph was laid in 1090. The existence of a church at Boston is recorded so early as 1090. The vicarage is now in the gift of the corporation, and its annual value is 360l. (Ecclesiastical Reports), which is paid out of the grant of Philip and Mary. This church is one of the largest parish churches without a tower in the kingdom. It is 245 feet long and 98 feet wide within the walls. Its tower is one of the loftiest in the kingdom, being 300 feet high, and ascended by 365 steps. The tower, which is visible at sea for more than forty miles, is surmounted by an elegant octagonal lantern, which is a guide to mariners on entering the Bos-
ton and Ipswich Roads. This lantern, says Rickman, is panelled throughout, and each side is pierced with a large two-light window, having double transoms; this compos-
sition gives to the upper part of the steeple a richness and lightness scarcely equalled in the kingdom. The church is principally decorated, and the tower perpendicular, both excellent in their kind. The chancel is partly de-
corated and partly perpendicular, and there is a good south porch. The tower, which is one of the finest compositions of the perpendicular style, is a complete arrangement of pointed arches, vaults and buttresses, and is one of the most beautiful objects in which the window is so large as nearly to occupy the whole face of the tower.' (Rickman on Gothic Architecture, p. 231.)

The altar-piece, set up in 1741, is in four compart-
ments, and represents the Crucifixion, the Annuncia-
tion, the Virgin in the Temple, and the Ascension. It is a copy from the celebrated one by Rubens in the great church at Antwerp. In a chamber over the south door is the parish library, which contains several hundred volumes, among which are many valuable and scarce works on divinity and Antiquities of Great Britain. (Britton on Architectural Antiquities of Great Britain.)

The chapel of ease, which was erected by subscription in 1822, is a perpetual curacy in the gift of the subscribers, for fifteen years from the time of its erection; after which time the corporation becomes its patrons. There was formerly a church called St. John's, which was taken down nearly 200 years ago; its burying-ground is still used as a place of interment. The dissenting places of worship in Boston are for Independents, Wesleyan and Primitive Methodists, General Baptists, and Quakers. Most of these denominations have their own Sunday-schools, which altogether educate nearly a thousand chil-
dren.

The Haven.—The history of the Witham, and the harbours and the influence of the drainage of the fens upon them, abound with interesting details. The changes which have taken place from local circumstances appear to have greatly affected the prosperity of the town. The fall of the Witham from Lincoln to the sea, Sir William Dugdale says, 'the descent of the Witham is so little, that the water, having a slow passage, cannot keep it wide and deep enough for navigation or for draining the adjoining marshes. It appears, notwithstanding, that during the commercial prosperity of Boston, ships of a heavy burden could get up to the town, and loaded and unloaded in the river and was paid to the removal of obstructions, and to the cleansing of the river. In 1751 it was stated that thirty years before a ship of 500 tons could get up to Boston; but that then even a small sloop of forty or fifty tons, drawing only six feet of water, could not sail to or from the town except at a spring-tide. One of the causes of this decay of the haven is attributed to the diversion of the waters of the neighbouring fens from their ancient entrance into the Witham, above Boston, which had formerly discharged themselves in such large quantities into the sea as to be wholesome. The amount of the ne-
ighbouring fens have materially increased its internal means of
wealth, by enabling it to bring into its market immense quantities of agricultural produce; while the conveyance of this product to London and other places gives occupa-
tion to its shipping. There are some factories at Boston for sail-cloth, canvas, and sack; there are a few iron and brass foundries. By means of the Witham and the canals connected with it, Boston has a navigable com-
and embanking have also been obtained. The most favour-
able results have followed these measures, which began to be visible as soon as the larger works were completed. The town of Boston has been chiefly governed by the charter of Henry VIII., already mentioned. The title of the corporation was, 'The Mayor and Burgesses of the borough of Boston;' the officers being a mayor, recorder, deputy-recorder, twelve aldermen, six town clerks, a sheriff, six assessors, twelve constables, judge of the court of admiralty, gaoler, and subordinates connected either with the borough or port. Freeman were created by birth, servitude, gift, and purchase. The number of resident freemen was about four hundred and eighty; but of non-residents, about four. Under the new Munici-
pal Act, it is placed in the second moiety of the boroughs which are to have a commission of the peace, to be divided into three wards, to have six aldermen, eighteen common-
council men, and the other officers provided in the Act, by which the government of the borough will be materially changed. The court of quarter-sessions is held by the mayor, deputy-recorder, and other magistrates. There is a court of reviews for the recovery of small debts, which seems to be beneficial. The borough gaol is very inadequate for that classification of the prisoners which the law re-
quires, as 'there is no provision for a separate and separate,
un tried from the convicted,' and the young offender has to associate, day and night, with the hardened culprit. The number of prisoners committed to this gaol was, in 1830, 308; in 1831, 290; in 1832, 269. For details respecting the number of inmates of the two houses, reference is to the 'Corporation Reports.' The town is but indifferently supplied with water; attempts have been made to supply this deficiency by boring, but they have not been success-
ful. In 1826, a depth of 600 feet was attained without attaining water, and the same result occurred in 1827. In dry seasons, the inhabitants have to buy water. It is well supplied with coal by the coasting vessels from Sunder-
land, Newcastle, &c. Its foreign trade is chiefly with the Baltic, whence it imports hemp, iron, timber, and tar; it exports coal, and particularly in the years 1810 and 1812, one-third of the whole quantity of oats which arrived in the port of London, were shipped from Boston.

The borough and parish of Boston contains 7923 acres 39 poles. Its pop., in 1801, was 5926; in 1811, 8160; in 1821, 10,373; in 1831, 11,240; of whom 6064 were males, and 6146 females. Under its extended boundary by the Reform Act, the pop. of the borough is 12,818.

Families employed in agriculture, 149; in trade, manufac-
tures, &c., 1254; not comprised in the above, 1104. Annual income of the tradesmen and labourers, 9706l. 17s. 6d. Assessed taxes, for years ending 5th of April, 1829, 3064l. 13s. 6d.; 1830, 2972l. 1s. 6d.; 1831, 2952l. 14s. 7d.; 1832, 3065l. 4s. 6d.

Parochial assessments, for years ending 25th of March, 1821, 8463l. 14s.; 1821, 8810l. 18s. 6d.; 1831, 8451l. 9s.; 1832, 9091l. 19s. 6d.; 1833, 8578l. 19s.

Number of houses, in 1833 (as charged to the house-
duty), 104; and under 20l. rent, 310; and over 40l., 161; and upwards, 79. (Municipal Report.)

Public Buildings, Trade, &c.—The town on the E. side of the river consists of one long street, called Bargegate, the market-place, and some minor streets; there is another long street on the W. side of the river, called High-street. The market-place is spacious, and very suitable for the well-at-
tended fairs and markets which are held here. The mar-
ted days are Wednesdays and Saturdays, and are particularly noted for sea and river fish. Immense numbers of sheep and horned cattle are sold at the markets, and there are convenient areas in several adjacent parts of the town, where the cattle are folded, and kept during the time of sale. As an out-post in the centre of a very fertile agri-
tural district, equally adapted to pasture and corn, and with a breed of cattle of a very fine description—being remarkably large and famed for their symmetry—Boston is favoured above other towns on the coast, being the market for the whole of the ne-
ighbouring fens have materially increased its internal means of
wealth, by enabling it to bring into its market immense quantities of agricultural produce; while the conveyance of this produce to London and other places gives occupa-
tion to its shipping. There are some factories at Boston for sail-cloth, canvas, and sack; there are a few iron and brass foundries. By means of the Witham and the canals connected with it, Boston has a navigable com-

communication with Lincoln, Gainsborough, Nottingham, and Derby, and by them with all the inland towns. The new market-house, erected in 1819, includes a convenient corn-market; there are also butler, poultry, fish, and stock-markets. The building is of brick and stone, and which altogether forms a very handsome edifice. E. of the haven, and near the iron bridge. This bridge, which is of a single arch, and cast-iron, is an elegant structure; it was commenced in 1802, and opened for carriages in 1807. Its curvature is so slight that the road over it is nearly horizontal. Its dimensions are 86 ft. 6 in. span, and 39 ft. broad; it was built at the expense of the corporation, and cost, including the purchase of buildings, 22,000l. The petty sessions for thewapentakes of Kirkton and Skirbeck are held in the building. The town-hall, which is a substantial building, near the quay; it was taken down and rebuilt in its present shape about a century ago. The poor-house is in St. John’s Row; it was built about the year 1730. ‘The corporation have no share in its management.’ (Corporation.) It has 47 inmates, and a rate of 6d. a year is levied for each in 1819. It is supported by subscription; the patients are generally visited at their houses. The town is lighted with gas. There are two subscription libraries and two news-rooms. The amusements of the theatre are not so well encouraged as formerly.

Charities.—A grammar-school was provided for by the rich grant of Philip and Mary in 1554. The building was erected by the mayor and burgesses in 1567; it is in the mart-yard, so called from the great annual fair having been held in it. The school-room is described as large, convenient, and having a high wall round the play-ground. The corporation have the appointment of the schoolmaster, to whom they pay 220l. per annum. A portion of this sum is allowed during the approbation and pleasure of the corporate body. The corporation lately expended the sum of 1800l. in providing a house for the master, who pays them a rent of 40l. a year; he also pays an usher 60l. a year. An annual sum of 80l. is paid by the corporation to the late master. The school was under his charge thirty-five years, and the number of pupils increased so as to have been 200. The pension was given him to induce him to resign his office, and a most desirable change has been produced; the number of pupils now being forty, nearly all of whom are free boys. The usual education of a grammar-school is free to the children of every inhabitant of the parish; for a commercial education, a guinea a quarter is charged. The children of members of the Established Church are taught its catechism, those of Dissenters are not. (Further particulars in Carlisle’s Endowed Schools, and in the Corporation’s Report of 1815.) The school was established by a bequest of 100l. a year, 1713, by subscriptions, and donations, for the education of boys and girls. The master and mistress have 100l. a year. The number of children in the school is 50 boys and 90 girls. The National and British Schools were begun in this town in 1803. In 1813 each of these schools had 120p. a week is paid by the children. The National School contains 94 boys and 80 girls. The British or Public School, 100 boys and 70 girls. There is also an infant school, which takes charge of 120 children. Laughton’s Charitable School was established by a gentleman of that name in 1707; it was intended for the poorest freemen’s sons, and for placing out a certain number of them as apprentices every year. There have been several benefactors to this school since its founder; in 1819 its annual income was 1111l. 16s. 8d. The number of pupils is thirty-five; the sum of money given to them as an apprentice-fees, on their attaining the age of fourteen, varies according to the state of the funds at the time they leave the school; it is generally 10l. Names of other charities sufficiently explain their object: they are a Bishopric Sch. for the poor of Carlisle, a Dorcay Sch., the Poor of Carlisle, Apprentices’ Charities.

Two interesting remains of antiquity have yet to be noticed,—the Kyne Tower, and the Hussey Tower. The former is situated about two m. E. of Boston; it is of brick, quadrangular, and without a staircase, having a single angle, containing a flight of about twenty steps. It is said to have been a baronial residence of the Earls of Richmond; it passed into the Rochford family, from thence into that of the Kynes, and finally escheated to the crown, in consequence of some political transgression of its owner. It is now the property of the Dean and Chapter of Westminster.

The Hussey Tower is situated in the town, near St. John’s Row, and is the remains of a baronial residence of Lord Hussey. From what is now standing no idea can be formed of the original form or extent of this building. (Thompson’s Collections, p. 366.) (Works of Boston; Communications from Boston, Spalding, &c.)

BOSTON. The capital of the state of Massachusetts, is situated in 42° 21' N. lat. and 71° 4’ W. long., at the bottom of Massachusetts Bay, on a peninsula above two miles square, and in not more than one mile breadth. A narrow isthmus by which the peninsula is joined to the main land is called Boston neck, and the arm of the sea which washes the peninsula on its N. and W. sides, is named Charles River.

The town was first mentioned about the year 1630, by the settlers established at Charlestown, on the shore of Massachusetts Bay, contiguous to Boston peninsula. The name was given in compliment to the Rev. John Cotton, who had been a deacon at Boston in Lincolnshire, from which place he was driven by the religious persecutions, while his original settlement of the New England Colonies must be ascribed.

The early settlers, themselves, the victims of persecution for conscience’ sake, seem to have entertained no enlarged ideas of religious freedom. They claimed, and by their voluntary expatriation took effectual means for securing, the safety, liberty, and property of religion on their own hands, but they did not learn the justice of tolerating religious systems different from their own. At the very first court of election held in the colony, a law was passed enacting that ‘none should thereafter be admitted freemen, or be entitled to vote at any election, who was not of the established church, or being chosen magistrates, or even of serving as jurymen, but such as had been or should hereafter be received into the church as members.’ It would appear from this, that ‘the pilgrim fathers’ did not indeed disapprove of religious persecution but were against being made victims of it.

The scheme of taxing America by the British parliament, met no where with a more decided opposition than in Boston. The Stamp Act, which received the royal assent on the 22nd of March, 1765, was to come into operation on the 1st of November following. It was, however, on the 10th of August following that serious riots took place in the streets of Boston; the building intended for the reception of the stamps was pulled down, and the lieutenant-governor was forced to quit the city. From that time the inhabitants of Boston took on all occasions a prominent part in the resistance to the taxation of the States. One of the most memorable events that accompanied this dispute, was the destruction in Boston harbour of the eagles of tea which, burtrenched with an exception to the duties of the East India Company, and shipped to the East India Company. On the arrival of these consignments in December, 1773, the inhabitants of Boston held meetings in their town-hall, to consider of means for opposing the introduction of the tea, and negotiations to that effect were entered into with the British government. Finding there was little probability of these negotiations coming to a satisfactory issue, a party of men, about fifty in number, disguised as Mohawk Indians, proceeded late in the evening on board the tea ships then lying at the wharf, and emptied the contents of every chest into the sea; it was never discovered who the individuals were by whom this daring act was committed. As one of its consequences, the British parliament passed the Act known as the ‘Boston Port Bill,’ by which the landing and shipping of goods at the town or harbour of Boston were made illegal, not only for the full duration of the war, but also for the East India Company, and until the king in council should be satisfied of the re-establishment of order in the town. By a subsequent Act of the same session (1744), the charter of the province was in effect subtracted, by vesting in the crown the right of appointing all the judges of the province, and by a third Act, the governor was invested with power to send for trial to England all persons accused of offences against the revenue, or of rioting in the colony.

Early in the revolutionary war Boston became the scene of considerable hostilities. In 1775, the troops of General Howe, having made this town their head-quarters, were blockaded by the American troops under General Putnam, who occupied the heights of Dorchester south of the town, and an eminence called Bunker’s Hill on the north, separated from the peninsula by Charles River. In June, 1775, the English attacked this last-named post, and after having
been twice driven back, succeeded in dialogueing their opponents, but with a loss of 1100 killed and wounded, including eighty-nine officers. In the heat of the action, Charles- town was, in a great measure, on fire. Boston, containing several hundred houses, was set on fire by the British and entirely consumed. In the following month General Washington, then newly appointed commander-in-chief of the American forces, arrived before Boston, which public buildings of the State at the fine season of the year. He then commenced offensive operations, and having with a considerable force obtained possession of the heights of Dorchester, and thrown up some works by which the town was commanded, the British general was forced to evacuate the town, which Washington entered on the 17th March, 1776.

With the exception of a spot in the south-western part of the city, called the Common, and containing about seventy-five acres, the whole of the peninsula is occupied by buildings. The city is connected with the mainland by six bridges—Charles River Bridge, leading from Charlestown to the north, is 1563 feet long; West Boston Bridge, leading to Cambridge port on the west, is 7810 feet long; between these two is Canal Bridge connected with Lechmere point, 2756 feet long; two bridges unite the peninsula to a suburb on the main land, called South Boston; and the sixth connection with the main land is by means of a mill-dam, which serves also for a bridge on the south-west side of the city: this mill-dam is nearly two miles long, and 50 feet wide.

All the chief harbours are formed by numerous small islands, on one of which, at the entrance, is a light-house sixty-five feet high with a revolving light. The islands, and the numerous shoals, render it necessary for vessels to take on board a pilot. There is in general sufficient depth of water within the bay all times of tide, to enable the largest vessels to reach the town where they are moored alongside wharfs, of which there are about sixty, some of them of extensive dimensions: one, called 'Long Wharf,' is 530 yards long; and another, called 'Central Wharf,' is more than 400 yards long and wide, with a row of lofty brick warehouses along its entire length: vessels lie here in perfect safety from whatever quarter the wind may blow. The entrance to the harbour is so narrow as scarcely to admit two ships abreast; it is defended by forts constructed on several of the islands, close to which ships must pass.

In the oldest part of the town, those streets which remain as they were originally planned, are narrow and crooked, the houses are of small dimensions, and plainly built of wood. The parts wherein they are planned, 1149.

The imports consist principally of woolen, cotton, linen, and silk manufactures, sugar, coffee, indigo, hemp, and flax. The value of iron annually imported amounts to 15,000 tons. The exports consist of fish and fish oils, salted meat, flour, soap, and candles, with a small quantity of the cotton manufactures of the country. The amount of tonnage frequenting the port from foreign places during the three years from 1829 to 1831 was:

<table>
<thead>
<tr>
<th>Year</th>
<th>Inwards</th>
<th>Outwards</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829</td>
<td>120,922</td>
<td>98,114</td>
<td>219,036</td>
</tr>
<tr>
<td>1830</td>
<td>107,007</td>
<td>91,722</td>
<td>198,729</td>
</tr>
<tr>
<td>1831</td>
<td>130,717</td>
<td>109,685</td>
<td>240,402</td>
</tr>
</tbody>
</table>

nearly the whole of which was under the American flag; the amount of cotton duties paid at the port in 1831 was 4,527,599 dollars, or 1,089,081l. sterling.

Boston contained in October, 1833, twenty-five banks, with an aggregate capital of upwards of sixteen millions of dollars. The highest rate of dividend made by any of these establishments is seven per cent. per annum, and the lowest is five per cent. per annum; the greatest number divide six per cent. annually. [For further particulars respecting the banks of Boston see the articles Bank and Banking, vol. iii. page 388.] There are also twenty-nine companies incorporated for fire and marine insurances, the aggregate of whose capital is 1,000,000 dollars.

The trade of Boston is facilitated by means of the Middlesex canal, which was completed in 1806, and runs from Boston harbour to Merrimack river at Chelmsford, thus opening a cheap communication with the central part of New Hampshire. More than 120 stage-coaches leave Boston, and as many arrive daily with passengers to and from all parts of the Union.

The 'General Court of Massachusetts,' consisting of a senate and house of representatives, the former having forty and the latter an infinite number, sometimes exceeding 500 members, meet at Boston twice in every year, in January and May. The supreme courts of judicature for the state are likewise held in the city. There is also a court consisting of three justices, styled the 'police court' for the city of those cases to which a municipal court of one judge, who has cognizance of all crimes, not capital, committed within the city and the county of Suffolk, in which it stands.

The value of imports and exports from and to foreign countries during the same years, was as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Inwards</th>
<th>Outwards</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829</td>
<td>2,791,389</td>
<td>2,578,459</td>
<td>5,370,848</td>
</tr>
<tr>
<td>1830</td>
<td>2,613,961</td>
<td>2,397,658</td>
<td>5,011,619</td>
</tr>
<tr>
<td>1831</td>
<td>2,628,508</td>
<td>2,447,873</td>
<td>5,076,381</td>
</tr>
</tbody>
</table>
Boston contains several literary institutions. Among these the Athenæum has a library of 25,000 volumes, and a museum with a large collection of rare coins and medals. The Massachusetts Historical Society, the Boston Library Society, and the Columbian Library have likewise good collections. New England, for instance, is the most extensive in the United States. There are, besides, a Gallery of Fine Arts, an Academy of Arts and Sciences, and a Mechanics Institution in the city, which are liberally supported.

The Massachusetts General Hospital, which was founded in 1818, has been handsomely endowed by the joint contribution of the state and of individuals. An Hospital for the Insane and a House of Industry are supported by the inhabitants of the city. The institution for the Education of the Blind and the Aborigines, in the neighborhood of the city, is a worthy effort. Its establishment is of recent formation, having commenced in 1833 with slender means, and undertaking at first the instruction of only six poor blind children. The success attending this first experiment proved so satisfactory that within six months the state legislature made an appropriation of 6000 dollars per annum to the institution, upon the condition that it should receive and educate, free of cost, twenty poor blind persons from the state of Massachusetts. A private individual, Mr. Perkins, gave up his own residence for the best houses in the city, for the purposes of the institution, on condition that the sum of 50,000 dollars should be contributed for its support by other individuals, a condition which was satisfied within one month. At the date of the last annual report (1830) the institution contains about twenty students and twenty male scholars, being all that the building could contain.

The studies of the children comprise arithmetic, grammar, geography, history, the French and Latin languages, to which may be added the study of music, both vocal and instrumental, as a temperance and training to enabling the pupils to obtain a livelihood, either as teachers or organists. One class is instructed in natural philosophy, and several pupils are studying algebra and astronomy with success. The children are also taught manual labor in the grounds, knitting and weaving, and can make mattresses, cushions, door-mats, and baskets: these occupations being considered advantageous, not only as the means of earning their support, but also for imparting a facility of exercising the physical powers of the pupils. The point in which the managers of the institution have been most successful is the art of printing in raised characters, in which their performances are said to excel those of any institution in Europe. A specimen of this method of printing, which fully justifies the confidence that the public have in the institution, containing an epitome of Lindley Murray's English Grammar, the cost of which in sheets is little more than four shillings sterling. The institution is provided with a printing-press, and much of the work, such as laying on the type, is performed by the pupils themselves. They have also a perfect assortment of the type required for printing in raised characters, and have already printed, besides the Grammar, the Acts of the Apostles; a child's book of first lessons, and a hymn-book. In June, 1835, they were engaged in printing a spelling-book, and were preparing for press the whole of the New Testament. The superiority of the books printed in raised letters at this Boston press over others that we have seen consists in the clearness and perfect formation of the letters, and regards the spaces which they occupy. In the books printed at Paris there are on a page of eight inches by seven, or fifty-six square inches, 408 letters; at Edinburgh by the improved method 590 letters are included in that space, while at Boston, a page of equal dimensions is made to contain 787 letters, being nearly double the contents of the Paris page. By being careful in the operation of working off, a thinner paper is employed, and altogether the quantity of reading matter in the Boston volumes is equal to three times that contained in like bulks of French volumes.

The number of public schools of various descriptions in Boston in January, 1830, was eighty, and the number of scholars in attendance 7430. Of these institutions nine were grammar-schools, nine writing-schools, one Latin and one English high school for boys, fifty-seven primary schools for children between four and seven years of age, two schools in the House of Industry, and one school dedicated 'the House of Reformation.' The expenses incurred for the support of these schools in 1829 was 65,500 dollars. The whole number of schools in the city, public and private, was 235, and the number of pupils in attendance 11,448. The whole expense for tuition, books, &c. was 196,829 dollars. Harvard University, the best endowed institution of the kind in America, is at Cambridge, three miles N.W. of Boston.

The provident institution for saving in the city of Boston possessed on the 15th July, 1834, deposits from 11,516 depositors, amounting to 1,790,000 dollars (354,000). There is a similar institution for receiving the savings of seamen, but no statement has been given respecting its financial condition.

The first Anglo-American newspaper, entitled 'The Boston News-Letter,' was published in this city on the 24th of April, 1704; it continued to be published during seventy-four years, and for fifteen years of that period was the only newspaper printed in the English colonies in America. The second of these papers in point of time was likewise printed in Boston. The third Boston paper, first published in 1731, was printed by James the brother of Benjamin Franklin, in whose name the publication was for some time carried on, in consequence of some difficulties in which James Franklin was involved with the government. Some of the earliest writings of Franklin were given to the world in the columns of this paper, which was called 'The New England Courant.' The number of newspapers printed in Boston in 1834 was forty-two, of which nine were published daily, seven twice a week, and twenty-six weekly. The first daily paper was published in 1813.

Several periodical works are published in Boston. Among these may be mentioned, 'The North American Review' (Quarterly); Woodbridge's 'Annals of Education;' the 'Christian Examiner,' founded in 1813, under the title of 'Christian Advocate,' by which name it is changed to its present title in 1824, published once in two months; and 'The American Almanac and Companion,' a valuable work conducted on the model of the British Almanac and Companion. The 'Edinburgh and Quarterly Reviews, and some other English periodical works, are regularly reprinted in Boston.

The Massachusetts state prison is situated in Charlestown, adjoining Boston. Only male convicts are received into this building, which is conducted upon the same principle as that at Auburn. This prison was found by Mr. Crawford on his official visit in 1833 to be extremely well conducted. The attention which is paid to the moral and religious improvement of the convicts is highly creditable to the state. The discipline is strictly maintained, but its rigid enforcement is unobjectionable, inasmuch as it is with due respect that 'flogging is never inflicted until the particulars of the case have been fully investigated by the warden or his deputy, and an opportunity has been afforded to the prisoner of being heard in his defence.' From statements made by Mr. Crawford, it appears that the profits arising from the labour of the convicts are sufficient to provide for all the expenses of the establishment, and to leave a balance of profits amounting to 7000 dollars in the year.

The number of convicts remaining in confinement on the 30th of September, 1833, was 336, whose ages were:

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 20 years</td>
<td>19</td>
</tr>
<tr>
<td>20 to 30 years</td>
<td>105</td>
</tr>
<tr>
<td>30 to 40 years</td>
<td>76</td>
</tr>
<tr>
<td>40 to 50 years</td>
<td>38</td>
</tr>
<tr>
<td>50 to 60 years</td>
<td>9</td>
</tr>
<tr>
<td>60 to 70 years</td>
<td>2</td>
</tr>
<tr>
<td>70 years and over</td>
<td>1</td>
</tr>
</tbody>
</table>

The terms of imprisonment to which they were sentenced were:

<table>
<thead>
<tr>
<th>Term</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six months</td>
<td>6</td>
</tr>
<tr>
<td>One year</td>
<td>90</td>
</tr>
<tr>
<td>Between one and three years</td>
<td>90</td>
</tr>
<tr>
<td>three and seven years</td>
<td>69</td>
</tr>
<tr>
<td>seven and fourteen years</td>
<td>19</td>
</tr>
<tr>
<td>fourteen and twenty years</td>
<td>40</td>
</tr>
<tr>
<td>For life</td>
<td>4</td>
</tr>
</tbody>
</table>

Exactly three-fifths of this number were convicted of
larceny, twenty-one had committed burglary, ten had been guilty of offenses against the currency, thirty-six had been convicted of crimes against the person, and the remainder were confined for minor offenses against property. The proportion of re-commitments to the whole number of convicts in the district for 1825 to 1826 was one to five; the proportion was somewhat less during the last than it had been during the first half of the period.

(Life and Correspondence of Dr. Franklin, 4to. edition; Hinton's History and Topography of the United States; American Institute of the Western Hemisphere; Report on the Penitentiary System of the United States; Tables of the Revenue, Population, Commerce, &c., of the United Kingdom, part iii.)

BOSTRICHIUS (Lat.) a genus of insects of the family of Lyphphag. The body is elongated and cylindrical, very slender; the head round, capable of being retracted within the thorax as far as the eyes; eyes distinctly projecting; antennæ ten-jointed, short, the three terminal joints large and distinct, twice as broad as the remainder; the five following joints small and close together; the two remaining, or two basal joints, slightly thickened: palpi tolerably distinct, about equal in length to the mandibles, short, and three-jointed; thorax convex above, the anterior part humped; legs rather short, tarsi four-jointed, simple. The insects of this tribe are found on old trees, and in old wells, being the last animals they generally construct their burrows under the bark.

Bostrichus capricornus (a rare species in this country) is about half an inch long; the head, antennæ, thorax, and legs are rather slender; the body is black. 

BOSWELL, JAMES, Esq., was born in Edinburgh, October 29th, 1740. His father was Alexander Boswell, Esq., of Auchinleck (pronounced Affleck), in Ayrshire, who being in 1754 made a lord of session, assumed the title of Lord Auchinleck. His mother was Euphemia Erskine, great-granddaughter of John Erskine, the twenty-third earl of Mar, who was lord high-treasurer of Scotland from 1615 to 1630. After having studied law at the universities of Edinburgh and Glasgow, Boswell visited London for the first time in 1760, and made many acquaintances both in the fashionable and literary world. In 1763 a translation of the 'Espada' of More was made, as far as is known, his first essay in authorship by contributing some verses to a miscellany which appeared that year at Edinburgh, under the title of 'A Collection of Original Poems, by Scotch Gentlemen.' In 1763 he published a small volume of Letters which had passed between himself and the honourable Andrew Erskine (the brother of Thomas, the sixth earl of Kellie, the eminent musical performer and composer). This is a very characteristic volume, sufficiently prognosticating, by its style of frank expression and free opinions, the remarkable qualities of the author's subsequent productions. With his father's consent he determined to make the tour of the continent before being called to the bar; and accordingly he set out early in 1765. While passing through London he was introduced to Dr. Johnson, on the 16th of May in that year, in the back shop of Mr. Thomas Davies, the bookseller, in Russell-street, Covent Garden. He proceeded in the first instance to Utrecht, where he spent the winter in attending the law classes at the university. After visiting various parts of Germany and Switzerland, he proceeded to Italy in company with his friend the Earl Marischal, through Germany, Switzerland, and Italy. With his passion for making the acquaintance of remarkable persons, he had, while in the neighbourhood of Geneva, visited both Rousseau and Diderot, and, being in Paris in the year 1766, invented himself by means of a letter from Rousseau to General Paoli, then in the height of his celebrity as the leader of his countrymen in their resistance to the Genoese. Returning home by the way of Paris in 1766, he passed as advocate-at-law, and he prepared the account of the pamphlet, which was considered creditable to his abilities, entitled 'The Essence of the Douglas Cause,' being a defence of the claim of Mr. Archibald Douglas (afterwards Lord Douglas), to be considered as the nephew of the last Duke of Hamilton, against the claim of the Hamilton family, who disputed his alleged birth. Although he thus signalized the commencement of his professional course, his business at the bar was from the first but a secondary object. He had made his fortune from his travels so full of the Corsican chief, that he was speedily known by the nickname of Paoli Boswell. In 1768 he published at Glasgow 'An Account of Corsica, with Memoirs of General Paoli,' which was followed the next year by a duodecimo volume which he printed at London, under the title of 'British Essays in favour of the brave Corsicans, by several hands.' In November 1770, he married his cousin, Miss Margaret Montgomery of Lainshaw. About the same time his intimacy with his literary friends in London, and especially with Dr. Johnson, was drawn closer by another visit to the metropolis. In 1773 he accompanied Johnson on his journey to the Western Islands of Scotland. In 1774 he sent to the press another professional tract, being a Report on the decision of the Court of Session upon the question of Literary Property, in the cause John Hinton, Bookseller, London, against Alexander Donaldson and others, Edinburgh. It was a mere reprint of the judgments delivered by the Lords of Session in the case of William Blackwood and others v. the same counsel. In 1782, on his father's death, he succeeded to the family estate, and soon after removing to London entered himself at the English bar. In 1784 he published a pamphlet in support of the new ministry of Mr. Pitt, under the title of 'A Letter to the People of Scotland, on the present State of the Nation.' His great friend Johnson died towards the end of this year; and in 1785 he published the first and not the least remarkable sample of his Johnsonian, in a Journal of the Tour to the Hebrides. It appeared at Edinburgh, in an flock of six thousand copies, being the first edition, and having been made various unsuccessful attempts to obtain a seat in parliament. At the general election in 1790 he stood for the county of Ayr, but was defeated after an expensive contest. Before the close of the same year appeared in two volumes the first edition of 'The Life of Johnson,' which he had made and universally known, his 'Life of Johnson.' The sensation excited by this extraordinary production was very great; and if it be always an evidence of superior talent to do any thing whatever better than it has ever been done before, then a work undoubtedly, the invention and originality of which it has met with, and also the celebrity it has ever since enjoyed: for whatever may be thought of the character of either the intellectual or the moral qualities which its composition demanded, it cannot be disputed that the same qualities had never before been half so skilfully or felicitously executed. Nor has any work of the same kind since appeared that can be compared with Boswell's. The best editions of this celebrated work are the two that have been lately published by Mr. Murray; the first in 5 vols. octavo, edited by Mr. Croker; the other in 3 vols. folio, edited by Mr. John G. Lecky. And let us not forget that Boswell's 'Journal of the Tour to the Hebrides,' and many other pieces relating to Johnson never before incorporated with the present books. Boswell is said to have contributed a series of papers, entitled the Hypochriones, to the first sixty-two numbers of the London Magazine (from 1777 to 1782), which are said to be of very little merit; and a series of his Epistolary Correspondence and Conversations with many eminent Persons, according to Watt's 'Bibliotheca Britannica,' appeared at London in two volumes quarto, and was continued to 1793. He was preparing a second edition of his Life of Johnson at the time of his death, May 19th, 1795. He left two sons and three daughters. (The fullest and best account we have met with of the life of James Boswell is to be found in Croker's Edinburgh Journal, No. 199, for Nov. 21st, 1832.)

BOSWELLLIA, a genus of balsamic plants belonging to the natural order Burseraceae, and consisting of two species, one of which is believed by Colbrough to be the Libanos of Theophrastus and Dioscorides. This species is yielded by the Lycian juniper; but that plant is a native of the south of France as well as of the Levant, and the botanists of that country deny that any such substance is produced by their juniper. The Greeks obtained their frankincense from Arabia. The Arabsians call olibanum both Luban and Cundur; but as benzois is most used at the
present day for religious purposes, the Mohammedan writers of India on materia medica apply only the term Cundar to obihanum. This Cundar has been ascertained by Messrs. Colebrooke, S. W. Hunter, and Roxburgh to be the subject of the present article.

Boucerea thurifera, as botanists call it, is a large timber-tree found in the mountainous parts of India, yielding a most fragrant resin from wounds made in the bark. Its leaves are deciduous, about one-third to one-fourth of an inch in length, oblong leaves, each of which is from an inch to an inch and a half in length. The flowers are pale pink, small, and numerous. The calyx is five-lobed, the corolla of five downy petals, the disk a fleshy crenelated cup, and the stamens ten, alternately shorter. The fruit is a three-sided, three-valved, three-celled capsule, containing a single-winged pendulous seed in each cell.

From this Roxburgh distinguishes as a different species Boueelia glabrata, a plant also yielding a resin which is used for incense and as pitch in some parts of India. It differs from the last in having no hairs on its leaves, in the leaflets being often toothless, and in its flowers being panicked.

BOSWELLIA THURIFERA. (Colebrooke, Asiatic Researches, ix. p. 377; Roxb. Fl. Ind. ii. p. 383.) It is necessary to refer to the figures in this last named paper which accompany this plant, and to compare them with the B. serrata of Stackh. extr. Bruce (p. 19. t. 3), which is generally regarded as a synonym of this plant. For the reasons for distinguishing them, see Wight and Arnott's Flora Indica, i. 155, 156, and George Bentos, i. 473. B. thurifera, Linn., J. lyciia, Linn., J. tetragona, Mönch, the B. thurifera, Linn., or J. himpanica, Lam., and even from the J. oxycedrus, Linn. Some persons are still of opinion that the Arabian obihanum is derived from a juniperus; which, if it were so, would not make the plant here described any better than the Indian obihanum, is very improbable, for as Nee von Esenbeck justly remarks, the coniferæ yield only pure resins, or resins consisting of resin, volatile oil, and subresins, but in no case any gum-resins. Indeed, if the Arabian obihanum be not obtained from a Boswellia, it is most probably yielded by a Balsamodendron: (Kafal? Förr.) possibly only a variety of B. Kataf. (Försk.) at least the wood of this tree is used to burn as a perfume in the mosques.

A substance analogous to obihanum, and used in a similar way in various parts of the world, is procured from several different trees, such as, in America, the Croton nitens (Schwartz), C. thurifera (Kunth), and C. adipsum (Kunth); in Colombia, Batillaria nitertifolia (Kunth), yields the American frankincense; in the Amuri (Cocos Tacos) (Kunth) yields the resin coumar, likewise called American frankincense.

Laeita apetala (Jacq.) also yields a substance similar to frankincense.

Obihanum occurs in commerce of two kinds, the Arabian and East Indian: the former kind is now seldom met with, and its origin is a subject of doubt; the latter is obtained from the tree above described, and to it we limit our remarks. There are two varieties or degrees of fineness of it, the best called obihanum electrum, or in grâmas, sometimes called obihanum arecolinum, the worst, or Indian obihanum commune, or in sortis, also foemineum. The first occurs in pieces varying from the size of a hazel-nut to that of a walnut, or larger, which are roundish or irregular in shape, of a light yellowish colour, varying to red or brown in some pieces, opaque or semi-transparent, the outside often covered with a white powder, and upon being pounded the whole becomes a white powder. It is very friable, and breaks with a dull, sometimes even, sometimes splintered fracture. The other is generally in larger pieces, mostly of a dirty-grey or fawn colour, and intermingled with pieces of wood and other impurities.

The colour of obihanum is faint and peculiar, but pleasantly balsamic, which is increased by heat, and when inflamed it burns with a steady clear light, which is not easily extinguished, diffusing a most fragrant smoke. It leaves behind it a black ash. The taste is balsamic, slightly acid and bitter. Being a gum-resin, it is not perfectly soluble either in water or alcohol; with the former it forms a milky fluid. It consists of gum-resin and volatile oil: the latter principle is the cause of the odour of obihanum; the resin is not often adulterated, but an inferior or the Arabian kind is often substituted. The latter is frequently intermixed with mastic, gum-sandarac, or Burgundy pitch: when there is much of this last article, it may be discovered by the taste, which is more agreeable than the true gum.

Obihanum is now seldom used in medicine: it possesses the properties common to balsamic substances, and may in the absence of inflammatory symptoms, or after appropriate antiphlogistic treatment, be used as an expectorant. It is more useful externally as a rubefacient and antispasmodic, especially applied as a plaster to the teeth, in cases of cramp or spasm of that organ. It is however principally employed to burn as incense in Catholic churches.

BOSWORTH (commonly called MARKET BOSWORTH, to distinguish it from another place of the same name in the hundred of Gastea), a parish in the hundred of Sparkenbo, co. of Leicester, 55 m. N. W. by N. from London, and 12 m. W. from Leicester. It is called Boswords in the Domesday Survey, which mentions the demesne as containing a wood one league long and half a league broad, and names a priest and deacon among the occupants. After mentioning Boswords and some other demesnes, it concludes rather curiously with,—all these lands Saxi held, and might go whithersoever he pleased.” This Saxi lived before the Conquest, it would seem, as one Hugh de la Marre, and the Earl of Mellent are named as the existing proprietors.

The small town of Bosworth is pleasantly situated upon an eminence, in the centre of a very fertile district, and contains several good houses. It has no manufacture of consequence. The inhabitants are mostly connected with the navy, and affords occupation to many persons here and in the neighbourhood. The Ashby canal, which passes within a mile of the town, has given facilities for the obtaining of coal and other commodities. There are now two regular fairs for the sale of corn and horses. The annual parish fair is celebrated every year. The parish contained fifty-four houses in 1831, when the population was 2530, of whom 1806 were females.

There is a free grammar-school at Bosworth, founded by Sir Wolston Dixie, lord mayor of London in the reign of Elizabeth. He built in his lifetime the plain but neat school-house, which has within these few years been taken down and rebuilt in a more commodious form. The endowment produced, some years since, upwards of 700l. per annum. Sir Wolston also founded two fellowships and scholarships in Cambridge, in the University of Cambridge, for the benefit of persons either related to the Dixie family or educated at the school. Owing to the charity being mismanaged by the founder's representatives, a suit in Chancery was instituted, which continued above twenty-five years, and as the charity was suspended; but the proceeds of the estates, being sold and repurchased, was again distributed in that time to a very large sum, the judicious appropriation of which may render the Dixie free-school a most important establishment. Simpson, the eminent self-taught botanist (a native of the town), was usher of this school; and also Dr. Johnson, when a young man.

The decisive battle between Richard III. and the Earl of Richmond, when the death of the former, after a bloody struggle of two hours' duration, terminated the long strife between the houses of York and Lancaster, was fought, August 22, 1485, on the banks of the River Welland, near the town of the same name, south of the town. This fine and spacious plain, which is nearly surrounded by hills, was formerly called Redmore Plain, from the colour of the soil; but since the battle has been called Bosworth Field, from the name of the nearest town.

The plain is rather of an oval form, about two miles in length and one in breadth. At the time of the battle, it was one piece of uncultivated land, without hedge or timber, but is now so altered by both, that nothing of its former appearance remains for the present ground. The spot where Lord Stanley placed the battered crown upon the head of Richmond, and hailed him king, is now known under the name of Crown Hill. There was also a well which was called King Richard's Well, under the notion that the monarch quenched his thirst during the battle. Dr. Parr, who visited the spot in 1812, found that it had been drained and closed up since he was
there six or seven years previously; his representations pro-
cured a subscription for the purpose of raising a suitable
monument on the spot, for which he furnished an appro-
priate Latin inscription.
Numerous relics of the battle have at different times been
uncovered, and ploughing the soil,—such as as-
shields, crosSES, arrow-heads, halberds, pieces of armour,
rings, spurs, and sometimes human bones and skeletons.
[Nicholls's History of Leicestershire; Carlisle's Encouraged
Schools; Hutton's Battle of Bosworth Field; Gentleman's
Monthly Magazine, 1819.]

BOSZORMENY, or BOESZORMENY, a Haidek-
town in the Hungarian co. of Szabolcs, not far N.W. from
the town of Debrecyn. It has a civil tribunal, a Protestant
and a Greek-Catholic church; the inhabitants principally
on their support live by agriculture. The county is a
pop. of about 12,000; and is the seat of the captnacy of the
Haidek districts, 47° 39' N lat., 21° 30' E. long. We may here
remark that these districts consist of level tracts of country,
whereon a few corps of Hungarians, Servians, and Walla-
chians, raised by John Corvus, vice-llutenant of Hungary,
received permission to settle from Stephen Botakay, prince
of Transylvania, to whom they had rendered very important
services in the field. The present possessors of the Haidek
districts are their descendants, and enjoy the privileges secured
over several centuries to the Hungarian invaders fixed on
their first settlement in the time of Mathias I. king of
Hungary. They were placed under the control of a capt.
ain-general, and the subsequent kings of Hungary (latterly
emperors of Germany or Austria) have continued their
predilection for the Haidek: we observe, that the district,
which is divided into three distinct portions, chiefly in
the co. of Szabolcs, and partly in that of Bihar, amounts
to about 372 sq. m. The people speak the Hungarian
tongue, and five-sixths of them are Calvinists, the re
mainder are Roman Catholics. In 1764 their numbers
were 26,736; in 1831 they appear to have declined to
27,732.

BOTANICAL GARDENS. [GARDENS.] BO-TANY is that branch of science which comprehends all
that relates to the vegetable kingdom. The term Bo-
tany is connected with a Greek word that signifies
any kind of grass or herb, and botanik (botanik) the
art which teaches the nature of plants and herbs.
The structure of plants, their mode of growth, their habits of
life, their mutual relations, their uses to man, or the danger
that results from their employment, the station they occupy
in the scale of the creation, and many other similar consi-
derations, form an extensive field of inquiry which botany combines into one connected whole. This statement
will serve to show how imperfect a view of the subject is
taken by many who are only twigs in the immense
planting of classifying plants is the great end of the science, and one of the most humble of its means, unless it is conducted
upon great general views and sound philosophical principles.
In an article of this kind it would be impossible to enter
very fully into the specific and technical details of the
subject; it is, however, the function of botany to
be appended a glossary of the botanical terms most frequently in use.
1. A general view of the nature of plants: 2. The history
of the steps by which botany has advanced from its rudest
state to its present condition as a science: and 3. The prac-
tical purposes to which the mass of knowledge applies: to
which will be appended a glossary of the botanical terms
most frequently in use.
1. To our ordinary apprehension a plant is an organized
body, attached to the surface of the earth by roots, which at
one time or another absorb from the soil sufficient moisture
except from the agency of external influences, destitute of
perceptibility, living by aid of its leaves, and multiplying
by the power of its flowers, fruit, and seeds.
To enable it to execute the functions of nutrition, its
leaves absorb the products of decomposition and assimilate
the fluid or gaseous matters which are obtained by the roots
from the soil and conveyed into the leaves through the stem:
these parts are also capable of returning the elaborated matter
back into the stem, or to those organs in which its presence is
most required. To bring about the phenomena of reproduc-
tion, the ovum is expelled in female beings, and in certain
species successively a calyx, which protects the interior of
the flower, and a corolla which gives it beauty; stamens, whose
points are filled with a fertilizing power, and a pistil which
is furnished with the means of impinging the fertilizing in-
fluence and conveying it to the young seeds enclosed within
its cavity. The latter are fed by the nutritive matter ela-
borated by the genuine leaves until they are full grown;
they are in the mean while guarded from external injury
by the fruit which grows with their growth, and at last con-
tain a miniature representation of their parent enveloped in
many folds of tissue, protecting it in its early state from
producing a being exactly like that by which it was itself
produced, whenever it is committed to the soil from which it is
in its turn to obtain its food.
In a more general point of view, a plant is to be con-
disidered as a set of closed, intercommunicating, evenly elec-
tric, irritable bodies, called tissue, formed of an excessively delicate membrane, and combined into various organs, by means of which the functions of its life are carried on. This tissue occurs in several different forms, all of which are reducible to the col-
lected description of epithelium, which, as the term implies, is the most important is the cellular. This kind of tissue consists of little bladders or vesicles, which, if developed in a medium in
which they experience no resistance, would be of a spher-
oidal figure, but which lose that form by being exposed to
various degrees of compression in consequence of which they are found in a state varying from the form of a
rhomboidal dodecahedron to that of extremely elongated
parallelograms. Such tissue as this constitutes the basis
of all vegetables, generally by far the largest part of them,
and the two other forms of secondary importance, are generated subsequently, and are probably mere modifications of it. It appears to be
indispensable to the propagation of species, forming the fer-
tilizing matter in flowering plants, and being that by means
of which the species of flowerless plants are exclusively pro-
gressed.
Fibrous tissue consists of tubes of variable length packed
closely side by side.
Vascular tissue has the appearance of transparent threads
 twisted spirally like a boll-wire within a membrane, and
either readily unravelling in consequence of the cohesion
of the contiguous spires and then contracting when the force
was required to unroll them is removed, or not capable of unrolling, in consequence of the cohesion of the spires, and assuming the appearance of a tube without a lumen. It resembles in some respects that of an interruption of the continuity of the cohering spires,
that of a cylinder covered with broken bars or interrupted
fissures.
It may possibly be supposed that these elementary parts are readily recognized upon a mere casual inspection,
that they bear some considerable proportion in size to the
plants themselves to which they belong, and that nothing
more is necessary than to pull a portion of any vegetable
matter in pieces to discover those bladders, fibres, and
spires, and then to determine what may be of use. To the
truth of the case, that an observer would certainly recognize nothing of what has been mentioned, by inspection with the naked
eye, except perhaps in the pith of a few plants, such as the
elder for instance, in which it is possible to distinguish the
text of cellular tissue. The fact is, that without multitudes
of individual cells, or vessels, or fibres, are required to
form a but a very small portion of vegetable matter. So
ceedingly minute are they, that it has been calculated that
above 10,000,000 vesicles of cellular tissue are contained in
a single grain of barley, which is about one inch across,
and something less than half an inch thick. A single thread of hemp, which is not thicker than a human hair, is
composed of a considerable number of tubes of woody tissue
glued together; and the stalk of a strawberry leaf conceals
in its minutest structure many of the details just outlined;
thus infinitely minute, and as we must suppose infinitely
weak in each individual case, though of surprising
strength and force in a state of aggregation, is the whole
vegetable world constituted, and by their agency are all the
developing actions of vegetable life maintained in a state
of ceasless activity.
For the adequate performance of such functions tissue has certain special powers; the most remarkable of which are
cohesion and permeability to fluid or gaseous matter. It
would be difficult to conceive how a flower or fibrous or
vascular tissue could be combined into bodies of such a
kind and uniform figure, unless the property of mutual cohesion
were to exist. We know in fact that this power is universal
in the vegetable kingdom, and that all contiguous surfaces
in plants either uniformly do, or frequently will cohere,
and so firmly that no traces of the union can subsequen-
be discovered. Thus, cellulose adheres to cellulose; a 
dodecanon has another cellulose firmly united to each of its 
twelve plane faces, a parallelogram is surrounded by six, 
and so on; and cylinders cohere side by side where their 
surfaces touch each other. In like manner as cellulose grows 
to cellulose and fibre to fibre, so do contiguous masses of 
such substances as are in contact with one another, till arriving at a most com-
plete state of hermaphroditism; and finally, one plant may 
be made so to grow to another, that in a short time no 
trace of the union are left, and to our senses a complete 
assemblage of their respective individuality is effected. 
And the same may be said to be the case with the species with another which takes place between parasites, 
properly so called, and the tree that bears them; but 
rather to the artificial combinations which man has from 
very distant ages had the power of making for his profit 
or his pleasure. Thus we take a branch of one plant and 
apply its tissue to that of another even of a different 
species; a strict adhesion speedily takes place, and a new 
individual is the result, consisting of two species firmly 
united to each other, each possessing its own particular 
sways and peculiarities, and peculiarly incapable of being 
separated in death. Upon this property depend the gar-
dening operations of grafting, budding, inarching, and so 
forth.

In the next place, tissue has the power of transmitting fluid from one part to another through its membranes. This 
membrane has been already described as transparent, nearly as 
much as so glass or tallow; it is also perfectly continuous, 
without the slightest trace of perforation or pore. It has 
been supposed, indeed, to be furnished with pores visible 
with the microscope, but all observers have generally 
assumed this is not the fact. It is however undoubtedly 
permeable, not only to gases or the more subtle fluids, but also 
to water and substances held in solution by it, which pass 
through the membrane with the greatest facility. Hence, 
without having the power of dissolving the substance by 
which it is received, or of any of its components being 
acted upon, the processes of absorption and perspiration are 
as constantly and regularly in action as in the animal world.

How perfect must be that permeability, and how efficient 
the means for the transmission of the fluids, by which 
plants are nourished, may be easily collected from this fact, 
that the tiny leaves of the gigantic pine-trees of North-
west America must some of them be fed from a distance of 
250 feet, through all the sinuosities and obstructions of 
tortuous branches, and still more tortuous veins; in such a 
case as this the nourishing leaf of a single leaf would 
be at least 5000 times greater than the leaf itself.

We are accustomed to regard a plant as an individual 
consisting of a central part, called a root and stem, round 
which various organs known by the name of scales, leaves, 
bracts, flowers, and finally fruit, are arranged in a certain 
circle; and to consider an individual plant as a nature ana-
logous to that of an individual animal, having a term of 
time within which the duration of its life is fixed. Thus 
there plants that are born and die in a day, such as the 
ragweed, the wild rice, the grasses, and many other species 
whose existence is perhaps not much longer, such as infusoria; other plants 
are animated for a few months, increase their species, and 
die, like many insects—while the remainder of the vegeta-
table world having; like the higher orders of animals, no 
fixed life, and always renewed by the generation of young 
ones. Undoubtedly, in one sense, a plant is to be considered as an 
individual, but not in the sense in which we have ad-
ted. In an individual animal the loss of any limb is pro fano destructive of its functions: the removal of a 
leg, an arm, an eye, a ear, is a matter of indifference, a mere 
eye of seeing, of a hand of holding, and so on, while the 
removal of some organs, as the head or the heart, is 
instantly destructive of life altogether, and the individual pe-
rishes. And again, the individual animal has but one 
pair of eyes, ears, mouth, etc.; the plant, on the contrary, 
being composed of as many parts as it has leaves; any 
injured, can never be replaced. Not so plants. From a 
dividual plant limb after limb may be lopped away with- 
out detriment; its head, its roots, its roots, may be mutilated, or 
even removed, and yet its vitality remains unimpaired; its very 
heart (i.e., heartwood) may be scooped out or rot away by dis-
ease, and yet its life and all its functions go on as before. If 
deprieved of the power of procreation in one part, an hundred 
other sets of apparatus are ready to supply the deficiency. If 
plants were to perish as readily as animals, the world 
would soon be a barren waste,—so exposed are they to 
accidents, and so constantly destroyed for the purposes of 
man: roads were made to destroy them, the power of 
incineration, one of 
defence, injuries such as are fatal to animals are of constant 
ocurrence with them. Their organs of reproduction are 
either in the form of flowers or of fruit, the most attractive 
or most useful parts that they possess, and are continually 
seen from them to admire the beauties or necessities of 
animals. Undoubtedly such an explanation of the cause 
of the difference between animals and plants is both pleasing 
and true. But the philosopher cannot pause thus at the 
threshold of his inquiry; he must also seek to explain 
the like differences in a manner equally necessary, 
and of vegetable vitality, and to discover how it happens 
that the individuality of the two kingdoms is so essentially 
different.

The first person who advanced fairly to approach this 
subject was Dr. Darwin, who about forty years ago pub-
lished his opinion, that plants were a lower order of animals 
ana
gouls to corals, and endeavoured to prove the truth of 
his theory, by demonstrating a direct analogy between 
plants and animals in every organ of nutrition or reproduc-
tion. His hypothesis was thus, that plants,—and this, it 
may be easily accounted for by the facts on which he re-
lied, being so much mixed up with fanciful and inaccu-
rate matter, that discredit was cast upon his whole theory. And 
yet it cannot now be doubted that the analogy that he 
advanced to show that plants are lower than animals is 
day by day becoming more and more certain, even to the point of 
a distinct circulation of blood in the vegetable kingdom; 
but that what we are justified in calling the most original 
and most important part of his theory was strictly true, 
we shall proceed to explain.

If we look a little closely into the structure of a tree, we 
shall find that it is composed throughout of tissue arranged 
in the same order, exactly, in every part: for instance, if at 
the bottom of the stem there is cellular tissue in the centre, 
there are fibres outside it, and vessels of a different 
order, exactly the same being arranged in the 
very same manner will exist in every division of the stem.

So that except in diameter there is no essential difference etwixt the trunk of an oak, for example, and its most 
stenchiest twig. Again, with regard to the manner in which 
the stem, or the branches, or the twigs are surrounded 
with leaves, and flowers, and fruit, it will be found upon accurate 
observation, that whatever may be their disposition, or pro-
portion, or nature in the first shoot that a germinating seed 
shall have made, the same will be the disposition, propor-
tion, and nature in the branch that the seed shall have 
so that if a tree consists of a million twigs, it will consist of 
a certain arrangement of external and internal organs, a 
million times uniformly repeated. It will be further re-
marked that the original twig, produced upon germination, 
spreading from a vital point, or bud, never varying in its 
form and appearance from the part, while those of the 
seed croop beneath the soil.

Such observations as these cannot fail to lead to this 
conclusion, that the cause of plants bearing the most extensive 
mutations with impunity, in which they so especially 
excel the higher animals, they being the lowest and most 
compound individuals, with as many distinct seats of vitality as 
they contain buds; and that consequently when branches are 
lopped off, or flowers and fruit gathered, we only sepa-
rate from a large mass of individuals a small portion of the 
community, the absence of which is no more missed by, or
productive of no greater inconvenience to those that remain, than the swarming of bees to their parent hive.

We may therefore judge that they bear a close analogy to corns, and pimpls; and this leads us to the inquiry as to how plants differ from the animal kingdom.

If animals consisted only of quadrupeds, and birds, and fishes, and vegetables were confined to trees and herbs, no conceivable difficulty of assigning to each kingdom the most proper characteristic extension. For it sees how wide a difference exists between the larger animals and the more conspicuous plants: the lesser we are acquainted with the subject, the more easy is the task of distinguishing them; but to those who are acquainted with the inferior flowers and insects, and fungusses, which are included within these kingdoms, the limits which divide them will be found to present one of the most difficult problems in the philosophy of natural history.

As an ingenious French physiologist has well remarked, it is not a question about what are the characters peculiar to animals, but what are common to them all. We know very well that they only have brain, nerves, muscles, a heart, lungs, a stomach, and a skeleton; that they move, digest, respire; that they have blood, and appear to have sensation; but what remains of all these characters when we descend the long chain that they form, from the first link to the last. Almost nothing. Lungs, glands, brain, skeleton, heart, arteries, blood, nerves, and muscles, successively disappear, till at last we are not sure whether we have even the animals of which we hear before, p. 270.

If a comparison is instituted between the highest form of development in each kingdom, between a human being and a tree, the differences are too striking to escape the most ordinary observation. We see that animals are endowed with the power of locomotion, or the power of transporting themselves from place to place; that they live upon organic substances which their powers of locomotion and perception enable them to select; that their food passes through an alimentary cavity, from which that nutritive products are transferred by means of absorbent vessels into the system. Plants, on the contrary, are destitute of all traces of a nervous system and consequently of perception; they are fixed to a particular spot whence nothing but mechanical power can remove them; they have no powers of locomotion, nor of a mechanical agency; they subsist upon such inorganic matter as surrounds them, and their food is at once introduced into their system by absorption through their external surface only.

Vegetables are also said to be compound beings, animals simple beings. For illustration, whatever objections may be taken to such a comparison, the latter may be considered, with Link and Blumenbach, to have only one seat of life, the sensory commune, and to have but one provision made by the world for its wants; whereas the former, incapable of reproduction by various means from various points of their body, must have the seats of vitality as numerous as the parts which are thus capable of self-perpetuation. Hence articulations, buds either latent or developed, and seeds, are in plants so many distinct seats of vegetable life.

While all-powerful man has but one feeble means granted him of perpetuating his race, millions of millions of individuals, which in a physiological sense are identical the same, have been produced by the half-dozen potatoes brought to Europe in 1784, and have extended from the ordinary means which nature has given plants for their multiplication.

Among the distinctions between the animal and vegetable kingdom, that which demands the first consideration is the different means possessed by animals and vegetables of procuring food and of imbibing nourishment. Animals have the power of moving from place to place, and are gifted with perception, which enables them to distinguish what is proper for their sustenance. They are also furnished with organs of digestion which are capable of converting into nutritive substances very hard substances. As their food is only procured by an act of exertion on the part of the animal, and as this exertion is not continual and uninterrupted, but only takes place at intervals of time, they are also provided with an internal means of storing the nutritive substances in reserve; from this reservoir, called the stomach, the absorbent vessels conduct the elaborable parts into the system, while the solid useless parts are rejected: animals therefore are nourished by internal absorption. Vegetables which are continually rooted to the same spot, which have no power of roaming from place to place in search of aliment, which have no organs capable of distinguishing between the useful and the hurtful, the wholesome and the noxious, but which are compelled to derive their support from such matter as chance may place immediately and continually in contact with them, and which therefore experience no certain need to render the supply of food, are not provided by nature with organs of this sort. The formation of the excrement of these organs renders a stomach unnecessary; internal absorption or intussusception of nutriment cannot take place; and we accordingly find that their existence is sustained not by an uncertain periodical introduction of food from an internal reservoir, but by the constant direct introduction of food matter perpetually about them, through pores of their surface too fine for human perception. Nothing therefore which requires to be divided by mechanical force, nothing which needs to be altered in its texture or substance before it can be used, or to be digested, which has hitherto been sought for, nothing in short but matter which is so delicate as to pass through perforations, which the human senses, aided by the most powerful microscopes cannot distinguish, is fitted for the support of plants; and no inorganic matter exists which answers to this description, but water or air, or substances held in solution by these two elements, and such in fact are the materials by which vegetables are supported.

As in animals, nourishment is derived from their centre, so follows that all their absorbent vessels have a direction towards that centre; and for the same reason, as in plants, nutrition is communicated from the outside, so is it in that direction that all the absorbent vessels of the vegetable are directed. The consequence of these two laws is, that while in animals, no limit seems to be fixed for that of the most perfect vegetables. The former perish as soon as their original vessels become incapable of performing their functions; the latter endure until the power of forming new vessels shall cease. The period to the former is fixed, to the latter unlimited. Hence an eloquent French writer has ingeniously said, that animals die of old age or accidents, vegetables of accidents alone. Hence also the incredible age to which certain trees arrive. The oaks of Mount Lebanon are said to have been calculated by a French botanist, from actual inspection, that the age of the baobab trees of Senegal must have exceeded 6000 years. These are the most decided differences between animal and vegetable life, and are almost without exception.

Plants which have a habit of growing higher than their vegetable food, have a term fixed to their lives, just as animals have, but no plants can be pointed out in which nourishment does not take place from the outside. When we descend in the scale of being, when we arrive at those limits of vegetation, we find that the sense of sensation is indistinguishable, and from which the two kingdoms seem to diverge as from a common point, even there we find the polypes, which are so simple in their structure that they may be turned inside out like a glove, always conforming to this law. Zoologists assure us that they still absorb from the inside even when that part of the body which was once the outside has to perform the duties of a stomach.

But with this exception, we know of no absolute external distinction which has yet been discovered between animals and vegetables. The ingenious idea of Mirbel, that animals live upon organic, vegetables upon inorganic matter, must, as respects the infusorial animalcula, be a purely hypothetical difference, and in more perfect animals is not true, as has been shown by Mr. William MacLeay, who asserts that "many animals of the lower tribes, and some Heteromorous Coleoptera, have been observed to feed upon inorganic matter." (Hera Entomologica, ii. 193.)

If we now reconsider the observations which have just been made, we see that when we speak of animals and vegetables as being essentially different, it is in the same manner as if we spoke of the vegetable and animal kingdom as being essentially different. If we wish to consider the vegetable kingdom, and argue from the vegetable kingdom and infer to animals, we must at once see that we are not dealing with what is necessarily real, but what is the result of an opinion. But how are we to apply these distinctions to the lower orders of created beings? Among these we find productions, which it is impossible, by the characters now assigned, to refer with any exactness either
to the one kingdom or the other. A drop of water and a little brown or green slime from a ditch will often afford abundant material for accuracy. Accurately observed, the invertebrates are seen to have a sort of starting motion, very distinct and continued, but they do not seem capable of turning on either axis; nor is any motion of contraction visible; they vary in length, according to De Blainville (Dict. des Sc. Nat. 34, 367), from the fifth-hundredth to the thousandth of a line, and when full grown exceed these dimensions considerably. By Müller, a standard writer upon insularian animals, they are considered animals, and referred to his genus Vibrio, a part of which consists of bodies of an undoubted animal nature. Modern observers say they have no name, and name them merely Navi-
cula. When young when they are attached to confluence a stalk so delicate as to be almost invisible with the aid of the most perfect microscopes, and during this period they have, according to M. Bory de St. Vincent, no visible motion whatever; but when the Navicula is fully formed it separates from the plant on which it grew, swimming and starting about in the water in the way described. Are such productions animal or vegetable? When young they are motionless and vegetable like a minute plant; when full grown, on the contrary, they combine all the properties of a living animal, such as movement, and may say they are the latter, and compare their vegetating state when young to that of the Polyce, called Vorticella, an undoubted animal, if rapid and varied motion can make it so.

Among confluence in ditches are often found little fragments of organisms, similar to the confluence. Perhaps among these, some smaller or coarser, containing a number of narrow transverse portions, others dividing partially at their articulations, but adhering at their angles like chains of square transparent cases. These enter the genera called by naturalists Dia-
toma, Fragilis, etc., and by A. de C. Eustal, and by Dr. C. de Serre, under the names of Navi-
cula or planulae? When combined they are motionless, with the appearance of confluence, their transparent joints filled with the green reproductive matter of such plants; but when they disarticulate, their separate portions have a distinct sliding or starting motion. Shall we say, then, that M. Bory de St. Vincent has assigned in a voluntary ca-
civity which no one has seen them assume; or shall we be rather justified in viewing them as links between the animal and vegetable kingdoms, and endowed with the cha-
acters of both.

Confervaria, or Draparnalida, is a plant-like body, which, according to Mesnil, Mertonis, and Gaillon, is sometimes an animal, sometimes a plant. The former says that he has frequently seen it undergo its transformation, parti-
icularly in August, 1822. On the 3rd of that month he observed a very small number of plants on the 5th it had disarticulated into portions distinctly mov-
ing in water, which on the 6th began again to unite, and on the 10th became finally combined in their primitive state of confluence. (Dict. des Sc. Nat. 34, 373.)

It perhaps may be said that the instances yet given are not at variance with the distinction of animals and vegetables by their power of motion; and that as they are all inert in their most perfect state, their giving birth to moving bodies does not make them animals any more than the produce of motionless eggs by birds, reptiles, and molluscs makes them vegetables.

In which kingdom then are we to station the curious Poly-
physa, a most undoubted polyp, according to Lamouroux, LeMa, and De Blainville; an equally certain plant if we are to believe Turner, Agardh, and Gaudicheaud, the last of whom found it living, and describes it thus. It grows in thick tufts to the shells which are thrown ashore upon the barren coast of Shark's Bay in New Holland. Each individual consists of a Twlilar, capillary, greenish stalk, about an inch or more in length, presenting, except when some rocks or a sort of root-like claw, by which it is fixed. At the end it bears from fifteen to eighteen sacs, which are entire, rounded at the end, and slightly attenuated to the base; each con-
tains a multitude of little round green globules, which 

To which kingdom are we to refer the beautiful (Sal-
manella and all the other plant-like bodies, for example Confo-
conjugata, or Zygopes, which Mesnil, Gaillon, and De Blainville assert to be of animal nature, but which grow like vegetables, from which they are undistinguishable by 

external characters. They are transparent tubes, having 
distinct articulations and transverse partitions, the cavity 

filled with a greenish substance, and combined in the most beautiful symmetry in one or more spires, which, 

separating at a certain period of their existence, and passing 

through the sides of the tube, develop in the form of new 
tubes exactly like their parent. When in a perfect state 

these confluence are continuous tubes or filaments unite in a manner completely animal in appearance, uniting at one period, sepa-

rating at another, and finally combining themselves into 

a single and uniform being.

Lastly, where are we to place the oscillating confluence, 

which is similar to the confluence, although varying over the earth in damp and shady places, or form mucous patches among the confluence and polypes of stagnant water, or appear under the form of a rich carmine stain, bordered with resplendent violet and blue, on the surface of hot springs, in all parts of the world; 

productions which, according to the speculations of an inge-

nious Swedish naturalist, have once possessed an animal 

life, of which they now only retain the appearance. These 

oscillators consist of articulated tubes filled with green 

granules, and grow and increase like confluence, and the 

regularity and precision of their movements is such that 

an observation shows that this is true, and that even when 

chemically examined, they have been found to exhibit many 
of the characters peculiar to the animal kingdom ; and 

when burnt, yield a carbon of the most solid odour, exactly 

resembling that of decaying animal substances.

Such an instance with that naturalist has to overcome who would fix the limits between the animal and vegetable kingdoms. It is clear that the power of voluntary motion exists in beings having a distinctly vege-

table structure, both in the most perfect state and in a state of disintegration; that the absorption of nutrition from the inside in the one family, and from the outside in the other, is a character not appreciable in such creatures as the 

monads, and the vivifying animalculae of flowering plants; and, finally, that chemical differences are destroyed by ana-

bama and oscillators. In this difficulty shall we admit, 

with M. Bory de St. Vincent, that between animals and plants, characterized as consisting of insensible individuals, that develop and increase in the manner of vegetables, up to the period when they separate into animated germs or reproductive fragments; or shall we regard the vegetable character as existing between animal and vegetable nature as a striking proof of the 

beautiful harmony of nature, and of that unity of pur-

pose which is so visible in all the works of the Creator; as 

an evidence that all the forms of life are but assemblages in insensible gradation of the same living matter differently 

combined by the great Spirit that pervades all matter and 

all space?

II. In treating of the history of this science, we have no 

intention of entering upon details which can only interest 

systematicists engaged in the study of the vegetable, or its 

followers may have taken; but, on the contrary, we shall 

confine ourselves to a mere sketch of the progress that has 

been made in elucidating the great principles by which its 

rank as a branch of philosophy is to be determined.

It is obvious from various passages in the most antient 

writers, that the art of distinguishing certain plants having 

medical virtues was taught at the earliest period of which 

we have any written record; and that the cultivation of 

something more than corn was already understood in the 

world. In the Bible there is a comprehensive mention of 

the vineyards of Labores and the gardens of Alcinous, and by 

the employment assigned to Lyconus, the son of Pria, of 

pruning figs in his father's garden.

The earliest tangible evidence that we possess of the 

real family of plants is the speculation of Garden, the name 

of the writings of Aristotle and his school. From the 

absurd superstitions of the root-cutters (rithotomi) of this 

period it might be imagined that at this time botany was far 

from having any real existence; for it is to them that we 


have to trade the belief in the necessity of magical ceremonies and personal purification or preparation in collecting herbs; some sorts, they tell us, are to be cut against the wind, others after the bow of the rhizomastikon has been alit, some at night, some by day. Allaisceous food was a necessary preparation for procuring this herb, a draught of wine for that, and so on. But in fact at this very time the Peripatetic philosopher were in possession of a considerable mass of correct information concerning the nature of vegetable life, mixed up indeed with much that was false and fanciful, but calculated to give us a high opinion of their acuteness and of the amount of positive knowledge upon such subjects which had by that time been collected. It is by this school that botany must be considered to have been first formed into a science. Aristotle, in all probability, was its founder; for it is obvious from the remarks upon plants scattered through his books concerning animals, that his knowledge of vegetable physiology was, for his day, of a most remarkable kind. But as the books immediately concerning plants ascribed to this philosopher are undoubted forgeries, it will be more convenient to take the works of Theophrastus as our principal guide to a determination of the state of botany at the commencement of this—

The First Era.—At the time when Theophrastus succeeded to the chair of Aristotle (n. p. 324) no idea seems to have existed of classification, nor indeed was it its necessity by any means apparent, for Theophrastus does not appear to have been acquainted with above 355 plants in all. In the application of their names, even to these, there was so much uncertainty and diversity that the names of species were often continued down to the last sheet, especially attracted his attention. He distinguished naked-seeded from capsular plants, and he demonstrated the absence of all philosophical distinction between trees, shrubs, and herbs, for he saw that myrtle-trees would degenerate into shrubs, and certain oleaceous plants become arborescent. Cellular tissue is spoken of as a sort of flesh interposed between the woody tissue or vegetable fibre; and even spiral vessels appear to be indicated under the name of _fines_ (locus); leaves are correctly said to have their veins concrescent, and the parallelism of the veins of grasses is particularly pointed out; palm-wood is shown to be extremely different from that of trees with concentric layers; bark is correctly divided into inner and cortical integument, and the loss of the former means a destruction of the plant, as the active properties of leaves are clearly pointed out, and the power which both surfaces possess of absorbing atmospheric nourishment. Some notion appears to have existed of the sexes of plants, contrary to the opinion of Aristotle, who denied them to the vegetable kingdom; in particular Theophrastus speaks of the necessity of bringing the male dates into contact with the females, a fact which had been stated quite as clearly by Herodotus (1. 193) 100 years before; but it is plain that he had no correct idea upon this subject, for even the sexuality of plants, which Aristotle had defined, which Theophrastus had adverted to, is spoken of in positive terms; grafting, in more ways than one, and even budding, are spoken of in language which is remarkably precise for the words of a poet; and although to these operations were attributed powers which they did not possess, yet it is abundantly plain that the processes were thoroughly understood.

_Antropous_ in ipso
Pit nodo sine: hic ulla ex arbore generat
Insitutumque docet insive locutus.

is as correct a description of the operation called budding as any modern could give in so many words; and it is impossible that such operations should have been known without a much more large and accurate knowledge of vegetable physiology than it is generally believed that the ancients possessed.

From this time forward all inquiry into matters of science tended to decline; under the last Roman emperors science became gradually extinguished; under the Byzantine princes it can scarcely be said to have been preserved, and the little attention it subsequently received from a few obscure writers rather hastened than arrested its downfall.

Upon the revival of science in Europe the writings of the classical and Arabian herbalists were taken as the text-books of the schools, but their errors were multiplied by false translations, their superlatives were admitted without question, and so little was added by the monks authors, that between the time of Ebn Beithar, who flourished in the thirteenth century, and the year 1532, when the _Herbarum vivae icones_ of Othon Brunsleis, a Bernese physician, made their appearance, scarcely a single addition had been made to the slender stock of knowledge of about 1400 species, which are contained in the _Spongeleria_ of Spongelerius. The whole of the new material discovered the total amount discovered by all botanists, Greek, Roman, and Arabian, up to the day of Abdaliatif of Bagdad. Brunsleis describes the state of botany as being in his day most deplorable, as being principally in the hands of the most ignorant persons, and that the same names were sometimes employed as long and odd idiomatic names, disfigured by a multiplicity of barbarous,obsolete, and ridiculous names. He desires to be mentioned as the first reformer in this science, and as the earliest writer who earnestly endeavoured to purify the corrupted language of the _De spongeleria_ and other books in which barbarism from the antient Greek and Roman fountain. His example was speedily followed by Tragus, Fuchsius, Matthiolus, and others; the knowledge of species rapidly augmented, partly by the examination of indigenous plants and partly by the remarks of the earlier travellers, who about the year 1460 began to turn their attention to the vegetable kingdom; till at last their abundance became so great as to call for the assistance of compilers capable of digesting what and already begun to be scattered through numberless works. In this kind of work the first undertakers were those natives of Zürich, who died in the year 1565. This excellent man spent the latter part of his life in collecting materials for a general history of plants; he is stated to have caused above 1500 drawings to be prepared for the purpose, and succeeded in bringing together the discoveries before his project was executed, and his materials were afterwards dispersed. He appears however to have brought about one most important change in science, by discovering that the distinctions and true nature of plants were to be sought in their organs or natural relations rather than in those of nutrition. This was assuredly the first step that had been taken forward in the science since the fall of the Roman Empire, and is abundant evidence of the great superiority of Gesner over all those who had preceded him.

The Second Era.—Matthew Lobel, a Dutch physician residing in England in the time of Elizabeth, that the honour is to be ascribed of having been the first to strike out a method by which plants could be so arranged that those which are most alike should be placed next to each other, or in other words, which might be more easily distinguished of their natural relations. As may be supposed, this early attempt at the discovery of a natural system was exceedingly rude and imperfect; it is however remarkable for
having comprehended several combinations which are recognized at the present day: Cucurbitaceae, Stellateae, Gramineae, Labiate, Boraginaceae, Leguminosae, Ficeae, were all delineated by Linnaeus: it may be said that under the name of Asphodelus he grouped the principal part of modern petaloid monocotyledons. The reasons however why such groups were constituted were not then susceptible of definition; the true principles of classification had to be elicited by the study of evidence and facts. The great advantage of evidence, the foremost to take up this important subject was Celsus

The Fourth Aria—John Ray, a man of a capacious mind, of singular powers of observation, and of extensive learning, driven from his collegiate employments by the infamous conduct of his students, was for a time in the society of botanists, some of whom he was acquainted with; he then travelled among the forests of the world, and there he found the discovery of the two great natural classes into which the flowering part of the vegetable kingdom is now divided. Botany he found was fast settling back into the chaos of the middle ages, partly beneath the weight of undigested materials, but more from the want of some fixed principles by which the knowledge of the day should be gathered, he set to work with a boldness little understood even by other vegetable anatomists, to which he added a great store of original observation, he is in his 'Historia Plantarum,' the first volume of which appeared in 1686, embodied in one connected series all the facts that had been collected concerning the various parts of plants, he explained in a system which he followed for the object of classification, as indicated partly by human reason, and partly by experience; and from the whole he deduced a classification which is unquestionably the basis of that which, under the name of Linnaeus, has been so long recognized at the present day. For proofs of this, we refer our readers to the memoir of Ray in the present work: we will only observe in this place that he separated flowering from flowerless plants; that he divided the former into monocotyledonous and dicotyledonous; that he arranged various orders and families in their natural classes; and that he arranged a considerable number of groups, partly by himself, partly taken from Lobel and others; which are substantially the same as what are received by botanists of the present day under the name of natural orders. It is singular enough that the merits of this arrangement of John Ray should have been so little appreciated by his contemporaries and immediate successors, as to have been but little adopted; and that, instead of endeavouring to correct its errors and to remove its imperfections, botanists have been induced to commit the same imprudence as those who, at discovering other systems, the greater part of which were abandoned almost as soon as they were made known. Rivinus, Magnol, Tournefort, and Linnaeus were the most celebrated of these writers; but the two last alone have held any permanent place among the systematists. Linnaeus, for a long time stood at the head of the French school of botany, and in 1694, a method of arrangement, in its principles entirely artificial, but which in some cases was accidentally in accordance with natural affinities. It was founded chiefly on differences in the arrangement of the slightest reference to physiological peculiarities; and is now forgotten, except in consequence of its having furnished some useful ideas to Jussieu, as will be hereafter shown.

The Fifth Aria—Linnaeus was a genius of a different and a higher order. Born in 1707, he became a pupil of Struyck, and accosted from his earliest youth with those refined and minute investigations, all other things verbal accuracy and a logical precision, which are often most seductive when least applicable; endowed by nature with a most brilliant understanding, and armed by constitutional strength, of any fatigue either of mind or body, this extraordinary man set himself to produce a revolution in botany, among other branches of natural history, which in some respects advanced and in others retarded its progress far more than the acts of any one who had preceded him. He found the phraseology had been, he thought, the stumbling-block to the progress of science; he considered it, he said, a great impediment to the advancement of learning; and it is quite surprising to look back on these days from the present high ground on which botany has taken its stand, and to see how little the views of Great at least have subsequently required correction. From him physiological botany, properly speaking, took its origin. Clear and distinct ideas of the true causes of vegetable phenomena gradually prevailed, and the method of investigating them was so well established, that the minute parts through whose combined action they are brought about; and a solid foundation was laid for the theories of vegetation which subsequent botanists have produced: to Great may also be ascribed the honour of having first determined the powers of life to be distinct from those of reproduction, and to have shown the analogy between plant and animal life. For the foundation of the true principles of classification, and thus to commence

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The Fifth Aria—Linnaeus was a genius of a different and a higher order. Born in 1707, he became a pupil of Struyck, and accosted from his earliest youth with those refined and minute investigations, all other things verbal accuracy and a logical precision, which are often most seductive when least applicable; endowed by nature with a most brilliant understanding, and armed by constitutional strength, of any fatigue either of mind or body, this extraordinary man set himself to produce a revolution in botany, among other branches of natural history, which in some respects advanced and in others retarded its progress far more than the acts of any one who had preceded him. He found the phraseology had been, he thought, the stumbling-block to the progress of science; he considered it, he said, a great impediment to the advancement of learning; and it is quite surprising to look back on these days from the present high ground on which botany has taken its stand, and to see how little the views of Great at least have subsequently required correction. From him physiological botany, properly speaking, took its origin. Clear and distinct ideas of the true causes of vegetable phenomena gradually prevailed, and the method of investigating them was so well established, that the minute parts through whose combined action they are brought about; and a solid foundation was laid for the theories of vegetation which subsequent botanists have produced: to Great may also be ascribed the honour of having first determined the powers of life to be distinct from those of reproduction, and to have shown the analogy between plant and animal life. For the foundation of the true principles of classification, and thus to commence
scheme of the most specious aspect, in which all things seemed as clearly circumscribed by rule and line as the field of the sciences was to him. He had given the mastery over nature upon him, that he had discovered a mighty spell that would bind her down to be dissected and anatomized, and the world believed him; in short, he seized upon all the wardrobe of creation, and his followers never doubted that the puppets which he set in action were really the divine soul and language, notwithstanding all its meddlesome pedantry.

Such Linnaeus; the mighty spirit of his day. Let us do this great man that justice which exasperation on the one hand, and detraction on the other, have too often refused to him; and let us check this character soberly and without prejudice. We shall then admit that it was really united with its interior; and that he richly merited that high station in science which he held for so many years. His verbal accuracy, upon which his fame greatly depends, together with the remarkable terseness of his technical language, reduced the crude matter that was stored up in the folios of his predecessors into a form that was accessible to all men. He separated with singular skill the important from the unimportant in their descriptions. He arrayed their endless synonyms with a patience and lucid order that were quite imitable. By requiring all species to be capable of a rigorous definition not exceeding twelve words, he purified botany of the endless varieties of the gardeners and herbalists; by applying the same strict principles to genera, and reducing every character to its differential terms, he got rid of all the cumbrous and detritive jargon of the creation by imitation. With the colossal magnitude of an artificial system, every division of which was defined in the most rigorous manner, he was able so to classify all the materials thus purified and simplified, that it seemed as if every one could become a botanist without more previous study than to consult the index; and the words he used were words in a dictionary. Add to all this, the liveliness of his imagination, the skill with which he applied his botanical knowledge to practical objects, and the ingenuity he showed in turning to the purposes of his classification the newly-disclosed objects; in short, the wide range which was necessarily given to what it was that existed Linnaeus so far above his contemporaries. But great as the impulse undoubtedly was which Linnaeus gave to botany, there were vices in his principles which, although overlooked during his life, have subse-

quent discussion. It is evident that the question with which they were intended: hence arose a new source of confusion, inferior only to that which it was intended to correct. Differential characters, which would be invaluable if we had all nature before us, were found essential to a description of the Linnaean system; and then the calculation: they also laboured under the great fault of conveying no idea whatever of the general nature of the plants to which they related: thus the Portuguese botanist Loureiro, who attempted to determine the plants of China by the systematic writings of Linnaeus fell into the singular error that the hydrangea was a primrose. With regard to his artificial system of classification, it was found that it looked better in the closet than in the field; that the neatness and accuracy of the distinctions upon which it was divided into positions became of little avail upon new observations without end encumbered it at every turn. This, which is perhaps inseparable from all systematic arrangements, would not have been felt so greatly an evil, if there had been any secondary characters by which the primary ones could be checked, or if the system had really led with all its difficulties to a knowledge of things. But it was impossible not to perceive that it led in reality to little more than a knowledge of names, and that it could be looked upon as nothing beyond an index of general names and species. Let us refer in due course to these periods of the development of the time of Linnaeus; the force of many of them was hardly felt, when scarcely a twelfth part of the species now known to exist was upon record; and the world was naturally inclined to embrace with ardour the clearness and precision of this system, in the absence of any sufficient material for criticism; in exchange for the cumbersome, vague, and unmethodical descriptions of those who preceded it. The great evil that has arisen out of the system of Linnaeus has been this: that it has led to the formation of a large school of superficial botanists; of men who supposed that nomenclature and verbal criticism constitute the whole objects of less importance: the students of the unimportant; of men more for their total neglect of everything beyond this technical etymology than the old botanists for their disregard of the latter; who have had no general views, and apparently no power of applying their means to any intelligible end, and who, consequently, in the countries where they have flourished, have so far as the science of botany is concerned, made no progress; and as much to retard its progress as Linnaeus did to advance it.

The maxims however of Ray, and the great general views of that illustrious naturalist, were destined not to fade even before the meteoric brilliancy that surrounded the throne of Linnaeus. As Linnaeus himself entered the field of botany, soon entered the field to oppose the latter. In the year 1789, just eleven years after the death of Linnaeus, he produced, under the name of 'Genera Plantarum,' an arrangement of plants according to their natural relations, in which the principles of the great English botanist are tacitly admitted, and his fundamental divisions adopted in combination in part with those of Tournefort, and in part with what are peculiar to the author himself. Jussieu possessed in a happier degree than any man that has succeeded him the art of adapting the simplicity and accuracy of the language of Linnaeus to the exigencies of science, without encumbering himself with its pedantry. He knew the impossibility of employing any single characters to distinguish objects so variable in their nature as plants; and he clearly saw what a success all those attempts had been, without Without pretending then to the conciseness of Linnaeus in forming his generic characters, he rendered them as brief as was consistent with clearness; without peremptorily excluding all distinctions not derived from the fructification, he nevertheless left the whole system of the Linnaean division: instead of defining his classes and orders by a few artificial marks, he formed them from a view of all the most essential parts of structure; and thus he collected under the same divisions all those plants which are nearly alike in that respect. The divisions of the system of Linnaeus do not by any means lead to that of another in the system of Jussieu, it leads directly to the knowledge of many more in the classification of Jussieu; which has accordingly gained the name of the natural system. This last, like the former, has certain forms of leaves and modifications of other parts of plants that appear very different, as the angular leaves in the round cotyledons or seminal leaves of that plant. Linnaeus himself had entertained the opinion that all the parts of a flower are mere modifications of leaves; but Jussieu has always kept the terms of the plant (Genera Plantarum); Ludwig in 1757, and more especially Wolf in 1768, had stated in express terms that all the organs of plants are reducible to the axis and its appendages, of the latter of which the leaf is to be taken as the universal type. For the theoretical work of Jussieu was a very able and able writer of little authority in his day to succeed in establishing a doctrine so much at variance with received opinions; and the theory of Wolf was propounded in a paper upon the formation of the intestines in animals, which
seems altogether to have escaped the observation of botanists. Entirely unacquainted with the writings of the two latter naturalists, but aware of the Prolepis Plantarum of Linnaeus, Goethe took up this important theory, and demonstrated that all those organs to which so many different names and duties, which in the present century of botany had so many different functions to perform, were all modifications of one common type—the leaf; that the bract is a contracted leaf, the calyx a combination of several, the corolla a modification of several more in a coloured state, the stamens contracted and condensed leaves, and the ovary an axis in a state of differentiation, and the pistil another arrangement of leaves rolled up and combined according to certain invariable laws. All this he stated in such clear and precise terms, the arguments upon which he supported his propositions were so simple and so just, and the whole philosophy was explained in a tone so scientific and so philosophical, that no peculiarity of its not having been immediately received all over the scientific world shows in the clearest light how baneful the influence of Linnaean botany had already become; for this beautiful theory, which is the very cornerstone of structural botany, and which is now on all hands admitted to be unassailable, was treated as the idle dream of a poet, and neglected for above twenty years. It has however wrought a change in the ideas of mankind regarding the nature of plants which has already produced the most decided and the most beneficial results by helping to dispel the complicated and unintelligible distinctions and descriptions with which botany was formerly encumbered, by fixing the manifold combinations of the organs of plants at their true value, and by introducing more just ideas of vegetable physiology.

Here we must bring our sketch of the history of botany to a close. There is no longer any great discovery to announce as having produced a sudden and universal change in the science; its general principles are apparently well understood, and the botanists of the present century have been able to do has been to work out those principles in detail, to substantiate or modify them by isolated observations, to combine into one consistent whole the multitude of species whose attributes are as numerous as themselves, and to work them into harmony under the seemingly discordant materials which constitute the vegetable kingdom. The rapidity with which this has been effecting of late years has been in proportion to the disappearance of the Linnaean school; where the system of Linnaeus has continued to prevail, as in Sweden, Spain, Portugal, and Italy, progress has been the slowest; where it has only maintained a doubtful struggle with the principles of Ray, as in Germany and England, advance has been more rapid; but it has only been in France, in which the doctrines of Linnaeus never could be established, that the march of science has been steady and uninterrupted. At the present moment Great Britain, Germany, and France are in the same position; they are all freed from the prejudices of the Swedish school, and are proceeding with equal steps, all guided by the same sound and recognized principles.

The useful purposes to which botany is applied are so numerous, that we can only find room for a short explanation of the most remarkable. Agriculture and horticulture are the two arts with which its relation is the most obvious, though a close connection exists in each of them which grew out of mere experience, or was discovered by chance, yet there is no possibility of improving them except by other fortunate accidents, or of advancing them at a more rapid rate until the application of the principles of vegetable physiology. This is a part of it to which these arts belong, is little accoutumé to trace to their source the common practices with which it has been familiar from its infancy; and it is far from suspecting that many of the operations which are intrusted to the work of nature, have only been hit upon during the careful study of nature by philosophers whose names it never heard. Gardening and husbandry may be defined as the arts, firstly, of improving the quality of various useful plants, and, secondly, of increasing the quantity which a given space of earth is capable of producing.

To improve the quality of any one plant, and to render it better adapted to the uses of mankind upon scientific principles, is a very complicated process, and is to be effected in many different ways, all of which require an intimate knowledge of the nature of the vital actions of plants, and of the degree in which they are affected by either external or internal causes. For example, a particular kind of flax produces fibres which are too coarse for the manufacturer; it is impossible to know how those delicate elementary tubes are to be rendered finer without being aware of the manner in which they are formed, or of the conditions which influence their formation. The flavour of some fruit is too acid; it is the botanist only who could have discovered how to increase the quantity of saccharine matter. Potatoes are sometimes watery and unfit for food; we learn from vegetable physiology that this state of the vegetable is due to a ductless condition of the leaves, or that the potato is originally formed, not being sufficiently exposed to solar light, the great agent in causing the production of vegetable secretions. The leaves of the tea plant are harmless and only slightly stimulating in certain latitudes, but in the tropics become more or less excited in others; this apparent puzzle is explained by the connexion that exists between climate and vegetation, a purely botanical question. Certain races of plants may exist, of which one is too vigorous, the other too debilitated for the purposes of the cultivator; the botanist shows how an intermediate race may be created, having the best qualities of both.

Certain vegetable productions are susceptible of being produced in particular latitudes, others are not, or not to any useful purpose: for instance, in England the vine will never produce grapes capable of making such wine as even that of champagne, nor will tobacco within the limits of the temperate climate which gives it so great a value if grown in other countries; and yet both these plants flourish in the soil of England. The botanist can explain why this is, and thus prevent the commencement of speculations which can never end, but only end in loss and disappointment.

The quantity of produce which may be procured from a given space of ground varies very much according to the skill of the culturist, but that skill is in reality the mere application of the rules of vegetable physiology to each particular case; an application which must frequently make itself unconsciously, but which nevertheless is made. We are too apt to overlook causes in effects, and to ascribe the improvements we witness to a mere advance in art, without considering that that advance must have had a cause, and that that cause must in the last place be the working of some law, which is afterwards blindly followed by the community. The crops of orchard fruit are doubled and trebled in many places; old exhausted races are replaced by young, vigorous, and prolific ones; the cider and perry farmer will feel the benefit of this, but he will forget that he owes the change to the patient skill of a vegetable physiologist. The produce of the potato is augmented in the same proportion; twice at least the ordinary quantity of this important article of food may now be obtained from every field; the peasant would not feel this, yet he can only be the working of some law, which is afterwards blindly followed by the community. The crops of orchard fruit are doubled and trebled in many places; old exhausted races are replaced by young, vigorous, and prolific ones; the cider and perry farmer will feel the benefit of this, but he will forget that he owes the change to the patient skill of a vegetable physiologist. The produce of the potato is augmented in the same proportion; twice at least the ordinary quantity of this important article of food may now be obtained from every field; the peasant would not feel this, yet he can only be the working of some law, which is afterwards blindly followed by the community. 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A Glossary of the Technical Terms most commonly employed in Botany.

Arida, the beard or awn of grasses.
Arisi, the case in which the spores of lichens are enclosed.
Aridicum, a hollow leaf looking like a water lily.
Aridum, having to do with the desert.
Aristae, the antennae or fore legs of insects.
Arista, the root and stem either taken together or separately.
Arista, the point or tip of a leaf, or the tip of a beak.
Aristeum, the flower-bud.
Aristeum, the outer layer of petals.
Aristeum, the inner layer of petals.
Aristeum, the outer sepals of a flower.
Aristeum, the inner sepals of a flower.
Aristeum, the outer style of a flower.
Aristeum, the inner style of a flower.
Aristeum, the outer stamen of a flower.
Aristeum, the inner stamen of a flower.
Aristeum, the outer carpel of a flower.
Aristeum, the inner carpel of a flower.
Aristeum, the outer ovule of a flower.
Aristeum, the inner ovule of a flower.
Aristeum, the outer ovary of a flower.
Aristeum, the inner ovary of a flower.
Aristeum, the outer calyx of a flower.
Aristeum, the inner calyx of a flower.
Aristeum, the outer corolla of a flower.
Aristeum, the inner corolla of a flower.
Aristeum, the outer anther of a flower.
Aristeum, the inner anther of a flower.
Aristeum, the outer filament of a flower.
Aristeum, the inner filament of a flower.
Aristeum, the outer stamina of a flower.
Aristeum, the inner stamina of a flower.
Aristeum, the outer stamen of a flower.
Aristeum, the inner stamen of a flower.
Aristeum, the outer carpel of a flower.
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Aristeum, the inner ovule of a flower.
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Aristeum, the inner ovary of a flower.
Aristeum, the outer calyx of a flower.
Aristeum, the inner calyx of a flower.
Aristeum, the outer corolla of a flower.
Aristeum, the inner corolla of a flower.
Aristeum, the outer anther of a flower.
Aristeum, the inner anther of a flower.
Aristeum, the outer filament of a flower.
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Aristeum, the outer filament of a flower.
Aristeum, the inner filament of a flower.
Aristeum, the outer stamina of a flower.
Aristeum, the inner stamina of a flower.
Aristeum, the outer stamen of a flower.
Blungs, in two pairs, placed end to end
Bino, growing in pairs
Biparite, divided into two deep lobes
Bipinnate, twice pinnate
Baserrate, twice serrate
Brachiate, when branches stand nearly at right angles to the stem from which they spring
Broot, the leaf or leaflet from the axil of which a flower grows
Bulb, a scaly, underground bud
Budshaker, a short, roundish, underground stem resembling a bulb
Caducous, falling off sooner or later
Camara, of a bluish grey colour
Carpelled, growing in tuffs
Carea, a spur or horn; s. in the nasturtium
Carinate, having a spur or horn
Carpospermium, a collection of bracts on the outside of a calyx, or of an involucre
Calyx, the hood of a cloak
Calyx, the external envelope of a flower
Combium, a viacid secretion formed in the spines between the bark and wood of Exogens
Compositae, bell-shaped
Cormiculata, channelled
Conceleulate, a leaf which has veins without connecting parenchyma
Crepis, growing in a head
Cupulatum, a collection of flowers in a head
Capsule, any dry many-seeded fruit
Carinate, having a kind of keel
Carpa, a flat or conical receptacle
Carpel, one of the parts of a compound pistil; a single leaf rolled up into one of the stamens of a pistil
Carpellate, a seed having fungous excrements growing near its hilum
Carpogynium, a dry one-seeded fruit resembling a seed, but with no distinction between the seed coat and pericarp
Cudate, prolonged into a sort of tail
Cultrate, of or belonging to the stem
Cymuline, resembling a cyme
Chalaza, a spot on a seed indicating the place where the nucleus is united to the seminal integuments
Clavate, fringed with hairs like an eyelash
Concinereus, ash-coloured
Clavinate, rolled inwards from the point to the base
Clavato-cycadina, dividing into two parts by a spontaneous transverse separation
Ceratobus, terminating in a tendril
Cycladenia, a large composite
Claviform, like the stalk of a petal
Clavipetalum, resembling a round buckler
Cochlailate, resembling the bowl of a spoon
Coelocaulon, the place where the stem and root are combined
Colamea, a central part of the fruit of a moss, round which the spores are deposited
Column, the combination of stamens and style in Orchis and other plants
Comose, having hairs at one or both ends, if speaking of seeds; being terminated by coloured empty bracts, if applied to inflorescences
Conspicuous, doubled together
Curvifolium, growing together so that the line of junction is lost to the sight
Curvifoliate, growing in pairs
Curvirostrum, growing together so that the line of junction remains perceptible
Connective, the fleshy part that combines the two lobes of an anther
Convergent, mycelium, as the anther of a potato blossom
Comatose, approaching a conical form
Continuous, proceeding from something else without interruption
Contorted, twisted in such a way that all the parts have a similar direction, as the segments of the flower of an Olerander
Corymbus, rolled together
Coredium, the rudimentary axis which connects the corydiloes of the embryoid
Coredìs, heart-shaped
Coriaceous, of a leathery texture
Cormus, a solid, roundish, underground stem, as in Crocus
Coriaceous, of a hardy texture
Coreniculate, shaped like a slender horn
Corolla, the second of the two envelopes that surround the stamens and pistil
Corolla, a combination of Barel and barren stamens into a disk, as in Stapelia
Corymbose, when the branches surrounding a common axis are shortest at the top and longest at the bottom, so as to form a level-topped whole
Costa, the midrib of a leaf
Cotyledons, the leaves of the embryo
Corymbose, shaped like a goblin
Crenulat or Crenat, having rounded notches at the edges
Crenate, having some unusual and striking appendage arising from the middle
Cruscata, when four parts are so arranged as to resemble the arms of a Maleine
Oscillata, hooded, rolled inwards so as to conceal anything lying within
Calm, the straw of grasses
Coneate, wavy or semicircular
Capule, the cup of the scar, the husk of the fiblert, chestnut, &c.; a peculiar combination of bracts
Crepis, abruptly rounded off with a projecting point in the middle
Cistle, the external skin
Cystiform, cup-shaped, more contracted at the orifice than the crateriform
Cyne, an inflorescence having a corymbose form, but consisting of repeatedly-branched divisions
Cymiform, having the form of a boat
Cymes, resembling a cyme in appearance
Decandrous, having ten stamens
Deciduous, falling off
Declinate, curved downwards
Decumbent, lying prostrate, but rising again
Dendriform, the leaf produced downwards, as the base of a leaf the stem of the flower
Declinate, crossing at right angles
Deliquescent, the act of opening of anther or fruit
Deltoid, having the form of a triangle or Greek Δ
Dendriform, resembling a small tree
Denticulate, with sharp-pointed notches and intermediate curves instead of re-entering angles
Diplostemon, imperfectly developed; looking as if ill-formed from want of sufficient nutriment
Depressed, flattened from point to base
Disporum, having the stamens in two parcels
Dissect, having stamens on one plant and pistils on another
Descendent, having two stamens
Disciform, repeatedly divided into two branches
Dicytobus, having two cotyledons
Diosmamos, having two pairs of stamens of unequal length
Diosmamus, growing in pairs, or twins; only applied to solids and not to flat surfaces
Dioecious, having a clear distinction of a common centre, as the fingers from the palm
Dimidiate, half-formed, or halved, or split into two halves
Dipteros, having two wings
Discus, with the central part of a flat body differently coloured or marked from the marginal
Disk, a fleshy circle interposed between the stamens and pistils
Disperimenata, the vertical partitions of a flower
Dichotoma, arranged in two rows
Dichrointering, diverging at an obtuse angle
Dodecandrous, having 12 stamens
Dodeciflorus, hatchet-shaped
Drope, such a fruit as the peach, consisting of a stem surrounded by flesh or fibrous matter
Doxe, spiral vessels that will not unroll
Dormose, having a compact bushy form
Duramen, the heart-wood of timber
Dekhana, covered with hard sharp points
Elaeora, little spirally-twisted hygroscopic threads that disperse the spores of Juniper
Elementary organs, the minute parts of which the texture of plants is composed
Emarginatae, having a notch at the point
Ephemere, an ephemeral plant before germination commences
Endocarp, the hard lining of some pericarps
Endogen, a plant which increases in diameter by addition to its centre, as a palm-tree
Encondrous, having 9 stamens
Ensiform, having the form of a straight and narrow sword blade
Epicharp, the external layer of the pericarp
Epoxydine, the skin of a plant, in the language of some writers; the cortical integument according to others
Epimorph, growing upon the top of the Californian; or, as we now do so
Equisetum, when leaves are so arranged that the base of each is enclosed within the opposite base of that which is next below it; as in Lepidostrobus
Evisceration, see Evisceration
Exogen, a plant which increases in diameter by the addition of new wood to the outside of the old wood; as an oak-tree
Fereinaceae, mealy
Paniculate, banded
Paniculate, collected in clusters
Patsilis, when the branches of any plant are pressed close to the main stem, as in the Lomandra
Filament, the stalk of the anther
Filiform, slender and round like a thread
Filiform, tubular but closed at each end; as the leaf of Eremurus
Flabellifer, fan-shaped
Flagelliform, resembling the thong of a whip
Flavoran, wavy
Floccoso, covered with little irregular patches of wool-like hairs
Flax, a weaver's flower
Floccule, little
Flocculos, having the colour and texture of a common green leaf
Folicula, the arrangement of young leaves within the leaf-bud
Folicle, a simple fruit opening by its ventral suture only
Fomal, the passage through the integuments of an ovule by which impenetrating matter is introduced into the nucleus
Fomitum, the fertilizing principle of pollen
Prand, the leaf of a fern or of a palm
Fruit, the full-grown ripened pistil
Fuscos, lasting but a short time
Fusiform, resembling a fungus; that is, irregular in form and fleshy in texture
Funiculus, the stalk by which some seeds are attached to the pericarp
Fusiform, spindle-shaped, thickest in the middle, and tapering to each end
Galbulus, a small cone whose scales are all consolidated into a fleshy ball, as in Juniper
Galax, the upper lip of a liliaceous flower
Galactose, kneeded, when a stem bends suddenly in its middle
Gobbius, prominent, projecting
Glabrour, having no hairs
Glabrous, the same as acaule, but broader and shorter
Gland, 1. the fruit of the oak, the hake, &c.; 2. an elevation of the cuticle which usually secretes either acidic or resinous matter
Glandular, covered with glands of the second kind
Glaucesc, covered with bloom like a plum
Glauchitide, covered with hairs which are rigid and hooked at their point
Glauco, one of the bracts of grasses
Gymnospermous, having seeds which ripen without being enclosed in a pericarp
Gymnospermous, having seeds which ripen without being enclosed in a pericarp
Gynangia, an elevated part of the growing point of a flower-bud, rising between the carpels and throwing them into an oblique position
Gynandrous, having 6 stamens
Hilum, the scar left upon a seed when it is separated from the placenta
Hilum, covered with harsh long hairs
Hymenium, the gills of a mushroom; that part in Fungi where the spores are placed
Hydrocotyleform, salver-shaped; having a cylindrical tube and a flat border spreading away from it
Hypogynous, arising from immediately below the pistil
Hypospandrous, having 20 or more perigynous stamens
Infracticollumn, overlapping, as tiles overlap each other on the roof of a house
Incurvature, lying upon any thing
Intedunculate, not opening when ripe
Interdulcate, doubled inwards
Integumentum, the membrane that overlies the pericarp
Inferior, is said of a calyx when it does not arise from the ovary; is said of an ovary when it does adhere to the calyx
Inflorescence, the collection of flowers upon a plant
Involucriform, shaped like a funnel
Involucrum, growing upon any thing by one end
Involucrom, the young shoots of mimosas
Intercelular, that which lies between the cells or elementary bladders of plants
Intramural, the space between two nodes
Interrupted, when variations in continuity, size, number, excel, or are different in the parts which are sometimes uniform; as when pinnate leaves have the alternate leaflets much the smallest, and when double spikes are here and there broken by the extension of internodes
Involucres, a collection of bracts placed in a whorl on the outside of a calyx or flower-head
Involute, rolled inwards
Labelatum, one segment of a corolla, which is longer than the others, and often peniculate
Labiata, divided into an upper and a lower lip, as the corolla of dead nettle
Loculicidal, a flower having one cavity; that is, ovuliferous to both extremities
Lateral, originating from the side of anything
Lobate, the vital fluid of vegetation
Lobate, not compact or dense
Leaflet, a division of a leaf
Legume, a kind of fruit like the pod of a pea
Lenticellate, small, depressed, and doubly convex
Lepidote, covered with a sort of scurfiness
Leprous, the same
Lepotrichia, a newly-formed inner bark of Exogona
Ligula, a membranous expansion from the top of the petiole in grasses
Limb, the blade or expanded part of a petal
Linear, very narrow, with the two sides nearly parallel
Lip, see Labelatum
Loculicidal, when the carpels of a compound fruit dehisce in such a way that the cells are broken through at their back
Loculicom, the spiket, or collection of flowers of a grass
Lomentum, a legume which is interrupted between the seeds, so as to separate into compartments
Lomatium, formed like a crescent
Monocarpate, when hairs are interwoven into a mass that can be easily separated from the surface
Marginal, of or belonging to the edge of a thing
Medallary, of or belonging to the pith
Microsporium, a small passage through the seed, called the foramen when speaking of the ovule
Microsporangium, conical, hollow, open at the base, and either entire there or irregularly cut
Monadelphous, with the stamens united into one body
Monandrous, with one stamen only
Monosiphon, shaped like a necklace
Monopetalous, with several petals united into one body by their edges
Monocotyledon, tipped by a hard point
Monofid, divided into many shallow lobes
Monolepis, divided into many deep lobes
Monocotyledon, covered with short, broad, sharp-pointed tubercles
Mormifera, resembling the bricks in the wall of a house
Navelier, shaped like a very small boat
Nectar, any organ that secretes honey
Nervus, the stronger veins of a leaf
Node, the part of a stem from which a normal leaf-bud arises
Normal, according to general rules
Nucellus, the central part of an ovule, or a seed
Nucula, a small hard seed-like pericarp
Nobilis, larger on one side than on the other
Ochrea, two stipules united round the stem into a kind of sheath
Ochroma, having eight stamens
Ooecium, the lid of the theca of a moss
Ovary, the hollow part of a pistil containing the ovules
Ova, having the figure of an egg
Ovule, a rudimentary seed
Palate, the lower surface of the throat of a Nabathean corolla
Palaceous, oblong, narrowing towards the base, and contracted beyond the middle
Panicle, a compound racemes; a loose kind of inflorescence
Papilionaceous, a flower consisting of standard, wings, and keel, like that of a pea
Pappus, the calyx of a Composita, as of a thistle
Parsenchyma, the pulp that connects the veins of leaves
Parietal, growing from the lining of any thing
Pectinate, divided into long, close, narrow teeth like a comb
Pedate, palmate, with the lateral segments of the corolla
Pedicellate, from trusses having five stamens
Pedicel, one of a great many peduncles
Pediculae, a flower-stalk
Peduncle, attached with the margin
Pedunculate, having five stamens
Perfoliata, surrounding a stem by the base, which grows together where the margins touch
Petalium, a collection of floral envelopes, among which the calyx cannot be distinguished from the corolla, though both are present
Pericarp, the shell of a fruit of any kind
Perichetium, the leaves at the base of the stalk of the fruit of a moss
Pericarpium, same as Pericarp
Perigynous, growing from the sides of a calyx
Peristerm, same as albulum
Peristerma, same as albulum
Processus, a set of processes surrounding the orifice of the theca of a moss
Peronema, laid thickly over with a woolly substance ending in a sort of meal
Persoanea, labiate, with the palate of the lower lip pressing against the upper lip
Petiol, one of the parts of a corolla
Petiolate, resembling a petal in colour and texture
Petiolata, petiole, the stalk of a leaf
Petiolatus, or belonging to the petiole
Petiolum, a leaf transformed into a flat leaf-like body
Pileus, the cap of a mushroom
Pilous, covered with short fine hairs
Pinnate, divided into a number of pairs of leaflets; bipinnate, each leaflet is also pinnate; tripinnae, each secondary leaflet pinnated also
Pinnaed, divided in a pinnated manner nearly down to the midrib
Pistilus, the combination of ovary, style, and stigma
Pith, the central column of cellular tissue in an Exogena
Placentia, the part of the ovary to which the ovules are attached
Plane, quite flat
Plumula, the rudiment of a stem in the embryo
Pollin, the powder contained in an anther
Polld, the membranous tubes emitted by pollen after they fall on the stigma
Polydentalus, when the stamens are combined into groups of more than two parcels
Polygamous, when there are more than 20 hypogynous stamens
Polygalous, when the petals are all distinct
Pome, a fruit like the apple, pear, &c.
Prorification, same as Rservation
Prickle, same as aculus
Prime, the external integument of the ovule
Pseudobulb, the solid ground-grove tuber of some Orchidaceae
Pseudoceros, divided with very fine soft down
Pulverulent, covered with a powdery appearance
Pulmonae, same as Endocard
Pyriform, shaped like a pea
Quarine, the innermost integument but one of the ovule
Quinate, combined in fives
Quinate, the innermost integument of the ovule
Raceme, an inflorescence like that of the currant
Rachis, the axis of inflorescence
Radical, arising from the root
Rapha, having the rudimentary root in the embry
Ramen, soft, rough-edged, chaffy-like hairs growing upon the veins of ferns
Raphes, the line of communication between the hilum and chalaza
Raphides, acicular or other crystals scattered among the tissue
Reniform, kidney-shaped
Resupinate, inverted, so that the part which is naturally lowermost becomes uppermost
Restinga, having the veins having the appearance of network
Rhine, blunt, and turned inward more than obtuse
Rhinos, having a lining stem like that of Iris
Rigida, same as Persoanea
Root-stock, same as Rhiizoma
Rosulate, furnished with a sort of bead
Rosulate, having the leaves arranged in little rose-like clusters
Ruminated, pierced by numerous perforations full of chaffy matter like a suit of armour
BOTANY BAY is situated on the E. coast of Australia, which coast is commonly called New South Wales, but since the discovery of Cook’s Land, has been discovered by this great navigator in his first voyage. He entered Botany Bay and examined it as well as his short stay permitted. He found the bay capacious, safe, and convenient. The entrance is a little more than a mile broad, but the bay afterwards enlarges to about three miles in width. He describes the soil of it as that of light sand, and the face of the country as finely diversified by wood and lawn. The trees, he adds, are tall and straight, and without underwood, standing at such a distance from each other, that the whole country, at least where the swamp appears, is incapable of cultiva- tion without cutting down one of them; between the trees the ground is covered with grass, of which there is abundance. The great quantity of plants found there by the naturalists accompanying him in his first voyage disgrace the English botany. The bay is alternately contracted and distended.

In 1788 it was resolved to found in the southern hemisphere a penal settlement, and Botany Bay was thought the fittest place. Governor Phillip accordingly set sail for it, but was soon convinced that it was not suitable for settlement under great disadvantages. The bay indeed is extensive, and good anchorage is found in 4, 5, 6, and 7 fathoms water; but both on the N. and S. sides and on the bottom of the bay flats extend to a great distance from the shore, having only 4 or 5 ft. water on them. The river which falls into the bay at its W. extremity, and is now called George’s River, can only be navigated by boats. It was also found that the anchorage which lies contiguous to the entrance of the bay was in its whole extent exposed to E. winds, which, from the N.E. and S.E. quarter set in a prodigious sea. Governor Phillip therefore resolved to examine the neighbouring coast, in the hope of finding a more advantageous place for the new settlement. Not many miles to the north of Botany Bay he entered Port Jackson, a similar inlet, which was likewise discovered and named by Cook, who however did not think it worth his while to enter it, because it had the appearance of an open bay. Governor Phillip discovered on its southern shore excellent anchorage sheltered from all winds, and here he founded the settlement of New South Wales, which was called by him New South Wales, and was well named by Cook, who however did not think it worth his while to enter it, because it had the appearance of an open bay. Governor Phillip discovered on its southern shore excellent anchorage sheltered from all winds, and here he founded the settlement of New South Wales, which was called by him New South Wales, and was well named by Cook, who however did not think it worth his while to enter it.
ner of Claude (to whom only he has been considered inferior), and Andrew adorning his brother's scenes with figures in the style of Bamboccio. They continued in Italy working in concert until separated by death. There is much confusion among writers as to which died first. One of them was esteemed by falling into a canal at Venice, in the year 1650, returning late from a supper party; and the survivor then left Italy, and returned to settle at Utrecht. From the fact of his painting portraits and conversation pieces, it is most probable that Andrew was the survivor, and that in the landscape-painter, persisted in Italy. Andrew died six years after his brother, his end being hastened by grief.

The landscapes of John are glowing with colour and sunshine, and rich in beauty and natural effects; his handling is light, free, and facile, so that he sometimes painted without outlines. A fulness which without limit pervades his landscapes has been objected to; but in his best productions this fault is corrected. He has less studied elegance than Claude, and his pictures are more like common nature; but his composition is far less perfect, and his artifices less artfully concealed. The extreme beauty of his colouring however procured him the title, by which he is still known, of Both of Italy. The figures by Andrew are above all comparison superior to those of Claude; and the joint productions of the brothers, in which each laboured to set off the other, have ever been considered of the highest value.

Bothnia, or Bottena, is a name which was given at some remote period to the countries on both sides of the Gulf of Bothnia as far S. as the straits called the Quarken. It is used by the old Dutch sea-pilots to Eir; and the name, but the former has been ceded to Russia, and constitutes the greater part of the lately-erected government of Uelesborg.

Western Bothnia constitutes with Lapland the most northern portion of Sweden, and contains about three-eights of the whole surface. On the N. E. it is bounded by Russia, from which it is divided by the rivers Muonio-Elf and Torne-Elf. On the N. and N. W. the range of the Kielen (pron. Tiben) mountains separates it from Norway. On the S. It joins the Swedish provinces of Jamtland and Angermanland, and the remainder of its boundary consists of the Gulf of Bothnia. Its most N. point touches, or passes the sixty-ninth parallel, and the most S. lies nearly at equal distance from the sixty-third and sixty-fourth parallel. It extends from 14° 20' to 24° E. long. Its surface is calculated at 62,543 sq. m., or a little more than half the Irish lands.

This province contains the greatest plain in Sweden, which occupies the most northern part of it. It is properly speaking an inclined plane, which begins where the boundaries of Sweden, Russia, and Norway meet, and extends toward the south over the lowest levels of the country. The southern part of the plain runs along the boundary of Russia, it is about 1300 ft. above the level of the sea, and presents to the eye nearly a level surface covered with swamps and innumerable small lakes; between which a few small hills rise to 300 or 600 ft. The summits of these hills are covered with white reindeer moss, and between the lakes are bushes of dwarf birch. The country then lowers rapidly, and within 20 or 30 miles rises the study rocks, the trunk of a full grown tree, and soon mingles with the pine (pinus silvestris); lower down grows the fir (pinus abies). About half way towards the Gulf, and before the Muonio-Elf falls into the Torne-Elf, the country is less than 400 ft. above the sea. Then the plains again lower down, and the river becomes the chief object of the rivers, where agriculture has been introduced within a century and has made considerable progress, though the climate only allows the cultivation of barley, oats, and potatoes.

And between both banks of the Upper Torne-Elf some hills of considerable height rise on the plain. These hills are immense heaps of iron-ore, nearly useless to man on account of their situation.

The Torne-Elf rises in the lake of Tornea (Tornea-Trick), which is imbedded in the rocky mountains of the Kielen, and is 50 ft. in breadth of 10 m., its N. E. extremity being only about 15 m. from the Ocean. From this lake the river runs between the hills of iron-ore, forming numerous rapids and small cataracts, which however would not be an impassable obstacle to navigation, were it not for a cataract near its confluence with the Muonio, where the river, in a distance of about 1000 ft., descends 75 ft. in perpendicular height. The Muonio, which through its whole course is the boundary between Russia and Sweden, is called in its upper part the Kihonni, and is navigable for wind and sail to its mouth, though it has some rapids. Before the Torne-Elf turns to the E. to unite with the Muonio-Elf, it sends off a branch to the right called the Tarend€-Elf, which, after a tortuous course of about 30 m. to the S., joins the Calix-Elf forming an almost natural cataract between two river systems. The Torne-Elf runs upwards some 23 miles into the N. part of the Gulf of Bothnia, a few miles below the town of Torne.

The Calix-Elf rises at no great distance to the S. of Tornea-Trick in the Kielen mountains, whence it carries off many superficial rivers, the largest of which is the Muonio, running nearly parallel to the Torne-Elf E. S. E. for about half its course. Where it receives the Tarend€-Elf it turns to the S. and continues in that direction. It is less distant than the other large rivers of Bothnia; it reaches the most northern part of the Gulf of Bothnia after a course of nearly 250 m.

The country between the Calix-Elf and the Lulea-Elf forms the southern part of the plain, which may be considered as terminating near the south-west coast, where trapose rocks rise, which skirt its banks as far as its confluence with the Lilla (Little) Lulea-Elf. These high rocks are called Norra Ananas. In the middle of the plain between the Calix-Elf and Lulea-Elf, rises the Mount Dunderi, a not uncommon mountain, of Mount Dunderi and Norra Ananas, called Storna Maddus. It is a swamp, extending above 20 m. in every direction. The E. portion of the plain is partly covered with forest-trees, and cultivated along the water-courses, though its soil is rather indifferent, and much inferior to that on the other side of the Calix-Elf, except where it approaches the sea.

The Lulea-Elf is the most rapid of the rivers of Sweden and perhaps of Europe, a rival of the Glommon-Elf in Norway. Rising on the E. declivity of the Kielen Mountains it soon enters a succession of lakes, situated at different levels two and three, that separate the country into partly isolated basins, having rapidly cataracts of considerable height. Such is its course for about 100 m. when the lakes terminate, but the cataracts continue. Some miles after the river has left the last lake, its waters are narrowed by steep rocks on each side, and rush down 400 ft. in the space of less than 1 m. This most remarkable cataract is called Nuuamelsaakas (the hare's leap), where the vapours arising from the water are directly condensed and freeze in winter, forming a valet strong enough to afford a passage to hares. (Schubert's Reisen, p. 392.)

This river has its mouth in a part of Sweden, where two ranges of high rocks, of which the N., the Norra Ananas, is the highest; and here the solitary habitation is found about 120 m. from the boundary of Norway. Where the rocks terminate the river unites with the Lilla Lulea (Little Lulea), but even here its waters are of a different character. It traverses a succession of seven large lakes, which extend upward of 80 m. W. and E.; and after issuing from them runs above 20 m. before it joins the Lulea-Elf. Its bed lies in a deeper valley; it forms fewer cataracts and rapids, and its banks are inhabited in several places.

The country between the Lulea-Elf and Skelleftea-Elf is nearly equally divided between mountains and plains. In his part the Kielen range rises to its greatest height in Mount Sulitima, and extensive ranges of it are always
covered with snow. The ridges branching off from it E. extend from 60 to 80 m., and are divided by wide valleys, which in their upper parts rise above the line of the birch (2000 ft.), and are only covered with swamps and reindeer moss. In their lower parts forests of pines, fir, and birch are frequent, and the habitations of men soon begin to appear, but the soil is unfit for cultivation, except a few small patches. Even lower down, in the plain itself, the surface is generally flat, and the number of loose stones occurs. Along the water-courses the pasture is good, but in very few places can the soil be cultivated with advantage. About 60 m. from the shore, agriculture begins to be the principal occupation of the inhabitants, and villages are more numerous; but even here wood covers the greatest part of the country.

The Pitea-Elf rises in the extensive lake of Peskejasjo, which is enclosed by high mountain rocks, and running through the mountainous country in a S.E. direction, traverses many smaller lakes. Here it forms numerous rapids, and some considerable cataracts. In the plain it continues its S.E. course, but about 60 m. from the coast, it turns due E., and falls into the sea a little below the town of Pitea, after a course of about 180 m. It is only navigable a few miles from its mouth.

The Skelleftea-Elf rises in the N.E. declivity of the Nassa-fjall, in which there are some mines of silver, which since 1808 have not been worked. In the mountainous portion of the country, this river likewise traverses some considerable lakes, and receives the waters of others by numerous rapids, and it runs through a gorge, which soon turns to E.S.E., and continues in that direction to its mouth, below the church of Skelleftea. The rapids in this river are more numerous than in the others; but it has fewer cataracts, so that the salmon ascend nearly to its sources. The rapidity of the current and the church of Skelleftea, and of course the river is only navigable for a few miles above its mouth. Its course is about 180 m.

On the banks of this river the great plain of Bothnia extends, the country S. of it being entirely hilly or mountainous, and the level tracts few and of comparatively small extent. The hills cease at a small distance from the shores. Farther inland they rise into mountains, with declivities covered with forests, consisting chiefly of pine, birch, and fir. The level tracts along the rivers afford pasture, and are sometimes cultivated. Agriculture is carried on to a much greater extent in the E. and hilly parts of the country.

In this S. portion of Bothnia the mountains in the W. have four ranges, rather than groups. Some miles N. of 65° N. lat. a range branches off from the Kiolen chain, which running nearly E. traverses almost the whole of the Scandinavian peninsula, terminating about 30 m. W. of the mouth of the Umea-Elf. This range, called the Sjövalla-fjall, forms a barrier for several miles, though its summits are formed of barren rocks, the sides are clothed with fir, birch, and aspen, and afford good pasture.

To the N. of this chain runs the Oran-Elf, a considerable river, rising at some distance from the Kiolen and running nearly E., and parallel to the Stigfjall. It turns to the S.E., where this mountain-range terminates, and soon after enters Angermanland, where it still runs from 40 to 45 m., till it falls into the sea between the villages of Angerjö and Lefvar. Its whole course may be upwards of 150 m.

To the N. of the Oran-Elf runs the Umea-Elf, which rises in the Kiolen-range about 68° N. lat. It first runs S., traversing some lakes, and then turns to the S.E. and flows into the large lake of Stora Umea. It continues in the same direction till about 20 m. from the sea it is joined by the Windel-Elf, and falls into the gulf after a course of about 180 m. The Windel-Elf which rises in the Kiolen range, about 68° 30', on the S. declivity of the Nassa-fjall, and descends 150 m. Its course, with numerous rapids, is more free from cataracts than the other rivers of Bothnia. The Swedish government has in later times succeeded in rendering a considerable part of it navigable, at least so far that timber and wood may be floated down.

Both lakes, on both sides of the distant circle, have, of course, a very cold climate, though it is much milder than other parts of the globe in the same latitude. Winter lasts, in general, eight months, from the beginning of October to the end of May, and the cold is very severe. It is followed almost immediately by summer, a few moderate days only intervening between the frost and a great degree of heat. In the beginning of June all traces of winter have disappeared, and the summer vegetation is almost in full vigor, reduced by the long days of 18 or 20 hours, united to the moisture which has accumulated during the long winter, give rise to a very rapid vegetation. Corn is sown and reaped in some places in the course of seven or eight weeks, and now and then, in the neighborho of the towns. Nevertheless it is sometimes destroyed by night frost, which generally appears about the 20th of August for three or four nights in succession. These nights are called iron nights, and are followed by about six weeks of moderate favourable weather.

The quantity of snow which falls during the winter is very great; but in summer rain is scarce: which circumstance would be very injurious to the growth of grass, were it not for the inundations of the rivers. The rivers of Bothnia overflow the low tracts along their banks for a year; the first time in the beginning of June, after the melting of the snow in the lower parts of the country; the second towards the middle of July, when a succession of long months has produced the same effect on the mountains. The latter inundation is more favourable to the growth of grass than the former, and enables the inhabitants to gain a much larger stock of cattle during the eight winter months.

The soil is of an indifferent quality, sandy and stony, except along the Tormea-Elf and Muonio-Elf, where it is richer and better adapted to agriculture. The worst portion is that along both sides of the Luola-Elf, and the high valleys along the foot of the Kiolen. Along the shores of the gulf of Bothnia the land is much better, and the crops sufficient for the consumption of the inhabitants; but the Giileden is the most fertile of all. A certain quantity of corn is annually imported from Finland.

Wheat is only cultivated at one place, in the most S. corner of the province, and here hardly a few bushels are annually obtained. Rye is grown nearly up to 60° N. lat., and oats are grown to 66° N. lat. It has been cultivated only in the last forty or fifty years, succeed in most places very well; turnips and cabbages do not thrive.

Black cattle form one of the principal sources of wealth in the province, but the stock is limited by the scarcity of meadows; pasture-walks however are so extensive, that ten times the present number of cattle could easily be maintained in summer. Butter and hides, which are the principal articles of export, are sent to Stockholm. Horses are rather numerous, and of a middling size. Sheep are only found in the S. districts, and their wool is coarse. Hogs are not kept. The Laplanders have considerable herds of rein-deer, and live upon their flesh and other produce.

The inhabitants of the more inland districts gain their living chiefly by fishing in the lakes, which abound in many different species of fish. They eat the salmon in such quantity, that they have given it the name of lavaretus. The salmon ascends these rivers which have not high cataracts, and the number of fish taken is considerable.

The greatest part of the country is still covered with forests. Only the high plain between the Colix-Elf and Lulea-Elf rises above the line of the birch trees. This district and the upper parts of the mountains, with the highest valleys, are only covered with reindeer moss; the remainder forms nearly an interminable forest, especially in the inland districts. The granite, pine, fir, alder, and aspen. The birch grows to a stately tree on the banks of the Tornea-Elf. But it is observed that the growth of the trees is very slow, probably on account of the length of the winter. The inhabitants have hitherto derived very little advantage from this vast treasure, the rivers not being navigable even for floating down wood. In some parts along the coast tar and pitch are made for exportation, but in no great quantity.

Three nations inhabit Bothnia, the Finns, the Laplanders, and the Swedes. The Finns form the chief tribe along the banks of the Muonio-Elf and Tornea-Elf, where they form the bulk of the population. They apply themselves especially to the rearing of cattle, and are distinguished by their skill in the management of the dairy. The Laplanders inhabit the inland districts, the herds of reindeer in the summer to the upper valleys in the mountains, and even to Norway, but in winter they descend to the lower plains on the shores. Some of them have be-
come agriculturists, and partly adopted the manners and customs of the Swedes. The Swedes occupy the country along the shores, and extend always farther up into the valleys along the larger rivers. They occupy themselves more with admiring the scenery which here presents to their eyes, than with the inland districts, who gain their sustenance by fishing in the lakes.

Bothnia with Lapland is politically divided into two large districts, of which the S. is called Westerbothien, or Utenland, and the N. Nordenborg, or Pites Land. (Bothwell Travels; Schubert's Travels in Sweden; Maps of Baron Hermelin.)

BOTHNIA (the Gulf of), the most northern part of the Baltic Sea, extends from 60° to nearly 66° N. lat. Between 60° and 64° N. it lies due S. and N., but the remainder declines to the N.E. Its whole length may be nearly 450 m. Its entrance is formed by a strait called Aland Haf, which divides the Scandinavian pen. from the Aland Islands, that belong to the Russian government of Abo, a part of the ancient prov. of Finland. This strait is from 36 to 50 m. wide. North of it the gulf widens suddenly, the coasts of Sweden trending to the N.W., so that before it reaches 61° it has attained a width of upwards of 240 m.; which breadth it preserves nearly to 62°. Farther N. it narrows gradually, till near 64° it forms another strait, called the Quarken. That portion of the gulf extending from Aland Haf to the Quarken is called Bottniska Hafet (the sea of Bothnia). At the Quarken the coast of Sweden is hardly more than 60 m. from that of Russia, but the straits are still formed by a gulf bounded by the Swedish island Holmoe and the Russian islands Walloe, so that the free passage is only about 25 m. wide. To the N. of the Quarken the gulf preserves a width of from 50 to 60 m. for some distance, but it afterwards widens to 100 and even 120 m., which breadth continues to its northern termination. The land on the N. of the Quarken is properly called Bottniska Wicken (the gulf of Bothnia).

The coasts S. of the Quarken are rocky though not high on both sides of the gulf; but in general higher on the western side, where the English warm waters of the Gulf Stream influence the climate. To the N. of the Quarken the coasts are low and sandy, with the exception of a tract near the straits on the Russian side, where they are rocky but likewise low. The largest part of the coasts of this northern portion is formed by an alluvial deposit broken down by numerous rivers.

Under Baltic (p. 347) is noticed the small degree of saltiness of the waters of that sea, and of the gulf of Bothnia in particular; and also that the surface of the latter is frequently covered with ice, so that it is possible to pass over it during the winter. Bothwell extends his voyage towards the east along the coast of the Gulf of Bothnia, and makes note of its rainfall and of the ice on it. The most remarkable instance in modern times was the passing of a corps of the Russian army under the command of Barclay de Tolly in the last war (1809). It was effected in the month of March; the soldiers were obliged to pass two days on the sandy shores and on the ice, and reached Umea the third evening.

There is no want of good harbours in the gulf; but the navigation is interrupted by the ice for five months to the S. of the Quarken, and for six to the N. of it. The latter portion of the gulf is very rarely visited by foreign vessels; the produce of the adjacent countries being brought in the small coasting vessels of the country to Stockholm and the larger towns of Finland. The southern part of the gulf is however annually navigated by some English vessels, which sail up the Gulf Stream, the regular voyages of some British vessels also bring these articles to England. Fish is not abundant, with the exception of a kind of small herrings, called by the Swedes strömmings, which appear in summer in great numbers on the W. coast of the gulf, especially S. of Helsingfors. When nearly all these fish are caught, the coast S. and N. of Hernisund are occupied in catching them. The greater part are dried, but a considerable portion undergo a fermentation in a closed cask, after having previously been a little salted, and exposed to the air for a few days, which is called surströmming. Both the dried and sour strömmings are exported to the neighbouring countries, and are used by the lower classes in a great part of Sweden.

Bothwell, James Hepburn, Earl of, was the son of William, 1st Earl of Bothwell, of the Hepburn family. His mother, Agnes, daughter of Henry Lord Sinclair, by a daughter of Patrick Hepburn, first Earl of Bothwell, lived many years in a state of divorce from her husband, but for what reason is not certainly known. Earl Patrick was notoriously profligate in his public character. He died in September, 1556, at the age of 51; when his son James succeeded to his honours, offices, and estates. The death of the first Earl of Bothwell was deeply mourned by the rulers of Scotland, Sheriffs of the Shores of Berwick, Edinburgh, and Haddington, and Baillie of Lauderdale, all which he had himself inherited. The Hepburns were originally mere tenants of the earl of March; but in a short time they coped with their potent chief, and, on his forfeiture in the fifteenth century, they rose to be immediate tenants of the crown, and shortly afterwards the head of the house was made a lord of parliament. The influence and power of the family reached its height in the time of Patrick Hepburn, second earl, who received from the crown numerous grants, the lands and lordships of Bothwell and Crichton, which were thereupon erected into an earldom. The lands of the lordship of Bothwell however were hardly in his possession, when, at the king's command, they were transferred to the earl of Angus, in exchange for the turbulent burgh country of Liddesdale, the king then saying there was no order to be had with the earls of Angus so long as they kept Liddesdale. The second earl of Bothwell succeeded to his father's titles, heritable offices, and vast estates in the several counties of Edinburgh, Haddington, Roxburgh, Dumfries, Kirkcudbright, and Lanark, which, on his fall at the fatal field of Flodden, passed to the father of Earl James, who, notwithstanding the misconduct of his parent, was by descent the most powerful noble of the south of Scotland, and had the earlship of Bothwell and the barony of Crichton, the shire of Haddington; and Crichton, in the shire of Edinburgh. These fortunes are now mouldering into dust, and the surrounding country is rich with the peaceful labours of the plough. In the times we speak of, the forfeited lands were free for a feu, and the defile was secured by predatory bands. The church and a few great lairds mutually rivalled and despised each other, and a series of regal minorities allowed them all to attack and despoil the crown. It had also become the policy of the crown to give a separate interest to the several divisions of the nation; and in the year immediately preceding Earl James' succession to the Bothwell estates, the Scottish reformer Knox had begun to denounce in the capital the errors of the established faith and the baneful spirit of its ecclesiastics.

Till his father's death, Earl James remained, as it seems, abroad, probably with his father, who, after alloying himself with Edward, king of England, against his sovereign, fled into foreign parts; but immediately on his father's decease, the king of Scotland sent a large force and occupied the town about then about 30 years of age. He was served heir to his father on the 3rd of November, 1556, and he attended the parliament of December, 1557, when a commission of the estates of the realm was appointed for negotiating the marriage of the earl of Bothwell with Mary, sister of the King of France. In the parliament of November, 1558, he was named one of the lords of the articles; soon afterwards, we find him as lieutenant of the borders meeting, with the earl of Northumberland, the English lieutenant, to adjourn some border differences; on the 30th October, 1559, he is found, under the orders of the queen regent, intercepting Cockburn, of Ormonist, near Haddington, when that baron was bringing supplies from England to the party of the reformation; and the following month, when the reformers retreated towards Scotland. He married Margaret, daughter of John, one of the reform leaders, a traitor to the government. Next year the queen regent died, and soon afterwards the presbyterian form of protestantism was formally established, the reform leaders or lords of the congregation taking the reins in their own hands. In the early years of the reign of Francis of France, died; and in contemplation of Mary her widowed queen's return to Scotland, several nobles of the protestant party were despatched to France with a tender of their services. In this company we find the earl of Bothwell, and the earl's father's wife, who had engaged with the times and acceded to the congregation. Mary, then scarse 20 years old, landed at Leith on the 19th August, 1561; and in forming her government, she set her bastard brother, Lord Bothwell, over the government of Scotland. As soon as the new government was formed, the earl of Bothwell, whose sister Lord James had recently married, one of her privy council; the other members of the government and chief officers of state being also protestants. The government however of which Bothwell

No. 304. [The Penny Cyclopaedia.] Vol. V. S. 2
was thus a part, was frequently disturbed by his violence, his contests with the earl of Arran, his brother-in-law, and his later adventures. For instance, in his trial for treason at December, 1561, summoned to court, and then ordered to quit Edinburgh till the 8th of the following month. In March, 1562, he endeavoured to get Arran, to whom he had become reconciled, to conspire with him in seizing the queen. The idea was abandoned, and Arran put her brother in possession of the forfeited earldom of Murray; and detaining her in captivity till she should acquiesce in his measures. But Arran having revealed the matter, he and Bothwell were both committed to Edinburgh castle, whence they were released next day after confessing himself awhile in his own retreat at Hermitage, got to sea, but was taken again at Holy Island. Randolph pressed his detention much, representing him as the "determined enemy of England, despiseful out of measure, false and treacherous. Without words or writing, but to his will and pleasure; but soon afterwards he returned to Scotland again. "The queen," (Mary), says Randolph, in one of his despatches to Cecil at this time, "misliketh Bothwell's coming home, and hath summoned him to undergo the law or be proclaimed a rebel. He is charged to have spoken dishonourably of the queen, and to have threatened to kill Murray and Lethington."

The dishonour here alluded to was probably the same as that mentioned in another despatch to Cecil of date 30th March, where he says "Bothwell hath grievously offended the English queen by writing letters by which he appears to advocate an English queen, and also against herself, calling her the cardinal's (Beaton) where: she hath sworn unto me upon her honour that he shall never receive favour at her hands."

The following month we find a despatch from Bedford to Cecil that Bothwell was "a man of uncertain and unnatural crime; and, about the same time, Bedford writes to the same minister that Bothwell "hath been in divers places, at Haddington, with his mother, and elsewhere, and findeth no safety anywhere. Murray followeth him about, and others say he will not leave the place." By the queen's directions, he was, for his treasonable conspiracy of March, 1562, indicted before the lord justiciar on the 2nd of May. On that occasion, the earl of Argyle, the justiciary, and the earl of Murray, came to Edinburgh, as commissioners of 50 judges to try the cause; but Bothwell had embarked at North Berwick for foreign parts, and not appearing at the trial, was outlawed.

In this depth of debasement however Bothwell watched every opportunity to spring again into royal favour; and when the queen married her cousin Darnley, he returned to Scotland. In the beginning of October of the same year we find him one of the new privy councillors, and a leader of the royal army against Murray, Arran, and others who opposed the match; and on the 31st of the same month Robert Crichton, "My Lord Bothwell's great kinsman," for his act of vice, doth now all, next to the Earl of Atholl."

The following spring, Bothwell, then at the age of 41, married Lady Jane Gordon, sister of the Earl of Huntley, whose father had been Lord Chancellor of Scotland. In the murder of Rizzio, the queen's secretary, at the instigation of the jealous Darnley, Bothwell stood by the queen and was opposed to the enterprise; and the following night we find him among other nobles attending the royal pair within the castle of Dunbar in his shire of Haddington, whither the queen had retired. Some claim that of whom Bothwell had the custody. The king and queen soon afterwards returned in a sort of triumph to Edinburgh and proceeded to the castle, where she immediately sent for Argyle and Murray, and had them reconciled to Huntley, Bothwell, and Atholl. Bothwell had only obtained the aspect of the nobility. In a letter from Alnwick, of date 3rd of April, 1566, it is stated that one of Bothwell's servants confessed that he and four more of his fellow-servants had been engaged by Lethington to murder Bothwell, the other servant's profession made him a good subject of what was for Bothwell had the custody. The king and queen soon afterwards returned in a sort of triumph to Edinburgh and proceeded to the castle, where she immediately sent for Argyle and Murray, and had them reconciled to Huntley, Bothwell, and Atholl. Bothwell had only obtained the aspect of the nobility. In a letter from Alnwick, of date 3rd of April, 1566, it is stated that one of Bothwell's servants confessed that he and four more of his fellow-servants had been engaged by Lethington to murder Bothwell, the other servant's profession made him a good subject of what was for him the crime; but though he continued in Edinburgh, no steps were taken against him till the 28th March, when Lennox, the father of Darnley, avowing himself his accuser, the privy council ordered him and others to be indicted for the murder. Three days before the trial Murray set off for France without any known business; and at the trial Bothwell stood and was acquitted; but when the mode in which trials were at that time conducted in Scotland is considered, it will not be held as really immaterial in determining the value of his innocence. Towards the parliament assembled at Edinburgh and Bothwell was one of the commissioners who met the estates. He also carried the sword of state before the queen when she was not at parliament in person; and in the same parliament he was one of the commissioners. On the 27th day of the last day of the parliament various ratifications were passed in favour of different persons. The Earl of Murray, though absent, obtained a ratification of his lands and earldom, Morton got a ratification of his lands with those of Angus
his relation; Huntley's forfeiture was reversed, and Both- 
well had his lands and offices, both hereditary and ac-
quised, confirmed to him. The preamble of the statute in this last case states that "it was not within the power of the q
queen's consideration of Bothwell's 'great and ma-
ifold gude service done and performit not only to his
hienes honor well and estimatation, but alas to the commone
will of the realm and leiges thereof,' and therupon follows a
description of the crown estates of the captaines of Dunbar
castle. On the morrow, after the raising of the
parliament, the leading persons of the government met
and had a supper at Ainsley, where they signed a bond in Both-
well's favour, approving of his acquittal, and recommending
him as a fit husband for the widow queen, pledging them- 
selves also to defend the marriage. On the 21st April
the queen went to Stirling to see her son, and while returning,
on the 24th, she was met at Almonds bridge, near Linitori-
gow, by Bothwell and a great company who seized her per-
son and carried her off to the castle of Dunbar. 'There
says Melville, 'the Earl of Bothwell boasted he would
marry the queen, who would or would not, yea whether she
would herself or no.' 'Captain Blackwater (he adds)
alledged it was with the queen's consent. And then the queen
could not but marry him, seeing that he had ravished
and lain with against her will.' A double process of
divorce was soon afterwards raised, one by Lady Bothwell
against the earl for adultery, and another at his instance
against her on the ground of consanguinity; and on the 3rd
and 4th days of the session, they were heard in divinis-
spective. Bothwell now brought the queen to Edinburgh,
where the banns of their marriage were proclaimed, and on
the 12th of the same month the queen came into the court
of session, and after testifying her perfect freedom of per-
son and fortune and his, published in the presence of
his accomplices in her abduction. She afterwards created
Bothwell Duke of Orkney; and on the 14th May she en-
tered into a contract of marriage with him, which was re-
corded the same day. Next day the marriage was solemn-
ised at Holyrood by Archibald Bothwell, abbot of Holyrood-
house and bishop of Orkney.
Bothwell had now gained the summit of his ambition; but
it was attained with guilt, and from his height he was
quickly precipitated into everlasting infamy. An indignant
people repudiated him, and he and the queen fled from
fortress to fortress till, on the 14th June, she came out to
meet the insurgents at Carberry-hill. In the evening
however she joined the chiefs, and was by them conducted
to Edinburgh. Bothwell left the queen, and fled to Dunbar,
where he was taken before sub judice, and on the 14th
Orkney Isles. Being pursued in his voyage, he sailed for
the Danish shores, where he was seized and put in prison.
He prolonged a miserable life till 1576, when he expired in
the castle of Malmy. He left no children, and all his houses
were forthwith seized and forfeited.

BOTHWELL BRIG. The scene of a battle between the
Duke of Monmouth and the Covenanters, on the 23rd June,
1679, is situated in the par of Bothwell, in the Middle Ward
of Lanarkshire, Scotland, 9 m. from Glasgow, and 3 from
Hamilton. It is now altogether altered from what it was
at the time of the battle, the bridge has been widened from
12 to 34 ft., the gateway with which it was fortified near the
S.E. end removed, and the approaches to it made more
level, while the adjacent fields have been enclosed and cul-
tivated. So far as we are able to trace the course of
Hamilton, the assassin of the Regent Murray, stretches
along the N.E. bank. The ruins of Bothwell castle, for-
merly an important fortress, stand on the N.W. bank; they
are much dilapidated, but the large and bold front to the S.
and the circular towers at each end, above the steep and
wooded banks of the Clyde, make a scene exceedingly
grand and impressive.

ROTHYNO'DRES (Entomology) a genus of Coleo-
terous insects of the family Curculionidae; generic charac-
ter—body oblong; rostrum thinner than the head;
bent downwards, and having a longitudinal elevated line
above. Antenna geniculated, * rather short and thick,
twelve-jointed; the basal joint long, thickened towards the
apex; the second joint short and stout, the third twice as
long as the following short; the eighth rather broader than the last; the remaining or terminal joints

* Antenna that have the terminal joints suddenly bent at an angle with the
basal, (of kused) are said to be geniculated; this character is common in the
antenna of the Curculionidea.

form a spindle-shaped club. Thorax narrower before than
behind, the base with an impression in the middle. Elytra
oblong, with an observe tuberice towards the apex. Legs
marinate; 

This genus apparently links the genera Cleonus and Lixus

* * * * *

* Sylas of an Elementary Course of Lectures on Comparative Anatomy.

* Botryllus zoolog., a genus of the second tribe (Aggregata Asci das) of Asci das, a family of the fourth
order (Heterobranchiata) of Aculphalopus (headless) Mollusks, according to De Blainville.

* This genus was observed by Gaertner, and afterwards established by the French, makes it the first of its
Aggregata (Aggregatæ Animals), the second family of its Aculphalopus Mollusks without shells. Lamarck
arranges it as the ninth genus of his first order of Tunicated animals (the Agglomeratæ Tunicata or Botryllia-
riens). These creatures afford a curious example of the varieties of animal life. According to Audouin and
Milne Edwards, the individuals which at a certain period of their existence unite to form one common mass or system, float separate
and free at first. The admirable Savigny, whose labours in this department cannot be sufficiently admired, trated the organization of this singular race; and Desmax-
rest and Lesueur have more particularly laid open the struc-
ture of Botryllus and Pyrosoma.

The Branchiae, or breathing organs, of these Aggregated Asci dasians form one whole, the food must pass as it
arrives at the mouth. Their principal ganglion is between
the mouth and the vent, and the disposition of the viscera
and ovary very nearly resembles that of the other Asci-
dians. The aggregated animals thus found together 'are
almost always in a state of contraction, soft, irritable, and
contractile, changing their form with the slightest move-
ment.'

Ellis, as Lamarck observes, regarded the stars of Botry-
llus as being formed of as many different animals as there
were rays.

In Owen's 'Syllas,' * which, founded as it is on a most
industrious and clear-sighted search into animal organiz-
ation, we recommend to the attention of all zoologists and com-
parative anatomists, these animals will come under the four
externals found there; the ganglia of whose nervous system are disposed more or less irregularly across the body, which is accordingly more or less unas-
symmetrical in figure.

The genus Botryllus has been subdivided by authors, as
we shall presently see. De Blainville, who evidently is of
opinion that this subdivision has been founded on considerations
of small importance, gives the following as the generic char-
acter.

Body oval, more or less flattened, adhering to submarine
bodies by its dorsal surface and by its sides to other indi-
viduals of the same species more or less numerous, so as to
present the appearance of a complex animal, or of one
whole slightly variable in form. The two openings are
clearly visible at the two extremities of the body; the one
external furnished with a tentaculal papillae, the other in
ternal somewhat tubular and very small.

* Species grouping themselves in concentric circles so as to constitute an orbicular mass, nearly in the form of a
saucer.

GENUS DIAZOMA (Savigny).*

* Of this division the Botryllus of the Mediterranean (Botryllus Mediterraneus) is an example.

** Species disposing themselves circularly or in rays, often
sufficiently regularly disposed around a centre, so as to
form one or more stelliform systems, imbedded in a hori-
zontal gelatinous mass.

* Syllas of an Elementary Course of Lectures on Comparative Anatomy.

* Botryllus zoolog., a genus of the second tribe (Aggregata Asci das) of Asci das, a family of the fourth
order (Heterobranchiata) of Aculphalopus (headless) Mollusks, according to De Blainville.

† Diazoma is comparatively large in size.
with fifty or a hundred eggs, and then having exhausted herself, she slowly flies away, or drops at once and dies.

If a horse at grass is carefully examined in August, some hundreds of these minute eggs will be found about its legs and the back part of the shoulder, and few or none out of the reach of his tongue. In two or three days these eggs are sufficiently hatched. Possibly the horse feels a little inconvenience from all this glutinous matter sticking about and stiffening the hair, and he licks the part, and by the pressure of the tongue, and the mingled infection of the warmth and moisture of the mouth, and a small worm escapes from each. It clings to the tongue, and is thus conveyed into the mouth; thence it is either carried with the food into the stomach, or, impelled by instinct, it travels down the gullet, being of too tiny size to inconvenience or annoy the horse. Thus it reaches the stomach, and, by means of a hook on each side of its mouth, affixes itself to the cecal or insensible coat of that viscus. It scoops out a little hole, into which its muzzle is plunged, and there it remains until the early part of the summer of the following year, feeding on the mucous or other matter which the coats of the stomach afford. It has now become an inch in length and of corresponding bulk, and ready to undergo its change of form. It detaches itself from the cecal coat to which it had adhered, and plunges into the food which the other and digestive portion of the stomach contains; it passes with the food through the whole length of the intestines, and is discharged with the dung. Sometimes it is not perfectly enveloped in the fecal mass; it then clings to the sides of the anus, and hangs there firmly until there is a soft place beneath on which it may drop; it then hastens to burrow into the earth, and, if it has escaped the birds that are eagerly watching for it, it has no sooner hollowed for itself a convenient habitation than a shelly covering is formed around it, and it appears in the state of a pupa or chrysalis.

It here lies turgid for a few weeks preparing to undergo its last change. It assumes the form of a perfect fly; it then bursts from its prison, rises in the air, and seeks its mate. The work of fecundation being accomplished, the male immediately dies: the female lingers a day or two in order to make a proper deposit for her eggs, and her short life also terminates.

It is in the larval or caterpillar state that the bot is most known. The stomach of the horse sometimes contains an almost incredible number of them, the cuticular portion of that organ being in a manner covered with the species of them in a manner covering with the stomach of the animal. They have also travelled farther than the stomach, and have irritated and choked the first intestine, and thus destroyed the horse; and, even in their natural habitations, the animal is probably some unwholesome miasm arising from other causes, they have perforated it and caused death.

These however are rare occurrences; they are exceptions to a general rule. The plain matter of fact is, that a bot, if it is once turned out in July and August, and therefore almost necessarily has bots, enjoys just as good health as another that has been stayed during this period. He is in as good condition, and as fully capable of work when the cuticular coat is crowded with full-formed bots as he is at any other time. Other persons have reported that they are passing through the intestines to seek a new habitation.

Some persons have maintained that their presence in the stomach is beneficial. It has been said that, by their constant action on it, in the suction of their food, they cause it to the full exercise of its digestive powers. It was forgotten however that their habituation is not the digestive portion of the stomach. They have been said to assist, by the hard and irregular surface which they present, in the trituration of the food; but the function discharged by the digestion takes place in the stomach, on which they are simply one of maceration. There is no necessity for supposing that their presence is beneficial to the horse. The truth is, these insects find here a secure and comfortable abode during their larval state, without, generally speaking, producing any other inconvenience to the horse than the temporary irritation which they occasionally excite when making their escape.
The horse-owner therefore will care very little about them. He will remove them when they are hanging around the anus; but he will never have recourse to physic on his account, because it is rare indeed that they do any harm, and, if they did, their muzzles are buried so deeply in the cuniculus that no medicine that is safe to administer can possibly have any effect upon them.

A smaller species of bot, called from its colour the red-bot, is occasionally found in the stomach; but the fly from which it proceeds has never been accurately described. There is a strong opinion that the red-bot is more injurious than the common bot.

A third species, the Oestrus hemorrhoidalis, or fundament-bot, is better known. The fly is considerably smaller than the common Oestrus equi; it is of a brown colour, with the head surrounded by yellow, and the mouth is furnished with exceedingly stiff bristles. The fly may be seen darting between the thighs of the horse and around its croup, and following the motions of the tail until the animal is preparing to dung. During the evacuation of the dung, and the subsequent protrusion of the intestine, it darts upon and tears the gut with its pincers, and deposits an egg in every wound. The horse does not seem to suffer any pain during this operation, for he stands passive; and the little worm, soon produced from the egg, establishes its abode in the place in which it was deposited. It lives by digestion of the ulcer to which it has access, and at the same time that the common bot does from the stomach. Those bots are often seen within the verge of the anus, and occasionally seem to be productive of a slight degree of irritation. They are smaller than the common bot, but much more painful, and, like the latter, give a greyish hue to the fly. It may often be seen in copes, and particularly on rails in the neighbourhood of a cope. Every shepherd ought to make himself acquainted with it, for it may then be easily crushed and destroyed. It prevails most in June and July, and is sometimes an intolerable nuisance in woody countries. If only one of them appears the whole flock is struck with terror; and if there is any place in the field devoid of pasture the sheep crowd to it, turning their heads towards the centre of the group, with their muzzles to the sand, and their feet in continual motion in order to secure themselves from the attack of their foe. The Oestrus endeavours to get at the inner margin of the nostril, and, darting upon it with the quickness of lightning, deposits her egg. The warmth and moisture of the part speedily hatch it, and the little worm escapes. It crawls up the nostril, it threads all the sinuositites of the passage, and finds its way to some of the sinuositites connected with the nose. The irritation which it occasions as it travels up the nose seems to be exceedingly great. The poor animal gallops furiously about, snorting violently, and almost maddened by the annoyance. At length the worm reaches some of the convolutions of the turbinated bones of the nose, or the antrum or cavity of the upper jaw, or the frontal sinuses, it fastens itself on the mucous to the sand, and their feet in continual motion in order to secure themselves from the attack of their foe. The Oestrus endeavours to get at the inner margin of the nostril, and, darting upon it with the quickness of lightning, deposits her egg. The warmth and moisture of the part speedily hatch it, and the little worm escapes. 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The farm worker does not pay the attention which he ought to these war-worms. It is true that the cattle on the tumours once formed, do not appear to suffer any inconvenience from its existence; and the farmer is accustomed to associate with the appearance of a few warbles the certainty of the thriving condition of the beasts; but he forgets the pain and terror which the animal has already suffered, and that which he has yet to undergo, and he also forgets the deterioration of the hide. The hole made by the bot in his escape will apparently close, but not until after a considerable period has elapsed, and never with a substance so firm and durable as the first. It is easy to destroy the creature in its cell. The pressure of the finger and thumb will effect it, and while the beast will escape considerable annoyance, the hide will not be damaged.

The goat and the different species of deer, and, in fact, almost the same peculiar manner, and the same organs pass this portion of their existence within some living animal, it seems natural to extend the term to them all.

* Both the red-bot and the hemorrhoidalis belong to the species gasteropoda. And to the larva of these three the term bot has been by many authors restricted; but as the larva of all the ovari pass this portion of their existence within some living animal, it seems natural to extend the term to them all.

* It is probably this fly, or some one like it, that Virgil (Georgic, III. 146) describes as driving the cattle mad in the south of Italy.
almost all animals, have their peculiar tormentors, but the
distinctions and habits of these varieties of the Ostrus
are not well known.

BOTARI, GIOVAN/ANNI, was born at Florence in 1689, studied Latin and belles lettres under the learned
Biscioni, and Grecian under Saluzzo; and was afterwards given
memorabilia, and theology, in which last he took his doctor's
degree in 1716 in the University of Florence. The Academy
of La Crusca made him one of its members, and entrusted
him with the task of preparing a new edition of its great
vocabulary, in company with Andrea Alamanni, and Rosso
Mazzuchelli. The first edition appeared in 1725, and the
second in 1730; and the new edition was published in 1738, in 6 vols. fol. Botari
was also made superintendent of the grand ducal printing
establishment at Florence, where he published new editions
of several Tuscan writers with notes, and several works of
Vinci, Ercolani, and others. From Fratelli Guitton
d'Arezzo, &c. In 1729, he wrote Leshion Dire Sopra il
treemuto on the occasion of an earthquake which occurred
at Florence in that year. In 1730 he went to Rome, where he
fixed his residence. Clement XII. gave him a pension, and
the chair of ecclesiastical history in the University
of Sapienza, and employed him in 1732 together
with Bustachio Manfredi, on a survey of the Tiber through-
out Umbria, in order to ascertain whether it could be rendered
navigable. The result of this survey was published as
1. Scritti di Elogi e di Studi by Rosso Maria del Popolo, Nuovo sotto
Perugia fino alla face della Nera.' Botari made a similar
survey of the Teverone. His next publication was a learned
work on the monuments found in the numerous and vast
subterraneous vaulns near Rome, commonly known by the name
of la catacombe. The work was engraved and published in
1733 by order of the Scuola di S. Sebastiano, and the report
was published by the Cardinal del Rota, and the Oriental
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is this from being the case that it is just as much employed as ever, and in combination with these additional powers, which were originally intended to supersede it. Such is the nature of prejudice, and such the inevitable consequence of blinding, that in any country the loss of the income from the bottom heat large sums are annually expended, without the smallest return. All that bottom heat could possibly do is bettered by ordinary heating apparatus, and the cost of the bottom heat is altogether thrown away.

I am sure that if any one now comes with us more closely we approach nature in our management of plants the more certain are we to succeed in our attempts at cultivation. It therefore becomes an important question whether bottom heat has any existence in nature; of course it can only be looked upon as the result of the data that we possess upon this subject, although not very satisfactory; insufficient to enable us to answer in the negative. The water vines of the woods of Africa and India abound in a fluid which is much cooler than that of the atmosphere; its coolness is owing to that of the soil from which it is rapidly attracted; there can be no bottom heat in such cases. The most vigorous vegetation of the tropics is in woods where the soil is shaded from the direct action of the solar rays; we cannot suppose that bottom heat has any existence there. The contrary when any such temperature as that which results from a decayed mass of vegetation, the carbonic acid of the air in the proper state of warmth and humidity; this done the earth must of necessity partake in the temperature, and any effect of bottom heat that is desirable is gained. It is therefore to be recommended that the whole system of bottom heat be done away with where other modes of regulating temperature exist.

BOTTMORY, BOTTOMREE, or BUMMAREE, is a term derived into the English maritime law from the Dutch or Low German. In Dutch the term is Bommersie or Bodemer, and is derived from Bodem or Bodem, which in Low German and Dutch formerly signified the bottom or keel of a ship; and according to a common process in language, the part being applied to the whole, also denoted the ship itself. The same word is used in French, which was much in use in the countries in the English language; the expression bottom having been commonly used to signify a ship, previously to the seventeenth century, and being at the present day well known in that sense as a mercantile phrase. Thus it is a familiar mode of expression among merchants to speak of 'shipping goods in foreign bottoms.'

The contract of bottomry in maritime law, is a pledge of the ship as a security for the repayment of money advanced to an owner or master, for the purpose of enabling him to carry on his navigation. This is usually expressed in the form of bond, called a Bottomry Bond, that if the ship be lost on the voyage, the lender loses the whole of his money; but if the ship and goods arrives properly, he becomes the immediate owner of the goods, and of the money previously lent, and also the premium or interest stipulated to be paid upon the loan. No objection can be made on the ground of usury, though the stipulated premium exceeds the legal rate of interest, because the lender is liable to the same rate of interest on the amount of the bottomry. In France the contract of bottomry is called Contrat à la grosse, and in Italy Cambio marittimo, and is subject to different regulations by the respective maritime laws of those countries. By the Germans it is termed Bodemer, and is different in many of its incidents from Bottomry in this country.

In taking up money upon Bottomry, the loan is made upon the security of the ship alone; but when the advance is made upon the lading, the then borrower is said to take up money at responsenda. In this distinction as to the subject matter of the security, consists the only difference between Bottomry and Responsenda; the rules of English maritime law applied to one, and German law to the other, enumerates seventy articles on Bottomry. If the ship and cargo were lost, the lender could not recover his principal or interest; which stipulation was often expressly made in the (cyoppag) bond. (Demosieus against Thorsson, and against Donysorocus, c. 6. 10.)

Money was also lent, under the name of pecunia tragicitia, on ships among the Romans, and regulated by various legal provisions. The rate of interest was not limited by law, as in the case of other loans, for the lender ran the risk of loss. If in the event of the loss of the goods the interest which the borrower attempted to defraud him: damages also were claimed, conformably to the terms of the bond. As neither principal nor interest could be demanded if the vessel were lost, it was a common plea on the part of the borrower that the ship was lost.

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BOTZEN, CIRCLE OF, is one of the 7 circles or administrative divisions into which the government of Tyrol is divided. It is also called the circle of the Etzache (Adige) from the river of that name which runs through it, first in a S. direction from its sources in the Gruns, then E., from where it bends to the S.E. as far as the confines of the Lake near Botzen, from whence the united stream flows S. towards Trent. The valley of the Etzache from Gruns to the confines of the Lake, a length of about 45 m. The circle of Botzen is reached from Gruns by the road from Gruns to Meran, which bears the name of the Vinschhag, and is a fine alpine district, rich in pasture and also in fruit trees. Meran is a small town with old walls and towers, and was formerly the capital of the original county of Tyrol, which was much more extensive than the present circle of the same name. The castle of the former counts rises on a hill about 3 m. from Meran. N. of Meran is a traverse valley opening into the great valley of the Etzache, which is called the Passy and is known in consequence of the noble district of Andreas Hofer, the Tyrolese chief, who fought against the French and Bavarians united in 1809, and was taken and shot at Mantua in 1810. Hofer's house is to be seen in the Passytrall, about 10 m. N. of Meran. The Etzache and its tributaries form three rapids for the space of 1 m., which have a very striking effect. Below Meran, towards Botzen, the valley becomes wider, and Botzen itself is in a kind of plain formed by the meeting of several valleys. This part of the country produces good vineyards, and fruit trees and also asparagus, the fields by means of small canals and locks is established here as well as in other valleys of the Alps. The circle of Botzen is bounded on the E. by the circle of Pusterthal or Bresil; on the S. by that of Trent; on the N. by that of the Oberinnten, which is the upper part of the Rhetian Alps; and on the W. by the Veltlin and by the Munsterthal in the Grisons, being divided from the former by the Stilser Joch and the Ortler, and from the latter by the Wormser Joch and the high ridge called the Lamer. These three circles, besides Botzen, are Meran and Gruns, each with a pop. of between 2000 and 3000 inh., and many large villages. The language of the people is German, though at Botzen
and in the neighbourhood a dialect of the Italian is spoken almost universally. In the upper part of the valley, about Meran, the primitive simplicity of the Tyrolean manners still prevails. *(Voyage pittoresque dans le Tyrol, et dans une partie du Comte de Brav; Inglis's Tyrol; Malte Brun's Geography.)*

**BOTZEN,** in Italian Bolzano, the chief t. of the circle of the Etsch, in the principality of Tyrol. It is situated in a pleasant valley, sheltered from the N. winds, on the r. Etsch, an affluent of the Etsch or Adige, and just above the confluence of the two rivers. The traveller coming from Innsbruck, after having passed the ridge of the Brenner and the t. of Brixen, finds at Botzen the climate and the productions of Italy. Even the habits and the language of the people are in a great part Italian, although German is also commonly spoken. This part of Tyrol, S. of Mount Brenner, is commonly called the Italian Tyrol, and it communicates with the plains of Lombardy by the valley of the Adige.

This town is a newly built t. of near 8000 inb., and is known chiefly for its fairs, which are frequented by commercial travellers from all parts of Italy and Germany. The country near Botzen produces wine and fruits in abundance. Botzen is on the high road from Italy by Rovereto and Trento to Innsbruck, which was the only communication between but two countries, the Tyrol and Lombardy, before the opening of the new road over the Stiller Joch. *(Bormio.)* A cross road strikes off from Botzen to the W., ascends the valley of the upper Etsch by Meran, and meets the new road at Mals near Glurns. From this town the route commencing from the lower part of the Joch can go to Innsbruck, either by Botzen and the pass of the Brenner, or proceed from Mals up to the sources of the Etsch and then descend by Nauders into the valley of the Inn which he then follows to Innsbruck, meeting at Landeck from Sankt Ulrich into the Tyrol. Botzen is 113 m. N. by E. of Trento.

**BOUCHAIN,** a t. in France, dep. of Nord, of no great importance except from its fortifications, and from some historical interest attached to it. It is on the Escouf or Shield, and on the Rhone; situated nearest to Cambrai and Valenciennes, about 10 m. from each, and 115 m. N.N.E. from Paris; 59° 57' N. lat., and 3° 17' E. lon.

In 1711 the Duke of Marlborough invested Bouchain, having, by the most skilful manœuvring, passed without bloodshed the strong lines with which Marshal Villars had covered the French frontier in this quarter. The French commander had boasted of these lines as impregnable, saying that he had brought Marlborough to his ne plus ultra. The simplicity of the work of construction, and the confusion of the neighbouring country was partly laid under water; a French army superior in force to that of the allies, and commanded by a general of the greatest ability, watched every opportunity for interrupting the siege; and the town itself was secured by the skill of the garrison, which, in all difficulties, and the garrison was forced to capitulate in sight of the French army, which could not relieve the place. This exploit closed the campaign, and with it the long and brilliant successes of the English general. Bougainville was taken in 1719 by Marshal Villars, and the possession of the town secured to France by the treaties of Utrecht and Rastadt, which were concluded shortly after.

Bouchain consists of two parts, the upper town and the lower town, which are separated from each other by ditches, filled up, and the streets of the Sensaci, and the deep ditches which surround the fortifications. The parish church and the town-hall are in the upper town. The population is given in the *Dictionnaire Universel de la France* (Paris, 1804) at 1128: we have no later authority. *(Voyage pittoresque dans le Tyrol, et dans une partie du Comte de Brav; Inglis's Tyrol; Malte Brun's Geography.)*

**BOUCHER, REV. JONATHAN,** born 1804, a divine, a political writer, a general scholar, and an English philologist of the last century, to whose memory justice has hitherto been imperfectly rendered.

The son of a clergyman of little town of Wigton, at a place called Blencogo, where his father had a few acres of land, and if he were not one of those Cumbrians of whom Boucher himself says, that they "are contented to live, like their rude forefathers, in wretched hovels, on a scanty stock of provision, with less anxiety of mind than many other clergy," yet he lived in a style of frugality somewhat primitive, not unlike what the travellers in that part of the kingdom may now see in the houses of the small landed proprietors. It is not however unusual to find in the families inhabiting such houses that there is an uncle, a brother, or a son who is a schoolmaster in some distant county, or perhaps who is in the church; and the number is not small of persons of this Cumbrian origin who have attained a well-deserved eminence.

Boucher was trained first at a school at Blencogo, and afterwards at Wigton in grammar learning. At Wigton he had for his master, the clergyman of Graystock, Mr. Blaine, with whom he read some of the higher Latin and Greek classics. Mr. Blaine is described by one who was acquainted with him, as 'a man of true piety and learning, but affecting the rusticity which prevailed in the farmers around him, instead of endeavouring by a better example to show them how all the virtues they possessed might be exhibited in connexion with the deccencies and proprieties of life.' It is added, 'he spoke in the tone and dialect of his rustic countrymen, and took particular care that its Doric strength should not be debilitated by the introduction of courtly phrases.'

He then went to Oxford, but Boucher pursued his studies with great assiduity, and at the age of seventeen or eighteen he entered on the business of school-instruction. A gentleman residing at Wigton placed his children under his care; but in a little time he became an usher in the grammar-school at Saint Bees, which at that time, about 1746, enjoyed a high reputation under Dr. James, a good and learned master. While here, the instruction of youth in the rudiments of classical knowledge was his business; the perusal and study of the great writers, and especially of the great poets of antiquity, his recreation. He is said to have here executed a translation of *Tytau.*

About the year 1756 or 1757, as we may collect from circumstances, when he was about nineteen or twenty years of age, he left England, and took up his residence amongst the American colonists.

Such a man could not but be a valuable acquisition to any colony. His services were soon engaged by a gentleman in Virginia of wealth and respectability, as tutor to his children.

That power which natural talent, attainment and character, combined to give a man, was, being once put in contact, at once counteracted by some of the various forms in which an over-estimate of them by the party himself appears, was soon manifested. It was perceived that while he could make boys learned, he had the ability also to instil in them and make them better. The generosity of the parish of Hanover in the county of King George, Virginia, nominated him to the rectory of that parish in 1761, when he was only four-and-twenty. This nomination he accepted, and immediately crossed the Atlantic, where he resided first at Fredericksburg, then at Richmond, and from the Brush of London and mount and priest on the same day. After visiting his native county, he returned to take upon himself his new charge.

From this time to 1775 he continued in an assiduous discharge of his ministerial duties, and an endearing charity, to improve as far as in his power, the moral and intellectual state of the parts of America in which he was placed. He removed from the parish of Hanover to that of Saint Mary in Caroline county, Virginia, lying on the Rappahannock. When Sir Edward Eden became governor of Maryland, he appointed Mr. Boucher to the rectory of Saint Anne's in Annapolis, and afterwards of Queen Anne's in Prince George's county, where he was living in 1775, when there was a violent and sudden change in his affairs. These American colonies. Mr. Boucher has afforded us the means of judging with tolerable accuracy how his talents, station, and character, were made to bear upon the feeling and action of the people with whose interests he had connected himself. Many years after, in the course of disputes which he had delivered from the pulpit at various times during those years. Most of them were printed at the time when they were delivered. They are better entitled discourses than sermons. They are in fact the Ortho-epistles of the American colonists, and written at public occasions, when it is allowed to the ministers of religion to enlarge somewhat the usual limits of pulpit instruction. They exhibit a robust sense, a mind stored with classical erudition, and there are occasionally bursts of spirit of a love of arms. Another contends for a liberal toleration to dissenters and papists. In his discourse on the education suitable to the American colonists which he wrote in 1773, at the request
of one of the governors, he insists more on the necessity of a Christian education, though at the expense of his own favourite classics. He gave all the weight of his influence against the delusions of the wild sectaries who seem to have abounded in that colony. He was by no means a stranger to the popular enthusiasm; and on the whole he seems to have been inclined to a liberal policy, and to the maintenance of the independence and just rights of the colonies.

But when the time came that all connexion with the mother country was to be renounced, and all allegiance to the British throne, Mr. Boucher was one of those who neither admitted the principle, nor thought themselves at liberty to remain entirely passive. He continued to use in his church the public reading of the Bible, and to read the prayers in public at all, to conform to the unmuttilated liturgy of my church; and, reverencing the injunction of an apostle, I will continue to pray for the king and all that are in authority under him, and I will do so, not only because I am so com- manded, but being persuaded of the truth of the command, to lead quiet and peaceable lives, in all godliness and honesty. Inclination, as well as duty, confirm me in this purpose. As long as I live therefore, yes, while I have being, will I with Zadoc the priest and Nathan the prophet, proclaim—

This was a time when there could be no compromise.

His property, all of which was in America, was lost. He was so much an object of popular dislike that his person was in hourly danger, and, in 1775, he finally quitted American shores. He died in Liverpool, in 1780. His prospects thus blighted, he had to begin the world anew, aided by some compensation from the government at home for the losses which he had sustained with other American loyalists. Little is known of him during the next nine years of his life. But it is believed that he had recourse to his original profession, and that he established a school at Paddington. In the church he obtained no prebendary before 1784, when Parkhurst, a clergyman, the author of two well-known scriptural lexicons, to whom he had contributed the minor epistles of the New Testament in the Episcopalian version, Epics, at which place it is believed he went immediately to reside, and where he died.

In this last twenty years of his life we find him devoted, as in the former period, to religion, to politics, and to the precise study. He lived in the same manner as before he was spoken of, and prefixed to himself a dedication to Washington, whom with before the war he had been on terms of intimacy, and for whom he never ceased to feel a high personal respect. He added also a long preface, entitled a collection 'A View of the Causes and Consequences of the American Revolution.' He printed also two assize sermons, and in every way supported to the utmost of his power the Pitt policy in respect of France, adhering to the principles which he had maintained in Maryland. When the general war commenced, he had become a great sufferer. But the kind of literature to which he directed his attention was changed. It became more English. The love of his native country, which is said to be stronger in those born in mountainous regions than in the plains, had appeared to him in various forms. He addressed his Cumbrian friends on the backwardness which they showed in following in the track of public improvement. He wrote some of the best portions of Hutchinson's History of that county. He erected in the church of Sebergham a monument to the memory of Robert Adam. He also became a Fellow of the Society of Antiquaries of London, and was made an honorary member of the Society of Antiquaries of Edinburgh and also of the Stirling Literary Society. His acquaintance among the men devoted to antiquarian and literary pursuits was legion, and he enjoyed the intimate and particular friendship of several of them.

His mind at length became determined towards a particular object: it was to prepare a kind of supplement to the

Dictionary of the English Language by Dr. Johnson, in which he should introduce words provincial and archaic.

By provincial, he meant words which are still found in the speech of certain parts of England, though not found in writing or heard in the general intercourse of life or in polite; words however which are genuine portions of the English language, and to be found, most of them at least, in our early and almost forgotten writers. By archaic, he meant words which are found in those writers, though now regarded as obsolete, and which are not now, and perhaps never were, in any general use by the common people. These words it was his intention to illustrate by quotations from the authors in which they occur, and also by dissertations on their history in a manner much more at large than Dr. Johnson has thought necessary to do in respect of the purer and better terms which he had allowed to find a place in his Dictionary.

This was a design of great magnitude; and Boucher set himself to the accomplishment of it with great earnestness from the first, and with an energy which was truly admirable. He made his classical knowledge bear upon it with effect, and he obtained no mean acquaintance with the languages cognate to our own and the other modern languages of Europe. He had an intimate acquaintance with the dialect of Cornwall and the counties of England, from which he received contributions for his vocabulary, and sometimes valuable remarks.

But the plan on which he proceeded included more than is generally understood to fall within the province of lexicography. He was able to collect concerning many of the usages of the English nation—dress, sports, superstitions, whatever in short falls under the not strictly-defined term of popular domestic antiquities: what his work may, in many portions of it, be read for amusing or interesting the reader, as consulted as a dictionary for the illustration of the words which it contains. In this respect it resembles Dr. Jamieson's valuable Dictionary of the Scottish language.

Mr. Boucher died in London, 1790. It was not too late a period of life for him to indulge the hope and a reasonable expectation of being able to complete it, well-furnished as he already was with much of the information needed for such an undertaking. In 1802 it had so far advanced towards the publication of the work, and proposals for publication. His health however was then beginning to decline. In 1803 he visited his native county. He lived till the 27th of April in the following year, when he died without having committed any part of the work.

Of the dictionary thus left unfinished the letter A was published after his death as a specimen, by his friend and frequent correspondent Sir Frederick M. Eden. The merits and the value of his collection were understood in this specimen, and published an improved version by others who take an interest in such inquiries. But still there was not sufficient encouragement given to the family to risk the publication of so large a manuscript. It remained, with other papers connected with it, in the hands of the family, and has, as Blainville is said to be hoped that the work will be completed for though perhaps not entirely adapted to the present improved state of philological knowledge, and to be regarded rather as anecdotes of the language than as a complete lexicon of archaic and provincial words, it contains much valuable information, the result of original reading and original reflection.

For the facts in this life we have been principally indebted to Boucher's own writings, to the Gentleman's Magazine, vol. 74, p. 591, where is a biographical notice of him, and to his life by C. J. Blainville, which was published in 1829, entitled The Life and Literary Remains of Thomas Sanderson.
vene. The dep. lies along the coast of the Mediterranean, by which it is washed on the S.S.W.: on the N.N.E. it is bound by the dep. of Vaucluse, from which it is separated by the Sardanura: on the E. it is bounded by that of Provence, from which it is separated by the Rhône. The Île de la Camargue, or Carmague, an island of alluvial formation, enclosed by the sea and the two principal arms or outlets of the Rhône, is included in this department. The dep. is of a quadrilateral figure, in fact, its N.W. and S.E. sides respectivly equal to 41.47 and 42.14 m.; but the sea-coast, which is about 77 m. long in a straight line, exceeds by about 24 miles the side which runs along the bank of the Durance. The area of the dep. is 601,560 hectares (according to the last edit. of Malte Brun); while computing the hectaré into English acres, will give 1,487,529 English acres for the area, or 2,234 sq. m., being equal to about 10-11ths of the county of Devon. The surface of the department in square leagues, as given by Malte Brun, differs materially from the above measurement, which, however, we believe to be the more correct. The chief town is Marseille, which is 497 m. s. by E. from Paris, through Auxerre, Autun, Châlons sur Saône, Lyon, Vienne, Avignon, and Aix. The dep. is not, on the whole, mountainous, but there are some considerable elevations. The branches of the Alps, which stretch through the adjoining dep. of Var, and skirt the S. bank of the Durance in the upper part of its course, reach into the Bouches du Rhône, and cover the E. parts. Other eminences extend from these towards the W., presenting a range of mountains, with gradual ascents and abrupt descents, while the branches of the Alps are distinguished by their gradual declivities. The Île de Carmague, and that part of the dep. adjacent to it, are very marshy, and the sea forms several pools or étangs, two of which lies along the route of the Var; the Var and the Ile de Camargue, are of considerable extent. [BARTLE.] The sea-coast, low in the neighbourhood of the Rhône, is in other parts bold and lofty. Opposite to the coast are several small islands—Ratonneau, Pompigne, If (on which is a strong castle); 3 miles to the south-west, on the coast of the part of Marseille called La Major, Jaros, Riou and Planier. They are all of little importance. There is a tower on the Île de Planier, which lies farthest out to sea. The principal rivers are the Rhône, and its tributary the Durance, which bound the dep. on the N.W. and N.E. sides; the others are of minor importance, such as the Arc, which rises in the dep. of Var, and flows into the étang de Berre, after a course of about 45 m.; the Touloubre, which flows into the same étang, after a course of from 30 to 35 m., and the Verne, which falls into the Avière at Marseilles, after a course not quite equal to that of the Touloubre.

The island of Carmague, which forms a Delta, has Tinquetaille, a suburb of the city of Aries, at its apex. The testimony of the ancients makes it appear that the mouths of the Rhône was then enclosed by a large sandbank, in the manner of what is called the promontory of Frasassi in the province of Ancona. The most W. of the two streams already noticed has shifted its bed towards the W., enlarging the Île de la Camargue in that direction; while the accumulation of materials brought down by the stream has elevated the soil above the water, and caused the island to gain considerably on the sea. The E. arm of the Rhône there is reason to believe has been less variable: but the formation of alluvial islands causes its waters to be subdivided into several channels just before it reaches the sea, which branches are lined with sandbanks and sandbanks, and which are filled by materials brought down by the sea by the Roman General Caius Marius. The quantity of sand brought down by the Rhône is so considerable as to cause the navigation of its channel to vary continually, and the government whose regular business is to sound the bed of the river and make known its variations to shipmasters.

The Île de Carmague approaches in form to an equilateral triangle of about 25 m. each side. It is composed of a fine gravelly soil mingled with sand. The mouth of the island is the receptacle of stagnant waters, and is in great part occupied by the étang de Valaris and by others of less extent. These étangs and marshes often communicate with the sea, especially during the prevalence of the season, when the waves driven on by the strong sea-sand which, having preserved a great quantity of salt, imparts this quality to the herbage and renders it particularly acceptable to the cattle which are put to graze. To so great a degree is the soil in some parts impregnated with salt, that it would be unproductive, if the inhabitants did not flood the land by the waters of the Rhône, the rich mud of which corrects the drought that the salt would otherwise occasion. The majority of the dep. of the île de Carmague is of different parts or the island and saltworks are carried on. (Encyclop. Meth.)

Near the E. bank of the E. channel of the Rhône, between it and the étang de Berre, is the plain of La Crau, the most singular stony desert, says Mr. Arthur Young, the N. E. and S. E. sides of the marsh. It contains, according to the estimate of the same intelligent traveller, from 140,000 to 170,000 English acres. It is composed entirely of shingle, the stones varying in size from that of a pea to that of a pumpkin; and it is as free from any intermixture of soil as the shingle upon the seashore. In places these stones have become united so as to form a species of marble capable of receiving a polish. Beneath these stones is a soil which Mr. Young describes as not so much a sand as a kind of cemented marble, a small mixture of loam with fragments of stone. Vegetable life is poor and miserable, yet the district supplies winter pasturage to immense flocks of sheep which are fed in summer in the Alps about Barcelonette. By means of the Canal de Craonne, parts of this naturally sterile region have been broken up into corn and meadow land, and rendered productive, forming a striking contrast with the part which yet remains an arid desert. The lower grounds (for the surface is not level) produce oaks, walnut-trees, mulberry-trees though not of great size, olives, and vines. The almond-tree does most of the business of the district. [See Aves.] The soil of the dep. varies considerably. The N. E. and N. districts along the bank of the Durance are sterile and require great labour to make them productive, but the N.W. part is of great fertility. Unhappily this district is exposed to such disease as the smallpox, and is subjected to dengue, and maraschender a considerable part of the land near the coast incapable of cultivation. The produce of the dep. in corn is not great, being scarcely equal to a third of what is required for home consumption. Rice is among the grain cultivated here. (Robert. Dict. Géog.) A considerable portion of the district is cultivated with the vine, especially in the districts of Cassis and La Ciotat (white wines), are much esteemed. Olives form one of the chief objects of attention with the cultivators, and oil is one of the most important of its productions; and almonds, nuts, capers, oranges, pomegranates, and figs, are abundant. The mildness of the climate is favourable to the growth of shrubs and flowers, among which may be mentioned the cypress, the laurel, the myrtle, the cistus, and the philyrea. The pasturages of this dep. are chiefly resorted to in winter; in summer they are abandoned as being too hot. The great heat extends to the more refreshing plains of Drôme, Isère, and Hautes and Basses Alpes. The use of the plain of La Crau for this winter pasturage has been already noticed. It is said that 700,000 sheep and an immense number of goats are possessed by the dep. The latter is in great demand, and is also very great; and a large number of light active horses are produced. The Île de la Camargue is chiefly occupied in pasture. The cattle are here left at liberty night and day, from which cause they are very wild. There are large grazing grounds on this island, and a great number of houses, which are about 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses. In this island is the royal sheep farm of L'Armillière. The district of Crau produces manna and an insect called termes, which are of great value. The district of Lourmarin is also very populous, and the numerous saltworms is much attended to in the department of Bouches du Rhône. The salt marshes yield herbs of which the inhabitants make use.

In the dep. coal is dug, and there are quarries of marble of all colours and of great value, freestone, slate, grey stone, limestone, whetstone, and flint, or flint stone, or basalt, and a stone capable of being wrought like alabaster. The Encyclopédie Méthodique adds that there are several mines of iron and lead.

The climate, as may be inferred from its productions, is warm: and would be most delightful to the inhabitants, were they not, at least in the neighbourhood of Marseille, exposed to the annoyance of swarms of gnats. The violence of the wind called Mistral is also a great drawback. The materials are very various, paper, wove, and various kinds, morocco and other leather, porcelain, earthenware, glass, and soda are manufactured. Brandy is distilled: and liqueurs and vinegar are made.
But perhaps the chief branch of manufacture is that of soap, which enjoys a high and deserved reputation all over France. The exports of the dep. comprehend its natural productions, wine, oil, honey, wax, dried fruits, &c., the flax (flaxseeds, sardines, tunnies, &c.) caught and cured within its limits, and which are consumed in the Royal navies, especially those of Toulouse and Marseille is the chief port in the dep., and indeed, excepting Bordeaux, in all France. [MARSEILLE.] The internal trade is facilitated by the navigation of the Rhône and of the canal of Arles, which runs from Arles to the sea nearly parallel to the arm of the Rhone. The canals de Craponne, du Réal, de Boisgelin, and de Végueryau, are rather for the purpose of irrigation or drainage. The canal de Craponne runs from the Durange to the Rhône at Arles, with branches to Isticks and to St. Chamans, both of which are near the dep., and, in the dep. of the canal du Réal is in the N.W. part of the department: that of Boisgelin runs from and again into the Durange; that of Végueryau drains the marshes E. of Arles. The Durange, we believe, is, from its rapidity, not navigable.

The dep. is subdivided into the three arrondissements of Marseille (which is the capital of the department), of Aix, and of Arles: and contains 27 cantons and 105 communes. The pop. in 1832 was 359,473: about 154 or 155 to the sq. m. The pop. at the previous census of 1826 was 326,302, showing an increase of 35,171, or of more than 10 per cent. The pop. of 1826 was divided among the three arrondissements: arrond. de Marseille, 178,806; arrond. of Aix, 102,674; arrond. of Arles, 77,933. The dep. for ecclesiastical purposes is divided into the diocese of Marseille, including that city and its arrond., and the sub-dep. of Aix and Arles. The diocese of Aix, in 1826, was formerly divided among the dioceses of Aix, Arles, and Marseille: but the diocese of Arles is now (it is probable) incorporated with that of Aix, the archbishop of that see taking the title of from Aix, Ares, and Embrun. The Bishopric of Marseille is one of his suffragans. The dep. is under the jurisdiction of the Cour Royale of Aix; and is included in the VIIIth Military division, of which Marseille is the capital. It sends five members to the Chamber of Deputies. There is an Académie Universitaire at Aix, which includes a faculty of teaching.

The chief towns (with their pop. in 1832) are—Marseille (121,127 inh. in the town, 145,115 in the whole commune), on the sea; Aix (15,916 inh. in the town, 22,575 in the whole commune); Arles (14,644 inh. in the town, 29,236 in the whole commune), Tarascon (9,925 inh. in the town, 10,967 in the whole commune), on the Rhône opposite Beaucaire; Martigues (5,893 in the town, or 7,373 in the whole commune), on the channel communicating between the sea and the Etang de Berre; La Ciotat (4,034 inh. in the town, 6,549 in the whole commune), on the sea S.E. of Marseille; Salon (1,817 inh. in the town, or 1,978 in the whole commune), upon that branch of the canal of Craponne which branches off to Istres; Aubagne (3,925 inh. in the town, or 6,349 in the whole commune), on the river Verne; and St. Remi (3,135 inh. in the town, or 5,464 in the whole commune), on the canal de la Réal.

The population returns for 1832 give the following communes as containing above 2000 and under 5000 inhabitants:

<table>
<thead>
<tr>
<th>Towns</th>
<th>Population of the Towns</th>
<th>Communes</th>
<th>Population of the Communes</th>
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<tbody>
<tr>
<td>Alianchn</td>
<td>1,474</td>
<td>Gardanne</td>
<td>4,663</td>
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<tr>
<td>Barbatente</td>
<td>1,664</td>
<td>Istres</td>
<td>2,483</td>
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<tr>
<td>Chasmes, St.</td>
<td>2,502</td>
<td>Lambesc</td>
<td>2,923</td>
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<td>Château Renard</td>
<td>1,432</td>
<td>Lançon</td>
<td>1,703</td>
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<tr>
<td>Equilles</td>
<td>1,547</td>
<td>Orcon</td>
<td>1,591</td>
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<tr>
<td>Eygues</td>
<td>2,519</td>
<td>Brignans</td>
<td>2,344</td>
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<tr>
<td>Eyragues</td>
<td>1,811</td>
<td>Roquevaire</td>
<td>3,218</td>
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<tr>
<td>Fontvieille</td>
<td>1,580</td>
<td>Trets</td>
<td>2,504</td>
</tr>
<tr>
<td>Fuveaux</td>
<td>1,431</td>
<td>3,014</td>
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This department has produced several eminent men. Petruwius Arbiter, a Latin writer of some note; Adanson, the naturalist; and others, are natives of the dep. Among the persons of note from the dep. are: Massillon, one of the chief orators of the French pulpit: Notrastinus: Vanlo, the painter; Tournemire, the botanist and traveller, &c.

BOUPLERS, LOUIS-FRANCOIS DUC DE, descended from one of the most ancient and noble families in Picardy, the second son of François II, count of Boupliers and Cagni, was born January 10, 1644. He entered the royal guards as a cornet in 1663, during which year he was present at the siege of Marsal in Lorraine. In the following campaign he was engaged in an expedition to Gergi in Africa; and so much talent did he afterwards exhibit in his service that he was sent to command the colony of Lausun in the winter of 1673. Having passed the winter in Germany, he joined him in the town of Einsheim in 1674, and received the thanks of Turenne for having greatly contributed to the success of that day. In the memorable retreat after the death of Turenne, in 1675, he commanded the French rear; and from that time till the battle of Blenheim was employed on active service. He then commanded in Dauphiné and the frontiers of Spain. His gallantry at the siege of Luxemburg was rewarded with the government of that city and province in 1688; and the seasonable detachment of a corps from the army of the Moselle, which he commanded in 1690, decided the event of the battle of Fleury-d'Ambert. In 1698 he was again wounded in an attack upon a hornwork at Mons; but during the remainder of that campaign he triumphantly kept the field against the allies, who were more than threefold his number, and continued the blockade of Lingen and of Hanover. On his return to court during the winter, he was personally invested by the king with the collars of the several orders into which he had hitherto been admitted only by proxy. When William III. moved his quarters from Boulogne to Paris in 1698, he accompanied him. He then partook of the glories of Steenkerken. In 1699 he was elevated to the dignity of marquis of France, and received the new order of St. Louis. He defended Namur against the allies, commanded by William III., for sixty-six days of operations, in 1699, and was again rewarded four general assizes. After its capitulation, he was detained a prisoner of war for a fortnight; and the king, in recompense for his great services, erected the county of Cagni and some adjoining domains in Beauvaisis into the dukedom of Boupliers. In 1706 he represented the king in the congress at Rastadt, for a projected invasion of England in support of John VI., which was not put in execution. In the war of the Spanish succession, he commanded in the Netherlands; and on June 31, 1703, in conjunction with the Marquis de Bethuner, he obtained a signal advantage over the Dutch at Eckeren, for which he received from the king of Spain the sword of the Golden Fleece. In 1708, after the battle of Oudenarde, he undertook to defend Lille against Prince-Eugene; and he maintained the town from August 12th till October 25th, when he capitulated, after having repeatedly detracted the English and the Dutch from his encampment and kept them from the city into which he retired held out till the 11th December following. The king loaded him with new honours for the brilliant defence, and made his duchy into a peerage. His presence in the battle of Blenheim, in 1709, and victory over the French army of the Duke of St. Remi, at Puyla, and a turnament which had arisen on account of scarcity of bread; after which, hastening to Flanders, he tendered his services to the marquis Villars, an officer junior to him, and brought off the right wing of his army in good order, losing neither a single soldier or prisoners at the disastrous battle of Malplaquet. This was his last public act; he died at Fontainebleau, March 32, 1711, in the sixty-eighth year of his age, and was buried with great military splendour in the church of St. Louis de Lille. The above sketch of the exploits of this distinguished captain is necessarily very incomplete; his history, in truth, forms the military history of the half century during which he served, and its details must be sought in the general history of France. Many of the anecdotes which have been related about him are greatly to his honour. Prince Eugene congratulated him upon the glory which he had acquired in defending Lille, as far superior to that accruing to himself by its capture; and it was remarked that horse-flesh was the only food served during the siege, guisant at a time when it was innumerable for its cheapness. So magnificent were the banquets with which Boupliers regaled his officers, while he held the command of a mimic camp formed by the king at Compiegne, for the instruction and amusement of the Grande Army, that it was observed that the young prince must decline all competition, and remain content to be a guest. The detention of
Boufflers after the surrender of Namur was a breach of the articles of capitulation, and was defended as a reprisal for similar violence which had been offered to the garrisons of Dixmuiden and of Deinze. When Boufflers justly remarked that in that case not the commander, but the garrison ought to have been concerned, he was answered by that power, which, though he had not uncharged compliment, that his single person was esteemed equivalent to 10,000 men. We do not recollect a more true appreciation of feminine grace than is exhibited by a repartee ascribed to the duke of Orleans; and perhaps when young lady of the day, a coxcomb asked, A-\textit{telle de l'esprit} \& was left mute by the veteran's ready answer, 

\textit{Comme une rose.}

BOUGAINVILLE, JEAN PIERRE, was born at Paris December 17, 1722, and during his short career distinguished himself by the public services now forgotten; among them was a French translation of the \textit{Anti-Lucr\textit{etius}} of Cardinal Polignac, and a Parallel between the expedition of Koul Khan and that of Alexander. Some poems, among which is the germ of Pope's \textit{Universal Prayer}, and several papers in the \textit{M\textit{\textit{emoires de l'Academy}}, also were printed by him. He held numerous employments of high literary distinction, as secretary to the Inscriptions, censor royal, keeper of the antiques in the Louvre, and secretary in ordinary to the Duke of Orleans, &c. He died at Locbes Jan. 2, 1762.

His younger brother, LOUIS ANTOINE DE BOUGAINVILLE, who more than doubled his years, led also a much more active existence. He was born at Paris November 11th, 1729, and studied in the university of the same city, where he was encumbered with the duties of proselytizing. Much of his time had been devoted to mathematics, and instead of commencing as an advocate at the Palais, he surprised his friends by enrolling himself in the Mousquetonniers, and by publishing a treatise on the geometrical calculus, with five plates. We know not in what manner he passed from military to diplomatic pursuits, but we afterwards find him employed as secretary of embassy in London, where he was elected fellow of the Royal Society. Returning to the army, he served in China, where he distinguished himself till 1758, when, as governor of the Island of Cavite, he planted the colony of Manila, and opened the way to the conquest of the Philippines. In 1759 he was engaged in the expedition against the English settlements in the East Indies. He was at once a general and a minister, and was placed at the head of the British East India Company. He became president of the council of India, and was appointed governor-general of the East Indies, with the title of admiral, and was appointed governor of the islands of the East Indies, and was placed at the head of the British East India Company. He became president of the council of India, and was appointed governor-general of the East Indies, with the title of admiral, and was appointed governor of the islands of the East Indies, and was placed at the head of the British East India Company.

Boigniville was in active promotion of the settlement. The Spaniards however were not willing that the French should invade their imaginary right of sovereignty in the western hemisphere; and the French government also speedily discovered that the mere possession of a rocky domain, which did not yield any return, and which deprives the country of the fruits of its soil, is no means worth the hazard of war. They gave orders therefore for the surrender of the settlement, and Bougainville was employed to undo his own work. The position which he had chosen for the establishment was at Port Louis, which stood on the east side of the bay of the large Islands, on a part of the coast which afforded a good harbour; and he was sanguine in his expectations that the new colony would in a great degree indemnify his country for the loss of the Canadas. The Parisian cabinet however thought otherwise; and in 1762 they bartered for the surrender of Port Louis to the Spaniards, who gave it the less swallow but perhaps more appropriate name of Port Solidad.

Bougainville was instructed to execute the transfer, and his commission authorized him afterwards to traverse the South Sea to the north extremity, to explore the islands of the Sandwich group, and to return home by the East Indies. For this circumnavigation of the globe, a frigates, \textit{La Boudeuse}, carrying twenty-six twelve pounders, and a store ship, \textit{L'Ilede}, were provided. His crew consisted of eleven commissioned officers, three volunteers, and 200 men; and the Prince of Nassau Sieghein obtained permission to accompany him. His voyage, although not to be compared in interest to that of Cook or Anson, is still a matter of importance, and was translated into English by Forster in 1772, and an abridgment of it is given in the appendix to the thirteenth volume of \textit{Kerr's General Collection of Voyages and Travels}.

Bougainville sailed from Nantes November 13th, 1766. On the 11th of January he discovered the Falkland Islands to some Spanish frigates which had been dispatched for the purpose, and he was then delayed till November at Monte Video by the non-arrival and the necessary repairs of his store-ship. In working off the shores of Tierra del Fuego he suffered much from boisterous weather. What little intercourse he established with the Patagonians was amicable; and he confirms the general opinion of their ugliness. What a strange story he has of his men. He seems to have exposed himself to scarcely less peril than he had undergone at sea. At parting he carried with him as a volunteer Atoorou, the son of a native chief. The youth's talents appear unhappily to have been very slender, but his marksmanship, though he was a civilized man in Paris. Even that little was of no advantage to his countrymen, for he died on his homeward passage in 1770. Almost the only circumstance demanding notice in the remainder of Bougainville's voyage was the discovery that one of his crew, named Baré, was a woman. She had always behaved with the most scrupulous modesty, was neither ugly nor handsome, and not more than twenty-six or twenty-seven years of age.

Scoury and a failure of provisions occasioned very severe suffering during the latter part of this voyage, till on September 26th, Bougainville, having been at sea for ten months and a half, cast anchor off Batavia, which miserable station was not inaptly named by Atoorou in his native language, \textit{Eenoua Male}, 'the land which kills.' At the Isle of France he published a treatise on the subject of the whale which was no longer necessary, and on March 16th he entered St. Malo, having been engaged upon his expedition two years and four months.

Bougainville commanded a ship of war during the American revolutionary contest. In 1785 he was the advanced age of eighty-two years on August 31st, 1811.

BOUGAINVILLE ISLAND. [NEW GEORGIA ARCHIPELAGO.]

BOUGUER, PIERRE, was born at Croise, in Basses-Bretagne, February 16, 1698. The father was professor of mathematics in the seminary of St. Omer. He was placed under the instruction of his father in mathematics, and making considerable progress by himself, taught first at Croise, and afterwards at Hâvre-de-Grâce. In 1727 he gained the prize of the Academy of Sciences for a memoir on the method of inscribing ships; in 1729, for one on the method of observing the stars at sea and on astronomical refractions, his formula and results being the same as those afterwards given by Simpson, but more complicated in form; in 1731, for a method of observing the dip of the compass at sea. In 1732 he was presented to the office of astronomer of the French navy, and in the same year, he was commissioned to accompany Bougainville in his expedition, together with two Spanish commissioners, to proceed to Peru, for the purpose of measuring a degree of the meridian. Thither he accordingly departed in May, 1735, and remained till 1743. The most essential parts of the operation necessarily fell upon him, and he performed them comparatively new to the subject. This important operation, which is one of the best of its kind, was carried on under difficulties as great as were ever encountered by any scientific expedition. The inhabitants of the country were either French commissioners, or supposes them either to be heretics or sorcerers, or to have come in search of new gold mines. Even persons attached to the administration employed themselves in stirring up the minds of the people, and when at last they had procured the assassination of the commissioners, they procured the consequences by procuring a verdict of lunacy against himself, and another by taking orders. The country itself
was difficult and dangerous: and this obstacle was increased by jealousies which arose between the French and Spanish commissioners, as well as between Bouguer and La Condamine. For a time it was feared that the success of the expedition, suspected that the latter would appropriate an undue share of the merit to himself. The consequence was, however, of no harm to the real objects of the expedition, but perhaps rather the contrary; for it caused Bouguer to make a more careful preparation than he would otherwise have done; and Antonio de Ulloa to conduct their operations separately, while the near accordance of the three in their results was a favourable presumpion for their accuracy. The results did not differ from their average by a five-thousandth part of the whole, in the length of a degree, in their meridian.

The leisure which impediments occasionally gave enabled Bouguer to apply himself to the determination of points not immediately connected with the main object. Among other things, he ascertained the amount of refraction at considerable heights above the horizon. He found reason to suspect the effect of the attraction of Chimbampa upon the plumb-line, but not knowing the mean density of the mountain, could not perform the task which Maskelyne afterwards undertook. [Attraction.] A part of the observations (on the obliquity of the ecliptic) were forwarded as soon as made to Halley, who published them in 1739 in England: but an account of the whole was published in Paris, in 1740, under the title of 'Figure de la terre,' &c. In 1752 followed a justificatory tract on several disputed points, which was hailed as a hero of science, and published, in part, by Lacaille in 1769, and reprinted in 1781 and in 1792, with notes by Lalande. In 1754 Bouguer published an attack on La Condamine, relative to the part of the great survey claimed by both. The latter replied with temper; and the dispute was waged (in an observation both of Condorcet and Biot), he carried the public with him. It seems to be admitted on all sides, that Bouguer had no ground of offence whatsoever, and that La Condamine behaved towards him with great respect and moderation.

Bouguer was afterwards employed to verify the degree measured by Dominico Cassini between Paris and Amiens. This he did in conjunction with Cassini de Thury, Camus, and Pingré. The results were published in 1757. He died August 10, 1762, of an inflammation on the gradual extinction of light, which was afterwards completed and published by Lacaille in 1760. In this work he mentions an invention of his in 1748, which he calls the heliometer, and which is in fact the first double object glass microscope. In 1756 it is thought, of Dufay, that he invented the double glass, which is the more easily used, and is esteemed the better instrument, was invented independently a few years afterwards, and consists in an object-glass divided into two halves. [Micromet. Bouguer attacks the Royal Society of London for their non-acceptance of the proceeding mentioned in the life of Auzout, and had published (but not till after Bouguer's discovery had been made known) the prior invention of an Englishman named Savery. He reminds them of the circumstances to which we have just referred, and, as Dalambrequ remarks, having a better case than against La Condamine, he is more moderate in his language.

As a scientific character, Bouguer must stand in the first rank of utility. The operations in Peru are among the first of his observations, one of the most difficult kind of scientific investigations.

BOUHOURS, DOMINIQUE, was born at Paris, 1629. He studied at the college of Clermont, professed with the Jesuits at sixteen years of age, and was appointed by that society to read lectures in the Belles Lettres and rhetoric, both at Tours and at Paris. A heavy infirmity soon disqualified him from the task, and he was compelled by the recurrence of grievous headaches to embrace an occupation apparently just as ill-adapted as that which he quitted to receive the education of the sons of Henry, de Due longueville. That nobleman, who regarded him with singular affection, died in his arms, and Bouhours published an account of his illness and last moments, Paris, 1633. His second publication was Histoire de la Compagnie des Indes, which has been translated into English. He was then engaged on a commission to the Roman Catholic refugees from England to Dunkirk; and was introduced to the substantial patronage of Colbert by two critical works, Remarques et Doutes sur la Langue Francaise, et Les Entretiens d'Ariste et d'Eugène, 1671. In the latter occurs a question most offensive to German national pride, 'Whether it be possible for a German to be a poet?' It was, however, awarded a host of critics. Baillet affirmed that few exceeded Bouhours in knowledge of French stile et des locutions: and the Jugemens des Savans contain more than one very favourable opinion from the censors of Trevoxy. Ménage, in his native tongue, expressed a just, unknown perspicuity in the world as to the general principles of grammar; and that his Doutes contained more faults in language, learning, and judgment, than they filled pages; that he had never read the bible; that he was unversed in Italian, concerning which he wrote a great tract, than unskilful theologian, and an unsound logician. Notwithstanding this cutting and ferocious declamation, it is said that Bouhours cultivated and enjoyed the friendship of Ménage; and Colbert certainly assigned to him the education of his son, the Marquis de Seignelay. His other chief works were Dialogues sur la manière de bien penser dans les Oeuvres d'Esprit, 1687, in which the interlocutors Eudeox and Philante address each other in a strain of adulatory compliments little suited to the investigation of truth. Voiture is spoken of as a Religieux de Saint-Père, to whom he addressed his Dialogues. In 1683 Bouhours published a Life of Ignatius, and not long afterwards one of Francis Xavier. The latter is chiefly remarkable as having been selected for translation by Dryden soon after his profession of the Romish faith. Xavier was the saint, to whose patron Saint, of Anna of Austria, believed that she was indebted for her son, Louis XIV., after twenty years of barrenness; and Dryden, in his Preface to Mary of Esté, states that the queen of England in like manner has chosen the apostle of the Indies as 'one of her celestial courtiers.' As a judicious and elegant writer, that Life of Xavier, excluding all that is incredible, profane, trivial, and absurd, but fully exhibiting the heroic self-devotion, the courage, the patience, the acuteness, and the perfection of the indefatigable missionary, would be a work of deep interest, and of great utility to the history of Europe in the service of John Casimir, king of Poland.

Nothing more of his life is remembered, but such of his works (which were many, see the Bibliogr. Univ. and Lalande Bibliogr. Astron.) as by themselves or their consequences enable him to rank among the great men of science. Bouillau was a combination of a fanciful sculptor and a hard-working calculator, a good scholar, and well versed in the history of astronomy. His notion that light is a sort of substance intermediate between mind and matter enables him to the first application, and his Phisicall astronomy to the rest.

The earlier followers of Copernicus were accustomed to rank themselves, and to be considered by others, as followers of some one or other among the sages who advocated, or were supposed to advocate, the system. In the first place, there was Pythagoras, Aristarchus, or Philebus. The first work we shall notice of Bouillau is his Philolus, seu de vero Systemate Mundi, 1639. After this he gave an edition of Theon of Smyrna, 1644, and in the following year his Philolus, seu de vera Astronomia (with an Astronomical library he calls it Astrologia), which contains: 1. Prærogomena on the history of astronomy, which are often cited, and are the basis of several facts. 2. An exposition of a system of astronomy, which is Copernican as to the annual
motion of the earth and Ptolemaic as to the diurnal motion, and the precession of the equinoxes. It is throughout an attack upon the laws of Kepler, of which he only admits the image of the planets to move in ellipses. Each ellipse he treats as the section of an oblique cone, one of the focus of which is in the axis, (the sun being in the other focus,) and he asserts that the planets describe equal angles in equal times round the axis, or rather that a plane passing through the two foci of the ellipse is said to describe equal times. The celebrated hypothesis of Dr. Seth Ward consists in supposing the planet to describe equal angles in equal times about the foci of which the sun is not. Both hypotheses are very nearly true for ellipses of small excentricity, and of the two, that of Brouillon is said to have a little to the right. Seth Ward replied to Brouillon in his Idea Trigonometriae Demonstrata, &c. Oxford, 1654, and the latter rejoined in a tract entitled Astr. Phil. fundamenta clavis eripita, Paris, 1657. 3. A set of tables, styled Pholotactes, calculated for the meridian of Paris (Tycho Bræe’s Observatory). Brouillon here makes use of various Arab observations detected by himself in the Bibliothèque Royale. It must also be noticed that he was the first who disinterred the observations of Thitus [Astronomy, vol. ii. p. 632]. These tables have received great praise, and are not without their merits: but most of their value consists in what is taken from Kepler’s methods, or from the Rudolphine Tables.

Brouillon imagined that the laws of the planetary motion were derived from geometrical reasons. He blames Kepler for attending to any other method of determining a law. But still he had the good fortune to make a guess, which, had he been Newton, would not have lain idle in his hands. He asserts, in opposition to Kepler, that the statement of Kepler’s law of the square of the time is not inversely as the distances, but inversely as the square of the distances. He is thus the first who started this notion. He has certainly the advantage of Kepler in another point, when he asks why the sun only attracts the planets, and why the planets only resist motion, and do not resist it. As the first sentence in which the law was (though but as a supposition) announced, which has since been found to regulate the motions of all the planets, must be a curiosity, we shall give it at length from p. 23 of his book: "Phil. vir unguis ad se partem declinans in planum similis ad sectam in plano et rectam in planum, et per sectam in plano et rectam in plano eadem in omnem rectam sectam inversurum est, et lineae rectae cum illius formant angulum rectum." Brouillon’s method is still in use, and his results are still employed in the determination of the positions of the sun and planets.

We shall also mention of Brouillon his Opus novum ad demonstrandum Aequationes, Paris, 1678, which contains a collection of the researches contained in the Arith. infin. of Wallis, but not applied to geometry: and also his Catalogus Bibliothecae Thuaniana, made by him in conjunction with James and Peter Dupuis (Putanus), Paris, 1679. This is an excellent representation of the state of the library, and we shall have frequent occasion to quote it. (Bibl. Univ., Life by Delambre, and Delambre Hist. Ast. Mod.)

Among the tables of the Astronomia Philolatiae are the Rudolphine catalogue of stars; the catalogue of southern stars subject to the astrolabe, by A. van der Carmen. It was sent to Kepler by Bartichius from Bayer’s manuscripts; and some Persian tables brought into Europe by George Chrysococara.

BOUL, the canton of an ancient and duchy of that name, now forming part of the prov. of Luxembourg, is situated on the left bank of the river Seomy, and 14 m. from its junction with the Maase, in 49° 48’ N. lat. and 4° 59’ E. long. The duchy is on the W. side of Luxembourg, between it and Champagne, and under the French empire when the duchy, the duchy of the E. of the Seomy, and the Maase. It is a hilly district lying in the middle of the Ardennes.

Bouillon is a small neat town and contains about 2500 inh. It has two communal schools, in which 130 boys and 160 girls are instructed. The castle of Bouillon, which is said to be impregnable, is built upon a steep rock overlooking the town, but is itself commanded by the neighbouring hills.

The town and duchy of Bouillon were the hereditary possessions of Godfrey, the leader of the first crusade and king of Jerusalem, which city he took in 1099. To provide funds for his expedition, Godfrey sold the duchy to Albert, bishop of Liège, subject to the right of redemption on the part of the vassals. Godfrey, having died in the Holy Land, this right became the heir of his brothers, and remained for some time in the hands of the prince Bishop of Liège. The bishop having taken part in the war against France, Louis XIV. caused the town and castle of Bouillon to be seized in 1672, and at the congress of Nimeguen in 1678 stipulated for France. With the cession of Bouillon he promised to withdraw all his forces from the provinces for which it was not necessary. The cession of Bouillon was not, however, ratified by the Congress. The territory of Bouillon was, however, secured by the Treaty of Paris, 1763, and the town passed to Belgium. It is now an important town, with a large trade, and a considerable number of inhabitants. It is the seat of a bishopric, and is the center of a extensive district.

BOUVILLON, GODFREY (GODEFROY), DUKE OF The Ardenne, was the eldest son of Gustavus IV., count of Bouillon, a descendant of the female line from Charlemagne, and of Ida, daughter of Godfrey of Sierck, of the House of Basse- Lorraine. The date of his birth is not given, but the marriage of his parents took place in December, 1029. In his youth, Godfrey bore the great standard of the empire in the service of Henry IV. At the battle of Mersberg, Octo-

b. 2, 1071, he was slain off the field of battle by the tara Rodolph, who died on the following day in consequence of his wound; and Godfrey, whose distinguished bravery had been rewarded by the ducal title, was among the first who scaled the walls of Rome in the subsequent attack upon it. It is believed that remorse for the violation of the holy city of the west occasioned his vow of joining in the crusade which was to rescue the still more holy oriental metropolis. His celebrity in arms, his noble descent, and his general high reputation for both morals and valor, easily procured him the command of the German crusade, and his expedition; and 60,000 foot and 10,000 horsemen were placed under his immediate orders by the confederates. His gathering was formed on the banks of the Meuse and of the Moselle, and thence he advanced through Germany, Bohemia, and Poland, and by discarding himself to the good faith of Caroman, king of the last- named country, he removed the suspicions which had been justly excited in that prince and his subjects by the licentiousness of former pilgrims; and after a short delay, he was greatly assisted in his mission, and the Saracens by an essay of Hungarian cavalry. In union with the other divisions of the Latin army under the towers of Constantinople, he was employed in dispelling the not unreasonable jealousy displayed by Emperor Alexius; and afterwards, by the capture of Nicomedia, he received such a reward as to incite him to advance beyond the sea, and open the passage through Asia Minor. Antioch next fell before his arms, but not until it had detained him many months and had occasioned fearful loss. Among the pro-

digies of Godfrey’s (as some have supposed) however common-place, may here be recorded in its literal sense, the original historians of the crusades delight to record of their heroes, is an instance that Godfrey, on one occasion, during his siege, by a single stroke of his sword, split a Saracen from head to foot, and if this could be made the subject of a picture, it would be a fine piece of art. This was the only portion of the spot into the river Orontes, while the sitting half entered the town on horseback. In May, 1999, the crusaders advanced from Antioch and Laodicea to Jerusalem; and of the 50,000 men remaining alive, of whom one-half was unfit for service. The rest, while pursuing the hazardous diversion of the chase during his march through Pisidia, had been torn by a wild boar; and so greatly was he injured in this rough encounter,
that a litter became necessary for his conveyance over
Mount Taurus. On arriving at Jerusalem he eme wanged
his division on Mount Calvary, and after five weeks of
severest discipline. The City of Jerusalem was
raided by storm on July 15, 460 years after its conquest
by Omar. Three days of unsparring butchery succeeded
this brilliant triumph, during which the exertions of God-
fez were wholly inadequate to restrain the lawless passions of
the Christian army, after much intrigue, proclaimed
him first Latin King of Jerusalem; but his piety and mo-
dest forbearance rejected the title; and even when in the end
he consented to assume the inferior style of ‘Defender and
Father of the Holy City’ he remained in refusal to wear any diadem in that city in which his Redeemer had
been crowned with thorns. He secured himself in the
government to which he had thus been honourably elevated,
by totally overthowing the myriads brought against him by
the Sultan of Egypt, at Ascalon, Aug. 12, 1399. With the
assistance and advice of those pilgrims who were best skilled
in European jurisprudence, Godfrey compiled and promul-
gated a code named Les Assises de Jerusalem; which,
finally revised towards the close of the fourteenth century
for the use of the Latin kingdom of Cyprus, is printed in old
French in Beaumanoir’s Coutumes de Beaumanoir; Bourges
and Paris, 1690. Godfrey died in the year 1100, after much
too short a reign for the glory and happiness of his newly-
established kingdom. His virtues and talents are now chiefly
remembered by the scholasticism to which they are attached
they are fully avouched by the concurrent testimony of his-
torians frequently differing on other points.

BOULAC. [Cairo.]
BOULAINVILLIERS, HENRI DE, Count of St.
Sairee, was the eldest son of an antient and noble family, of
Picard extraction. He was the eldest son of Francois, Count of
St. Saire, and of Susanne de Manneville; born at the place
from which he derived his hereditary title, October
21st, 1558. He studied at St. Julien, where he particularly
admitted himself to the pursuit of the science of history.
After a short period of military service, embar-
rassed family circumstances, arising chiefly from an imprud-
ent second marriage which his father contracted late in life,
induced him to quit the army, and to live upon his estates in
that capacity. His time was devoted to literature; but none
of his writings were published from his own MSS. till
after his death, which took place on January 23rd, 1722.
His works on different portions of the feudal history of his
own country occupy three volumes folio, and are charac-
terized by a minute research for the facts of the time, and a
true taste for a correct and judicious manner of writing.

BOULOGNE, or, as it is sometimes called, to distingui-
sh it from other places of the same name, BOULOGNE-SUR-
MER (i. e., on the sea), a port and town of France, in
the dep. of Pas de Calais. It lies about 10 or 11 m. S.
of the Cap de Gris Nez, and at the mouth of the little river
Liane or Liane, which falls into the English Channel
and forms the estuary of Boulogne. It is on a straight
line, or 137 m. by the road through Bouvais, Abbeville,
and Montreuil; in 50° 45' N. lat. and 1° 35' E. long.

Boulogne is a place of great antiquity. It was in the
country of the Morini, a tribe of the Belgae, and was known
to the Romans by the name of Gesoriaecum, according to
the testimony of Mela, a geographer who flourished in the
time of the Emperor Claudius. The manner in which Mela
speaks of it implies that it was of Gallic origin; and it was
in his days the chief port of the province of the same
name. Some writers, and among them Montfaucon, Cluverius,
Sanson, and Le Quien, have endeavoured to show that Bou-
logne was also the Portus Itius, from which Julius Caesar
embarked for Britain, in his first (according to Strabo) and
second expedition (according to Justin), C. 54 B.C., a
view which is rejected by D’Anville, who agrees with Du Cange,
and with our own antiquary Camden, in fixing the Portus
Itius at Witsand or Wissam, a small town near Cap de
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port of the country, and the seat of an episcopal see. Thus
it was the tower erected by Caligula, when he marched
to the coast of Gaul in order to invade Britain; and the
Emperor Claudius, according to Suetonius, embarked here for
that island. The port in Britain with which a communication
was chiefly maintained was Rutupia, now Richborough,
near Sandwich. About the time of the Emperor Con-
statine, the name of Bononia was substituted for that of Gesoria-
cum, and the latter is not used by Ammianus Marcellinus,
Eutropius, and other writers of a later period. In the No-
centine annals, S. 929, and in the chronicles of the Church
of Antiochus, mention is made of the Civitas Bononensis as
distinct from the Civitas Morinorum, which indicates that
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empires, and that the part forming the Bononia, which was
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When, in the latter part of the third century, Carausius
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sessed himself of Bononia, which appears to have been one of
the Roman naval stations, for Carausius, before his
death, had his standard set upon the summit of the head of
the sea of pirates. This town was in consequence besieged by the
Cesar Constantianus Chlorus, father of Constantine the Great.
The siege, which ended in the capture of the town, was the
occasion of serious detriment to it. In the fifth century
Bononia is said to have been captured by Attila king of the Huns;
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* * * *

Les Boulevards Villeneuve.

The boulevards of Paris form a remarkable feature of
that capital. Those on the N. side of the Seine form a
continuous line of wide street or road, planted on each side
with elm-trees, that separate the houses of the city from
the Seine which runs rather a semi-ellipse, and extending in length to nearly
three miles, from the church of La Madeleine to the site of the
Bastile. They are about midway between the river and the
wall of Paris, which again is surrounded by a road planted
with trees, and the upper end of which terminates in a wall.
These boulevards are not worthy of much notice. They abound with places
of amusement for the working classes of Paris; and as the
duty on wine is not paid except it is actually conveyed
within the barriers, all the cheap wine-shops are on these
boulevards, which are not generally inviting as a mere
promenade.

The boulevards on the S. side of the Seine are planted
and laid out like those above mentioned, but are more ex-
tensive, and approach in some places close to the wall and
make the inhabitants of the quarter of the Seine enviable.

These boulevards are on the site of the walls of Paris
demolished by Louis XIV. (Paris and its Historical Scenes
in the Library of Entertaining Knowledge.)

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and in fine weather of the coast of England. There are three
gates by which to enter the town. The walls of the
tower town have been destroyed. The citadel or castle, which
remains, is a ruinous masonry on a raised platform, or 

BOU

laid waste by the Northmen, who had landed just by.
(D'Anville; Expilly, Dict.) From the discovery of a ring to
which the cables of vessels were fastened, it is thought
that the ships lay in the same place as far as the present town
de Boulogne, in which case Gesoriacum must have been at
the bottom of a small bay.

Several Roman antiquities have been discovered at Bou-
logne; among these are medals and tombs. During 1825,
1826, and 1827, a large number of these discoveries were
made. Those discovered in 1826 were close to the sea; those
discovered in 1825 and 1827 were a little out of the town, on the
right of the road to Paris. The coffins in these last-mentioned
tombs were ranged in regular order, and the bones (some of
which bore the marks of deep wounds) were in good con-
servation. Several wells, a Roman road, and the founda-
tions of what was considered to be a votive altar, were discov-
ered at the same place; also many vases of different forms,
and a great number of medals. Similar discoveries had been
made at Caligula, as mentioned above. It was an octagon,
and each side is said to have been about 24 or 25 French
(equal to 266 or 268 English) ft. (at the base we presume),
and it rose to the height of 132 ft. * * Road twenty stages or
floors, and the diameter of the tower appears to have dimi-
nished 3 ft. at each stage, so as to form so many external gal-

BOU

lieries of a foot and a half in width, going all round the tower.
On the top of the tower lights were placed, so that it served
as a beacon and a signal. If any attack had been intended
the tower was built in a manner somewhat similar to that of
the Palais des Thermes, a Roman edifice at Paris. It was
built with iron grey-stone, three tiers together, succeeded
by a double tier of a yellow stone of a softer texture, and
on the top by a very hard stone. At the time of its erection it stood
more than a bow-shot from the sea, but the cliff was so much
excavated by the waves, and fell in so far, that the tower was at last undermined
and overthrown in the year 1644. It had been
Château d'Or, in the early part of the ninth century; and
when the English were in possession of Boulogne they sur-
rounded this tower with a wall and towers, so as to convert
it into a donjon or keep of a fortress. These walls and
towers shared the fate of the original edifice and in 1644
overthrown by the advance of the sea. The tower was
named in the middle ages 'Turris ordans' (supposed to be
a corruption of ardens, burning) or ordensis; and it is still
spoken of as the Tour d'Orde. There were in the middle
of the last century 152 towers, of these 48 still remain,
built of the materials as the above-mentioned towers.

In the year 1321 Philippe of France, son of the King Phi-
lippe Augustus, casued new walls to be built inclosing
a smaller space than had been occupied by the Roman town.
The walls were placed at the distance of the upper
(termed) of the eastern angle of which a citadel or castle
was built by the same Philippe. Boulogne had before this
time been erected into a county, of which he had acquired
possession by marriage. Boulogne now became a frontier
fortress. The old fortress of Boulogne was first taken by
the English in 1346. It is said the town was defended
by means in his power: he fortified the Tour d'Orde,
as already noticed, ordered another fort to be built between
that and the called la Maison Rouge, and some others
in different places. But by treaty, in 1350, Edward VI.
(when his name was stoutly-hold) had to defend himself,
while Boulogne was in possession of the English Herbert II. of France. It built
forts very near the town in order to straiten and annoy
the garrison.

After the recovery of the place from foreign dominion,
the English, which had risen as a sumptuous and noble
within the town, on the side next to the riv, was surrounded by walls
and the upper town strengthened by towers and other new
works; but in 1667, by order of the king, the towers were
blown up, and there remained to the upper town only the
wall which encircled it, the cisterns of the bulwark;
and to the lower town only a portion of its wall.
The walls of the upper town are still standing; they are
planted with a double row of trees, and afford a delightful
prospect, commanding a view of the lower town, the sea,
in the country: an infant asylum for children from 18 months to 6 years, provides for 120 young children of des-
stitute parents. There is a humane society for the recovery of
drowned persons. There are two girls’ free-schools, and
three boys’ free-schools, in the town. There are also 750
children; elementary free-schools for about 1200 boys
under the direction of the Frères de la Doctrine Chrétien-
te; a Lancasterian free-school; a free-school for navi-
gation, and two or three institutions which may be de-
cs. The fine art of building has been said to be any Collège Royal or high school at Boulogne, but there is
an abundance of private seminaries both French and
English; and there are academies for music and drawing,
in which gratuitous instruction is given. There is a museum
of natural history, with works of art, objects of art, &c.; also a good
public library of above 32,000 volumes and 300 MSS.; an
agricultural society, a society of the friends of the arts, and
a philarmonic society. Of places of amusement may
be mentioned the theatre, and the splendid bathing establish-
ment at comprising reading, music, assembly and gym-
rooms. Horse races have just been established, and balls,
fairs, and several fêtes in the neighbourhood called Ducsaisse,
fill up the circle of amusements.

The har. of Boulogne has been much improved of late
years, but is still difficult of access, and has not water
even when the tide is out. It consists of the channel of the
riv. Liane, and of a semicircular basin on the left
bank of the riv. At low water the vessels rest in the
mud, through which the stream finds its way to the ocean.
From the ocean the craft can enter the town on a course of
2000 ft. into the sea. The trade of the town is consid-
derable and is increasing. The fisheries are important.
The herring and mackerel seasons call into employment a
considerable capital, and several vessels are fitted out for the
fishery for mackerel. The farmers form a particular class in society, and their customs, dress, language
and habits remain almost the same amidst the changes
which the intercourse with foreigners has been working
in other classes. They are very superstitious.

Boulogne is the see of a bishopric, erected in the 16th century from part of the former
diocese of Thérouanne. It has now again lost its episcopal
rank. The cathedral, which was destroyed in the Revolution,
was considered one of the most ancient religious edifices in
France. Before the Revolution were some monasteries now
suppressed.

Boulogne was the birth-place of Thurout, an eminent
French naval officer: Le Sage, the author of "Gil Bias,"
and the English poet Churchill died here.

About a mile from Boulogne on the Calais road is the
column voted by the grand army to Napoleon as an expres-
sion of their esteem and admiration. It was also designed to
commemorate the victory of St. Jean deuz. Each soldier contributed a portion of his pay, and the first
stone was laid by Marshal Soult; but the work was not
finished till the reign of Louis XVIII., when the monument
was erected from its original purpose, being made to com-
memorate the return of the Bourbons, and in place of the
statue of Napoleon, by which it was to have been sur-
mounted, a gilt globe, adorned with fleurs de lis, has been
substituted. It is now however likely to be restored to its
original purpose of a monument in honour of Napoleon, and
may be considered a vase, for to be a vase as the bronze for the intended statue. The column is of the
Composite order, about 160 English ft. high, and more than
13 in diameter. There is a staircase within by which
visitors ascend to an iron gallery round the ball which sur-
mounts the column, from which gallery is a very extensive
prospect. The column is composed of marble from the
quarries of Marquesi in the neighbourhood. In the envi-
nions of Boulogne is the botanical garden, formed in 1784
by the Baron de Courcut, considered to be one of the finest
and most extensive in France. It contains a most extensive
and beautiful collection of plants, and is much visited by the
inhabitants or visitors of Boulogne.

BOULOGNE, a village in the immediate neighbour-
hood of Paris, to the S.W. of that city, is upon the right bank
of the river Oise. It was a fort in ancient times, and
was called Menu. About the fourteenth century a brother-
hood was formed here in honour of the Virgin by some
inhabitants of Paris who had returned from a pilgrimage
to Boulogne-sur-Mer. The chapel built by the brethren
of this community became crowded by the devotees of
Paris, and the vil. acquired the name of Boulogne, from
the name of the village where the pilgrimage was com-
pulsory. The population of the com. was, in 1832, 5391; of the vil. itself, 3216. Between Paris and the vil. of Boulogne extends the
Bois de Boulogne, an extensive wood intersected in all di-
rections by alleys and roads. Many of the fine trees which
have been here planted are now large, and there is an
extensive copse thinly scattered with young plants.
"Much of the wood was destroyed by the Prussians, when
they had their camp here at the close of the last war. In
passion week, the wood is the scene of an annual procession,
at which hymn-sheets are sold to the pilgrims by the
 inhabitants of little else than a string of vehicles filled by people desirous of
being as gay and merry as possible.

In the Bois de Boulogne were three Châteaux be-
longing to the royal family. That of Meitte, which was
acquired by Louis XV., is close to the vil. of Passy. The
Château de Madrid is said to have been built by
Francis I. after his return from captivity. This was de-
stroyed at the Revolution; of the present condition or use of
the Château de Meitte we have no late account. The third
château is that of Bagatelle, built by the ex-King of France,
Charles X., while Count d’Artois; and occupied, after the
restoration of the Bourbons, by his son the Duc de Berri.
The inscription over the portal, parvis sed apta ‘small but
convenient’, gives the true character of the place. (Planta’s
Parc de Paris.)

BOULONNOIS, a district in the former prov. of Pi-
cardie, deriving its name from its capital Boulogne-sur-
Mer, now forming part of the dep. of Pas de Calais. The
climate is rather cold, but the land is fertile in grain,
afforded great emolument for the peasants, whose milk
good butter is made. Some coal is dug, and
there are mineral springs. The Boulonnois was bounded on
the N. by the district in which Calais is situated, called the
Pays Reconnu, on the E. by Artois, on the S. by Ponthieu, and
on the W. by the sea; on the E. and W. it formed part of the
country of the Morini, a Belgian tribe. It appears to have become an her-
denry co. in the 9th century, and underwent various changes;
but its history does not present any points of interest. It
was re-united to the crown by Louis XI. (Expi. Dict.)

BOULTON, Matthew, was born Sept. 3rd, 1728,
at Birmingham, where his father carried on the business
of a hardwareman. He received an ordinary education at
a school at Deritend; and also acquired a knowledge of draw-
ing and mathematics. At the age of seventeen he effected
an invention, by which he shoed the boilers of his own
other articles of Birmingham manufacture. The death
of his father left him in possession of considerable property;
and in order to extend his commercial operations, he pur-
based, about 1762, a lease of Soho, near Handsworth, which
though only twenty-five years old, was in Staffordshire.
It would scarcely be possible to select a more striking instance of the beneficial changes
affected by the combined operations of industry, ingenuity,
and commerce, than that which was presented by Soho
after it had been some time in Mr. Boulton’s possession.
It had previously been a bleak and barren heath, but was
soon diversified by pleasure grounds, in the midst of which
stood Mr. Boulton’s spacious mansion, and a range of
extensive and commodious workshops capable of receiving
above a thousand artificers. These workshops were described as
the most perfect in the world, as being fitted for
striking both for their neatness and magnificence. In 1797
Mr. Boulton purchased the free-simple of this estate with
a considerable portion of land adjoining.

To Mr. Boulton’s active mind this country is eminently
indulged for the manner in which it extended its resources,
and brought into repute its manufacturing ingenuity.
Water was an inadequate moving power in succeeding his
designs, and he had recourse to steam. The old engine
on Savary’s plan was not adapted for some purposes in which
it was required. There was a dearth of shot, where his
workmanship of delicate and precise action. In 1769 Mr. Boulton
having entered into communication with Watt, who had
obtained a patent for some improvements in the steam-
engine, Watt was induced to settle at Soho. In 1775 part
of the Lombe patent of Mr. Boulton fell under the
protection of his patent for improvements in the steam-engine; and on
his entering into partnership with Mr. Boulton, the Solo
works soon became famous for their excellent engines. Dr. Ure remarks (Philosophy of Manufactures, p. 29) that there are many engines made by Boulton and Watt forty years ago, which have continued in constant work all that time with very slight repairs. Not only was the steam-engine itself brought to greater perfection, but its powers were increased. One great step in the progress was the success so remarkable as in the machinery for coining, which was put in motion by steam. The coining apparatus was first put into operation in 1783, but it soon underwent important improvements, until it was at length brought to an astonishing degree of perfection. One engine put in motion eight machines, each of which stamped on both sides and milled at the edges from seventy to eighty-four pieces in a minute; and the eight machines together completed in a style far superior to anything which had previously been attempted, from thenceforward, in an hour. The manufacture of plated wares, of works in bronze, and or molu, such as vases, candelabras, and other ornamental articles, was successively introduced at Soho, and the taste and excellence which these productions displayed soon obtained for them an unwarranted reputation in every part of the world. Artists and men of taste were warmly encouraged, and their talents called forth by Mr. Boulton's liberal spirit. The united labours of the two partners contributed to give that impulse to British industry which has been so fruitful.

Mr. Boulton has been described by Playfair as possessing a most generous and ardent mind, to which was added an enterprising spirit that led him to grapple with great and difficult undertakings. 'He was a man of address (continuing) that acquired the confidence, the regard, and the affection of all men.' Playfairium and his friends believed in the success of their projects. 'The people of all ranks with great freedom and without ceremony.' Watt, who survived Mr. Boulton, spoke of his deceased partner in the highest terms. He said, 'To his friendly encouragement, to his partiality for science, and to his liberal disposition to apply the discoveries to the purposes of art, to his intimate knowledge of business and manufactures, and to his extended views and liberal spirit, may in a great measure be ascribed whatever success may have attended my exertions.' Mr. Boulton explained the principles on which the Soho works were operated. He was the first to perfect the steam-engine, before Watt perfected the construction and occasional any return of profit.

Mr. Boulton died August 17th, 1809, in his 81st year. His remain's were attended to the grave by several thousand individuals, to whom medals were given, recording the age of the deceased and the day of his death. The body was borne to the grave by the oldest workmen connected with the works at Soho, and about five hundred persons belonging to that establishment joined in the procession. Mr. Boulton left, with the regret of the whole country, the Soho works.

BOUNTY, a term used to signify a premium paid by government to the producers, exporters, or importers of certain articles, or to those who employ ships in certain trades. (McClure's Dictionary of Commerce.) A distinction is made between bounty or bounties, which latter is not liable to the same objection as the former. Premiums given by the public to artists and manufacturers who excel in their particular occupations must also be regarded in a different light from bounties applied to the support of particular branches of commerce. [DRAWBACK: PREMIUM]

Perhaps the most objectionable and vicious mode of protecting the interests of commerce is by means of bounties. A tariff may be framed on such narrow and exclusive views as to exclude the home market to a country, but the evil consequences are less palpable; and hence bounties have ceased to be considered as advantageous to the general interest, while high or prohibitory import duties are more or less adopted by all commercial nations. The question of bounties and their policy is discussed by Adam Smith in his Wealth of Nations, book iv, chap. 5; and the subject has also been treated in a very comprehensive manner by the late Mr. Ricardo in his Principles of Political Economy and Taxation. Postlethwaite, in his Dictionary of Commerce, published in 1779, defines a bounty or bounties, refers to a work specially dedicated to this and similar subjects; and the reason he alleges for so doing is that they are very numerous. After the publication of Adam Smith's work bounties began to be regarded with less favour, and have at length sunk into complete discredit. They are now no more relied upon as a means of furthering the true interests of commerce than the balance of trade, as it was termed, is regarded as an unfailing indication of the increase or diminution of national prosperity. With this latter notion, indeed, the policy of bounties was very materially connected. It was thought that they operated in turning the balance in our favour. Adam Smith says (chapter 2, section 12): 'Manufacturers, as every other class of workmen, are threatened if the government does not undertake to secure their goods as cheap or cheaper than their rivals in the foreign markets. . . . We cannot (he adds) force foreigners to buy our goods, as we have done our own countrymen. The next best expedient, it has been thought, therefore, is to provide them for buying.' Bounties in truth effect nothing more than this, and the chapter from which the above extracts are made affords the most satisfactory proofs of their impolicy. The propositions maintained are, that every trade is not a nation, and that a nation, when it has developed manufactures, is not able to produce an unprofitable article, and this particular branch of industry will soon become extinct. It perhaps happens that the general interests of the country are thought to be peculiarly connected with the species of industry in question. Observe what, then, is the end of a bounty, in order to prevent its falling into decay. At this point commences the operation of bounties, which are devised for the purpose of producing an equilibrium between the cost of production, the market price, and a remunerating price, the last of which is often the pivot on which the remunerability of every species of industry depends. Smith observes 'The bounty is given in order to make up this loss, and to encourage a man to continue or perhaps to begin a trade of which the expense is supposed to be greater than the returns; of which every member is threatened with ruin, and which is of such a nature, that if all other trades resembled it there would soon be no capital left in the country.' And he adds:--'The trades, it is to be observed, which are carried on by means of bounties are the only ones which can be carried on between two countries a considerable time together, in such a manner as that one of them shall always and regularly lose, or sell its goods for less than they really cost. . . . The effect of bounties, therefore, can only be to force the trade of a country into a channel which cannot succeed better than that in which it would naturally run of its own accord.'

One of the most striking instances of the failure of the bounty system occurred about the middle of the last century in connection with the white herring fishery. A joint stock company was formed in a small part of Scalby parish for the purpose of vigorously prosecuting this branch of our fisheries; and though in addition to a bounty of 30s. a ton the Company was allowed an exportation bounty of 2s. 6d. a barrel, the delivery of British and foreign salt free, and a thousand other inducements, the trade being wholly paid for by the government, yet, in spite of such extraordinary encouragement, the greatest portion of the capital employed was lost. Individuals, for the sake of the bounties, rashly ventured into the business without a knowledge of its nature and its continuance, while the government was paying on in the most economical and judicious manner.

The bounty on the exportation of corn was given up in 1815, and those on the exportation of linen and other articles ceased in 1830. The following (Government Official Tables, p. 4) shows that bounties will probably soon cease to be considered as forming any part of our commercial policy:

**Bounties for promoting Fisheries, Linen Manufactures, &c. in the United Kingdom.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1822</td>
<td>445,162</td>
</tr>
<tr>
<td>1823</td>
<td>483,056</td>
</tr>
<tr>
<td>1824</td>
<td>506,228</td>
</tr>
<tr>
<td>1825</td>
<td>429,162</td>
</tr>
<tr>
<td>1826</td>
<td>315,339</td>
</tr>
<tr>
<td>1827</td>
<td>394,056</td>
</tr>
</tbody>
</table>

849,199 | 14 | 10 |

823,941 | 4 | 5 |

199,263 | 5 | 15 |

170,999 | 5 | 15 |

76,678 | 3 | 15 |

6,719 | 9 | 15 |
Bounty, Mutiny of the. [Byron.]
Bounty, Queen Anne's. [Benjamin.]

Bourbon, the name of a family that succeeded the line of Valois in 1553, and has reigned in France from 1589 to the present time, with some interruption during the republic and the empire of Napoleon Buonaparte. The families, both of Valois and Bourbon, were branches of the stock of Capet. The Bourbons had branched off earlier than the Valois; the former being descended from a son of St. Louis, the latter from a brother of Philip the Fair. The genealogy of the Bourbons, here given, is chiefly taken from the elaborate work of M. Desormeaux, historiographer of the House of Bourbon, &c. &c. This work is de l'imprimerie royale, and may be considered as an official document and the best authority on the points within its province. The following have also been consulted:—Histoire des Bourbons, 4 vols. 12mo., à Paris, 1793. Memoires et Recueil de l'origine, Alliances, et succession de la famille Royale de Bourbon, Branche de la Maison de France, a la Rochelle, 1537. Cox's Memoirs of the Kings of Spain in the House of Bourbon. The ancestor of the Bourbon branch of the royal family of France was Robert the sixth and youngest son of Louis IX. commonly called St. Louis, a title which few of the so-called Saints have better earned, if the virtues of justice, temperance, and rigid probity confer a claim to that title.

Robert was born in 1256. In 1270 his father set out on his African expedition, where he perished before Tunis. Philip the Hardy, successor of St. Louis, gave Robert in marriage to Beatrice of Burgundy, a princess of the blood, only daughter and heiress of John of Burgundy, baron of Charolais, and of Agnes, dame de Bourbon and St. Just, daughter of Archambault, sieur de Bourbon. By this marriage Robert united to his appanage of the comté de Clermont, the province of the Bourbonnais, and the Charolais, and the seigneurie of St. Just. His descendants took the name of Bourbon.

St. Louis.

Robert, Count de Clermont.
Louis I, Duke of Bourbon.

Jacques de Bourbon, Count of la Marche.
John, Count of la Marche, married Catherine de Vendôme.

Jacques II, Count of la Marche.

Louis de Bourbon, Count de Vendôme, ancestor of the Duke of Orleans. He married Claude de Vendôme, and of the royal family of France of the name of Bourbon.
Antoine de Bourbon, Duke de Vendôme, by marrying Jeanne d'Albert, became King Navarre.

Louis, first Prince de Condé, from whom are descended the branches of Condé and Orléans.

Philip, Duke of Orleans. (Regent Orleans.) Dauphin (Monsieur), son of Louis XIV.

Louis II, Duke of Bourbon.

Denis, Duke of Bourbon, by the will of Charles II.
Louis XIV.

Louis, Duke of Bourbon, and son of Louis XVI.

Louis Philippe, ditto.

Louis Philippe Auguste Egide.

Louis Philippe, now King of the French.

In the time of Robert's son, Louis, the Bourbonnais was created into a duché pairie. Therefore, upon the death of the last of that line, the title of duke of Bourbon, retaining the arms of France, Duché pairie at that time denoted very high power and dignity. At the time of this creation there were in France only the dukes of Burgundy, Aquitaine and Brittany, and the title of pair was only bestowed on the children of the king, the princes of the blood, and seigneurs of the most noble title. A younger son of this Louis, duke de Bourbon, married Jacques de Bourbon, Count of la Marche and de Ponthieu. The domain of Vendôme having come, as that of Bourbon had done before to Robert, to the second Count of la Marche by marriage, his second son assumed the name of Bourbon Vendôme, and from him descended the branch of which the last is extinct on the death of the famous Constable de Bourbon. The preceding table will convey at once a more distinct idea of the course of descent, and will give a synoptical and at the same time clear view of the branches of the Bourbon stock, which have more immediately given kings to France. It has not been judged necessary to give all the counts and dukes de Vendôme. A hiatus has therefore been left between Louis de Bourbon, the first count de Vendôme, and Antoine de Bourbon, duke de Vendôme, and king of Navarre, the husband of Henriette IV. of France.

Bourbon, CHARLES DE, Constable of France, commonly called the Constable de Bourbon, or the Constable Bourbon, was born on the 17th of February, 1489. He was of the Montpensier branch of the Bourbon family, being the second son of Gilbert de Bourbon, count of Montpensier, viceroy of the kingdom of Naples. By the death of his brother at the age of eighteen, he became the eldest son of his branch, on which the principal territories of the Bourbons were entailed. He was educated at Moulins, the principal town of the branch of Bourbon, and situated in the centre of their large possessions. He was carefully trained in all the athletic exercises, which were regarded as by far the most important part of the education of the nobility of his time. But while his physical education was of the highest, it did not at all unseat his mental: and the manner in which he received the lessons which were given him in the science of war, as far as it could then be called a science, gave indication of no inconsiderable capacity; while his general behaviour indicated more thought than could be expected from his years.

The last duke de Bourbon, Pierre II, died leaving a daughter, Suzanne de Bourbon, who had been betrothed to the duke d'Alençon. It being considered impolitic to allow so many domains to accumulate in the person of the duc d'Alençon, and there being also a double respecting Suzanne de Bourbon's title, Louis XIV. appointed a commission, composed of princes, ministers, seigneurs, councillors of state, and lawyers, to examine the respective titles of Suzanne de Bourbon and that of the Montpensier. The commissioners reported that the right of Montpensier appeared incontestable, but they proposed to settle the dispute by marrying the two claimants. Louis XIV. approved of the recommendation, and the marriage took place accordingly. It required all the persuasion of the damoiselle de Bourbon to this compromise, for, should she refuse to supply herself presided over his education, of the superiority of the young count de Montpensier, in mental as well as bodily accomplishments, in capacity of understanding, as well as of beauty, strength, and address over not only most nobles, but most men of his time.

In the marriage articles it was stipulated, 1st, that there should be a cession of all their property in favor of the survivor; 2nd, that the children who should be born of the marriage should inherit all the domains of house of Bourbon; 3rd, that the failure of the branch of the children of the wife should devolve on Francis, Monseigneur de Bourbon, only brother of Montpensier; 4th, Montpensier assigned a jointure of 10,000 livres a year to his wife on the Bourbonnais. The king renounced for himself and his successors the pretended rights which the treaty of marriage of the duke Pierre II. with Anne of France, daughter of Louis XIV., gave to the crown over all the property of the House of Bourbon, if he should die without male children.

Having become the richest of all the princes of his house, who have not reigned over the crown, the first recognition of the new duke de Bourbon corresponded with his wealth. He never travelled without a brilliant body of horse-guards, and without being surrounded by the chief noblesse of his domains, and his principal officers, who composed a court little inferior to that of a king.

The first essay in arms of the duke was in the expedition which Louis XIV. made in person into Italy. In this expedition Bourbon devoured himself with much industry and
seal to the study of strategies. He selected for his friends and masters La Trompille, Bayard, and others, who were distinguished as military leaders. He conversed with them on plans of campaigns, marches, encampments, on the details of discipline and existence. From the generals he went to subordinate officers who had acquired reputation. At night, when he retired to his tent or his cabinet, he reduced to writing his observations and the result of his conferences. Such is the labour of those, if we may be allowed to transfer the sentence of Johnson, who fights for immortality.

Bourbon returned to France in 1599. In the war of the league of Cambray he had an opportunity of displaying his talents for strategy. Upon the death of Gaston de Foix, in 1512, the army of Italy demanded with acclamations Bourbon for their leader. But Louis XII. did not comply with its wishes. It is reported that he appeared to be somewhat afraid of Bourbon; that he was heard to say that he should have wished to see in him more condescension, more gravity, and less tactiousness. 'Nothing is worse,' added he, 'than the water which sleeps.'

Upon the accession of Francis I. to the crown, Bourbon was immediately (1515) appointed constable. It will afford some notion both of the character of the times and the influence of the duke of Bourbon, to mention that at the king's coronation, when Bourbon represented the duke of Normandy, his suite consisted of two hundred noblemen.

The constable devoted himself assiduously to the duties of his office, and in the most important of the government by which France was governed. He introduced many important regulations respecting the discipline of the troops. He particularly directed his attention to the protection of the citizens and peasants against the insolence and oppression of the feudal gentry. His government was characterised by a considerable administrative talent: and his unbounding austerity in enforcing the rules he had laid down showed that he fully understood how much a severe discipline conduces to victory. The sensible effects of this system were shown very clearly in the victory of Marignano, which was mainly owing to Bourbon's skill and valour.

Our space will only permit the notice of as many of the events in which Bourbon was engaged as are necessary to the understanding of the main incidents which determined his character and shaped his destiny. And these events, in a work like the present, are of more importance than perhaps they may appear to superficial inquirers; for the events of Bourbon's later career might be said to have influenced in an inconsiderable degree the destinies of Europe, and hence that of man.

When Francis I. returned to France in 1516, he left the constable in Lombardy as his lieutenant-general. While he proposed to the court the conquest of the kingdom of Naples was making preparations for this expedition, an unexpected invasion by the Emperor Maximilian of Austria took place. Against this irruption Bourbon's first proceeding was to repair the fortifications of Milan, for which purpose he levied a body of 6000 pikemen, and, being short of money, loaned his high character in condition to grant him any aid, he applied to Albert de la Piére, a renowned captain of the canton of Zürich; and he obtained, by his own credit, permission to levy a body of 12,000 men, for which purpose the count had a pretext. The length arrived and received three months' pay in advance, refused to go out and attack the emperor, who was encamped at the gates of the town, on the plea that they would not slaughter their fellow-countrymen attached to the service of the emperor. Bourbon disregarded the propriety of the act, and they coolly departed with his money in their pockets, with the exception of Albert de la Piére and his company of 300 men. It happened fortunately however that the Swiss in the emperor's army, to the number of 14,000, mutinied for an advance on Milan, and which the emperor had reckoned on discharging at the expense of the inhabitants of Milan. This event and its immediate consequences caused the dispersion of the formidable army of Maximilian.

When Bourbon appeared after these events at the French court, which was then at Lyons, he was received by Francis with great distinction. But gradually the king was observed to cool. Historians have usually ascribed this alteration of the king's behaviour towards Bourbon to the influence of his mother, Louis of Savoy, Duchess d'Angoulême. This princess, who at forty retained striking remains of beauty, and who was not a woman of very nice morality, is said to be contemptible in the eyes of Bourbon. Bourbon is said to have treated her advances with coldness and even disdain. The rage of a woman thus slighted has become proverbial; and Louis of Savoy was not one to belie the proverb. The king espoused the quarrel of his mother, the cause of which charity would suppose him ignorant. The consequence was, one of the most signal examples of ingratitude and injustice upon record.

They began by refusing the payment of the sums which he had borrowed in order to save the Milanese, as well as all his appointments as prince of the blood, constable and chamberlain of France, and governor of Languedoc. This, however, was light compared to what followed; and was the less to be considered as a wanton insult from the circumstance that Francis, partly by his own profligate expenditure, partly by the cupidity of his queen, was in want of money, notwithstanding the resources opened to him by the chancellor Du Prat, in the sale of the offices of the magistracy. A breach between Francis and Bourbon was more easily effected from the contrast between their characters, which was great. Francis was gay, open, glib, superficial, fond of pleasure, and averse from business; Bourbon was grave, reserved, thoughtful, profound, and laborious.

In April, 1521, the constable's wife, Suzanne de Bourbon, died. He had previously lost the three children he had by her.

The breach between the court and the constable daily widened. In a northern campaign against Charles V., Francis gave the command of the vanguard, which, by a practice established in the French armies, belonged to the constable. But the Duke of Alençon. From that moment Bourbon regarded himself as degraded from his dignity. He was frequently heard to quote that answer of a courtier to Charles VII., who asked if anything was capable of shaking his fidelity:—"No, Sire, no, not the offer of three kingdoms of France." Fresh injuries and insults were heaped upon Bourbon. The chancellor Du Prat, in the spirit of the vilest petit-fogger, by examining the titles of the house of Bourbon, thought he saw, that by perversion of some words, he might be able to deprive the constable of his estates, and convey them to the Duchesse d'Angoulême, or to the king. He explained to the duchess that she had a right to the greatest part of the property of the house of Bourbon, as the nearest relative of Suzanne de Bourbon, and that the rest reverted to the crown. Madame admired the ability and zeal of the chancellor, and entered fully into his views. She now flattered herself that Bourbon would choose rather to secure his rights by marrying her, than be reduced to misery. But the haughty and austere Bourbon, when his friends urgèd him to consider the state of his family, under the favourable light her power, wit, and riches, said that he was so sure of his right that he was ready to try it before any or all of the courts: he declared, moreover, that honour was far dearer to him than property, and that he would never incur the reproach of degrading himself so far as to share his bed with a profligate woman. The result of such a trial, under such a government as that of France at that time, may be easily foreseen. The parliament decreed that all the property, however small, of all the property, should be sequestrated: which was the case with Bourbon.

It will be unnecessary in a work like this, to follow Bourbon step by step in the disastrous route that conducted him from being the first subject in France, to be an exile and an outlaw. We have traced his career hitherto with some minuteness, as tending to throw light on the European governments in the sixteenth century. If such a thing had happened in France, two or perhaps even one century earlier, to a man so powerful as Bourbon, at one time a king of France, his family and estate, the probable result would have been very different. The only thing of which we are most likely have terminated in Charles of Bourbon filling the throne of France in the room of Francis of Valois. But about or somewhat before this time had arisen that devotion to a royalty, which would seem to have been first introduced by the plebeian legists or lawgivers. The royalists were everywhere led by self-interest to adopt such a measure, in order at once to obtain favour with royalty, and render royalty more able to advance and support them against the old noblesse.
of the sword. As it was, another fate was reserved for Bourbon.

Francis having obtained intelligence that Bourbon had entered into a secret correspondence with the Emperor Charles V, Bourbon, at the bidding of his native Austria, invaded France, which he did with some difficulty. Some proposals which were afterwards made to him by Francis were rejected by Bourbon, who had good reason to distrust his sincerity. Bourbon was now thrown upon Charles V, who, though not as weak as his grandson, as regards his reliance on his own strength, instead of a powerful ally, as he had first expected, appointed him his lieutenant-general in Italy. He surrounded him however with colleagues and spies.

In 1525 the result of the famous battle of Pavia, where Bourbon and the King of France were both taken prisoners, which he had raised professedly for the emperor's service, chiefly by means of his high military reputation, afforded him ample vengeance for his wrongs, in the destruction of the French army, and particularly in the capture of Francis, and the death of Bonnivet, his chief personal enemy. But Bourbon, although to his military talents and skill the victory at Pavia had been mainly owing, found that he was still regarded with distrust by Charles, and with jealousy by his generals. The slight and mortifications, too, to which he was subjected in his own army, and to which he submitted, rendered his position anything but an agreeable or easy one; and contributed, with the roving and unsettled life he had led since his exile, to produce in him something of the recklessness, and even ferocity of the bravos of Spain, and the insolence and contempt which heaped much of the genuine and legitimate character of large and wholesale robbery. It was in the complex state of mind, made up of some such elements as these, that he came to the resolution of acting independently of the emperor, and continuing the war which in half the reign of Francis I. had been going on. Fortune seemed to throw in his way one means of accomplishing this object, in attaching to himself, by the allurement of an immense booty, the army which the emperor did not pay. He formed the daring resolution of leading that army to Rome, where the basilical city, as the reservoir of the empire, and the church, and all the treasures of the church, a city so vast and magnificent, and he immediately proceeded to put it in execution.

This expedition has been considered one of the boldest recorded in history. Bourbon was obliged to abandon his communication with the Milanese, to march for more than a hundred leagues through an enemy's country, to cross rivers, to pass the Apennines, and to keep in check three armies. Add to this, what rendered the enterprise important as distinguishing it from others of a similar nature undertaken by large robbers, the moral danger and difficulty of attacking the very centre of the power of catholicism, the devastation it would produce in the quarter, and, to a certain extent, destroying the powerful spell by which it had so long bound up the faculties of mankind. We do not think that the praise of any high exercise of moral courage is due on this score to Bourbon, for it does not appear to us that, even if there had been no consequences hinted at above, but chiefly, if not solely, by the necessity of the circumstances in which he was placed.

On the evening of the 5th of May, 1527, Bourbon arrived before Rome. On the following morning, at day-break, he commenced the assault, being in the first man who first mounted the wall, and also, according to the French historian, the first who fell, by a shot fired, it is said, by a priest. Benvenuto Cellini says, that it was he who shot Bourbon; and Guicciardini does not clear up the point. It is certain that he was among the foremost, and that he fell in the beginning of the assault, and that his army took the city, in which they committed all, and more than all, the usual excesses of a sack.

Charles V. made it one of the conditions of peace with Francis, that the possessions of the constable should be restored to his family, and his memory re-established. Francis eluded, as much as he was able, the fulfilment of this condition. But the wreck of the constable's fortune was sufficient to render obliged new house, Louis de Bourbon, Prince de La Tremouille, and afterwards Duke de Montpensier, one of the richest princes of the blood, although it did not form, perhaps, a third part of the revenues of the Duke de Bourbon.

Bourbon is reported to have been one of the handsomest men of his age; and he is said to have been an exemplary husband, and free from the gross licentiousness of the times. He was much beloved by his vassals, who with that resolution incredulity which is sometimes observed in uneducated persons with respect to any report injurious to those they love or respect, refused to believe the account of his death, and persisted in expecting to see him return one day covered with glory, to the great satisfaction of his devoted vassals.

The authorities the same as in the preceding article, with the addition of the French historians and Guicciardini.

BOURBON is situated in the Indian Ocean to the E. of Madagascar. The town of St. Denis at its N.W. extremity is in 26° 11' 30" S. lat., and 53° 30' E. long., and this place the island extends in a S.E. direction for about 60 m. with a breadth of about 45 m. The whole surface may be about 2400 sq. m., or about 400 sq. m. more than the area of Norfolk.

This island was discovered by the Portuguese navigator Mascarenhas in 1542, and at that time it was not inhabited. It received the name of Mascarenhas or Mascareigne. The French in 1642 sent some criminals from Madagascar to it, and settled a colony in 1649, when they gave it the name of Bourbon, which at the beginning of the French revolution was changed into that of Réunion, and afterwards into Bonaparte and Napoleon. In 1815, on the restoration of the Bourbons, the island resumed its old name of Bourbon.

Probably all the island owes its origin to volcanic agency. The greater part of its surface consists of lava, basalt and other volcanic productions, and on the remainder traces of such rocks are frequent. Towards the S.E. extremity there is a volcanic constantly in action, and naturalists who have had an opportunity of examining the high mountains around the bay between this and that point, there has also been an active volcano at some remote date.

The island consists of two systems of volcanic mountains and rocks, and a kind of plain which divides them. The north-western mountains form the larger system and cover one half of the island. Here rises a huge mass of lava with three inaccessible peaks, called the Salazes, whose absolute elevation is estimated by Bory de St. Vincent at nearly 1500 toises, or 4900 feet. The country surrounding this mass exhibits large tracts of lava and basaltic scoriae, but in some basins or vales. The basaltic prisms are frequently disposed in regular columns, but these as well as the lava rocks are frequently split by deep narrow crevices. The soil which covers only a small portion of this region is evidently the product of decomposed lava, and for the most part is still incapable of supporting any vegetation. It is of a red colour and resembles clay indurated by fire. At some places however it is softer, and has been planted with coffee-trees; and in others, forests of timber-trees are growing. The rivers are only torrents, which descend from the mountains at such a rate that it is dangerous to approach the water's edge. In some places others carry great volumes of water, which they pour down the steep declivities with incredible impetuosity. Their course is through extremely narrow gorges, and in deep beds. Navigating them is not an easy matter, and the Adjutant General. The shores of the island are rocky and from not generally very high, except along the S.W. coast between St. Paul and St. Petre. In a few places a narrow beach separates the rocks from the sea; it is composed of pieces of basalt and broken lava, which have undergone trituration in the sea, and afterwards been thrown ashore, intermixed with some calcareous pebbles and shells.

At the N.W. point of this region lies St. Denis, the capital of the island, with a pop. of 7000 or 8000. It has no harbour, and is only an extensive piazza, where a number of iron chains has been constructed for the purpose of enabling boats to land; at the end of it is a ladder by which persons who wish to go ashore may ascend; in all other parts of the island they must jump into the water. Approaches the town of St. Denis from the town of St. Paul, which is perhaps better, but no other place round from the island offers an anchoring ground for vessels.

The plains which separate this volcanic region from that in the S.E. district of the island, occupy perhaps one-third of the whole island. South-west of St. Denis, between the island, the plains of the Caflers and of the Lamplists, are divided by a rampart of volcanic rocks, and are at a considerable elevation above the level of the sea. From the S. shores the country rises gradually for some miles, then exposure a kind of upland, with the Caflers. Its surface is a succession of small plains, rising above one another and intersected by hillocks. At the S. extremity this plain is 3600 ft. above the sea, but
where it joins the plain of Cilao, towards the S.E. volcanic region, its elevation may be nearly 5600 ft. Its soil is entirely composed of triturated lava and other volcanic matter: a great part of it is without any kind of vegetation; in some places there are shrubs, but no trees. To the N. of it extends the plain of the Palmists, which rises to about 3000 ft. In the S.E. it is often called Le Cap Frere, for it is formed of coral, raised on all sides, except towards the shores on the N., by a nearly perpendicular wall of mountains from 1500 to 2000 ft. elevation, which are partly covered with high trees and rich vegetation: on the plain itself many trees are found, among which the species of palm is abundant, from which it derives its name. The descent to the shore is somewhat longer than on the S. declivity of the island. The traveller ascends from the plain of the Caffres to the S.E. volcanic region by two other extremely sterile plains, those of Cilao and of the Soudes (aux Sables).

This volcanic region at the S.E. extremity, which probably does not occupy more than one-seventh of the island, is called the burned land (pays brûlé), from its soil being entirely composed of recent lava. There are few places in which signs of vegetation are seen. Nearly in its centre is the present crater of the volcano, which nearly every year changes its place over an extent of 5 to 6 sq. m. This present centre of volcanic activity is only from 5 to 9 m. from the S.W. extremity of the island, and the high mountains near it rise to an altitude of about 1500 ft.

The eruptions of this volcano succeed one another at short intervals.

A soil so arid as that of Bourbon could not maintain a vigorous vegetation if it were not continually supplied with solid and liquid nourishment, viz. rain and sea-breezes. The first, blowing from the high mountains of the interior, are always cool, frequently cold; and in the gorges they blow with great force. The wind is sometimes felt from five to eight miles from the shore. It cannot pass into the valleys, but finds its way out from Jupiter's windows. During the N.E. winds, from January to April, the rains are still more frequent, and often continual for many days, and very heavy. But in spite of this humidity of the air, the climate is pleasant and healthy. During the winter, from April to August, the highest peaks are covered with snow. Hurricanes occur twice or thrice a-year.

The interior of the island is not inhabited, and perhaps not habitable, on account of the sterility of its soil. The cultivated ground in no place extends more than 5 or 6 km. from the sea. Within these limits are cultivated 7000 acres of land by sea-breezes, which brings with it fog. These fogs are afterwards dissipated by the rays of the sun, and driven again to the sea. This circulation of the vapours produces a great humidity, and rains are consequently frequent, especially during the N.E. winds, from January to April. During the N.E. winds, from January to April, the rains are still more frequent, and often continual for many days, and very heavy. But in spite of this humidity of the air, the climate is pleasant and healthy. During the winter, from April to August, the highest peaks are covered with snow. Hurricanes occur twice or thrice a-year.

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or 403,200 acres, and is subdivided into 8 cantons and 73 communes. The pop. in 1832 was 115,988.

**Bourbon L'Archambault,** or **L'Archambault,** in the dep. of Allier, and near the little river Barge, a feeder of the Our, is the seat of the Allier. It is about 160 or 162 m. S. by E. of Paris in a straight line, or 197 m. by the road to Fontainebleau, Montargis, Nevers, and Moulins. It is in 46° 36' N. lat. and 3° 1'E. long.

This town appears to have been known for its mineral waters to the Romans, who called them the baths of Aquae Boromisia. It was a place of some importance in the eighth century, for in the wars which Pepin le Bref, father of Charlemagne, carried on against the duke of Aquitaine, Bourbon is mentioned as one of the places taken by him. In the old time it was known by the name of Bourgo or borou (bourbe) contained in its waters, or perhaps from a deity called Borvo [Bourbonne les Bains]. About the tenth century Charles le Simple granted Bourbon, with the surrounding district, to a favourite of his named Aymard; and his successors bore the name of Bourbon, having, in most cases borne the name of Archambault, that name being attached to the town itself (Dictionnaire Universel de la France). Others make the origin of the lordship of Bourbon to have been a century later. By marriage this lordship came to the house of Montferrand, of which the last descendents failed in the early part of the sixteenth century, and the family was extinguished by the marriage of the heiress to the count of Montpensier, who assumed the title of duke of Bourbon. [Bourbon.]

The town of Bourbon is in a beautiful and rich valley or hollow, between four hills, a few miles from the left bank of the Allier; but the air is considered far from wholesome owing to the neighbourhood of a marshy pool, and the situation of the town in a hollow, surrounded by steep hills. On one of the hills is the ruin of an ancient castle of the sire or dukes of Bourbon; the ruin consists of three towers in perfect state, and the remains of a chapel, which has been the chapel of the dukes of Bourbon, and an appendage to the castle, is remarkable for its beautiful stained glass windows. The town depends mainly on its mineral waters, which attract a number of invalids, who resort here to find relief from rheumatic and paralytic attacks. The waters are contained in three wells, and have a temperature of 58° to 60° of Réamur, or 162° to 167° of Fahrenheit. The season lasts from the middle of May to the end of September. The celebrated Madame de Montespan, mistress of Louis XIV, died here in disgrace, if not in exile. The pop. is given in round numbers by Malte Brun and Balbi at 3000.

The river Barge, near which the town stands, seems to expand into a marshy pool. It abounds in fish.

Bourbon Lancy, like the town above mentioned, was known to the Romans for its mineral waters. It appears in the Theodosian table under the name of Aquae Nisinei. It is supposed to have derived its distinguishing epithet of Lancy, or as the geographers of seventy years since wrote it, Lancia, from a river which flows past the place, who was named Ancellus or Ancele; otherwise Ancseaume or Ancelme.

The baths, which give to this town its chief claim to notice, are in the suburb of St. Leger. There are several springs, seven according to some authors [Expilly; Dictionnaire Universel; Encyclopédie Méthodique], nine according to the modern statement of M. Robert (Dictionnaire Geographique, Paris, 1818); of which nine, one is very cold, the rest warm, the temperature being about 50° of Réamur, or 140° of Fahrenheit. The great bath is that of 74 English feet, or according to Reichard only 42 feet in diameter, paved with marble, and capable of containing 500 persons. Near this is a large square bath, built for the poor. The waters are described as being limpid, tasteless, and without smell; so that they may be used in making bread; yet they are said to contain sea-salt, sulphur, and bitumen. They are used in nervous and rheumatic affections. It is remarkable that although the great bath, which is a Roman work, has continued to the present day, the springs fell into neglect and oblivion. In 1580 they were restored to the public by the initiative of the Duke of Bourbon, which was brought into notice and the bath re-established by Henry III. The war of the league interrupted the improvements going on, which were however resumed and continued by Henry IV. and Louis XIV. Many remains of antiquity, statues, medals, and the relics of antient buildings, have been found in the mound which was raised about the place. The site is given by Malte Brun at 2500 in round numbers. Visitors come hither in spring and autumn, and seldom stay above a month. (Dictionnaire Universel de la France; Malte Brun; Expilly, &c.)

BORBOURNE-LES-BAINS, a town in France, in the dep. of Haute Marne. It is in 45° 56' S.E. part of the dep. and at the confluence of the small rivers, the Borne and Apanse, which latter riv. is a tributary of the Saône, 165 m. in Brun's map of France, or 170 in that published by the Keppel for the Diffus. of Useful Know., in a direct line S.E. by E. from Paris; or 179 m. by the road through Provins, Troyes and Chaumont-en-Bassigny: in 47° 56' N. lat. and 5° 46' E. long.

D'Anville considers this town to be known to the Romans, and that it is marked in the Theodosian Table by the name of Borbonae. It is not certain what the name is used to indicate mineral waters; though no name is extant as applied to this place. A Roman inscription has been found here which D'Anville says was sacred, Boronii et Monae Deco; and from this he has given to the place the name of Aquae Boronii. (Dictionnaire de l'Acad.) The inscription is however given by Expilly at full length, as follows:—

**BORONI THERMAE DUM MOAMMONE CALATINUS ROMANUS IN GALLIA**

**PRO SALUTE**

COCCILE UXORIS HIBUS EX VOTO EREXIT.

From this mention of Borbo or Borbon, as the presiding deity of the baths, it is likely we may deduce the etymology of the name of Bourbon. It is the more correctly than is commonly done, [Bourbon L'Archambault.]

In the beginning of the seventh century, a castle was built here which to an antient writer gives the name of Vervona; but it does not appear that any historical interest attaches to Bourbonne. In 1717 the town was burnt almost entirely, and the ancient castle shared the same fate.

The town stands on a declivity, and presents little that is pleasing in its aspect. It would not claim notice except for the cloisters and church of the antient monastery, to which the springs varies from 30° to 45° of Réamur; or about 100° to 140° of Fahrenheit, (Malte Brun); or to 62° of Réamur, or 172° of Fahrenheit. (Encyclopédie Méthodique.) Although too hot for one to bear the finger in them, they are drunk without scalding the mouth. (Malte Brun.) There appear to be three baths, or rather three establishments of two baths each, called Le Bain du Seigneur, from having formerly belonged to the lords of the soil; Les Batins des Fauves; and Le Bain Patrice. (Expilly, and Dict. Universelle de la France.) The waters are said to be good for gout, rheumatism, scurvy, gravel, venereal complaints, palsy, and nervous affections; also for gun-shot wounds. They are taken by drinking and bathing; and the very mud or sediment is said to be serviceable used as a poultice.

The season includes June, July, August, and September.

The military hospital contains more than 500 beds. The pop. of the town is given in round numbers by Malte Brun at 8500; and by M. Balbi at 4000. There are some pleasant promenades. (Malte Brun; Expilly; Reichard's Descriptive Road-book of France.)

BOURBONNOIS, a district of Central France, one of the thirty-two provinces or military governments in which, before the revolution, that kingdom was divided. It was bounded on the N. by Berry and the Loire; on the E. by Bourgogne or Burgundy; on the S.E. by the Lyons, and on the S. by Auvergne; on the S.W. by La Marche; and on the W. by Berri. Its form was very irregular: the greatest length from W.N. to E.S. was 92 m., and the greatest breadth was 56. The greater part of it is included in the dep. of Allier.

The province was separated from Bourgogne partly by...
BOURCHIER, JOHN. [BREWER, LORD.]

BOURCHIER, or BOURCHIER, THOMAS, archbishop of Canterbury in the successive reigns of Henry VI, Edward IV, Edward V, Richard III, and Henry VII, son of William Burchier of Canterbury, and grandson of Anne, daughter of Thomas of Woodstock, sixth son of Edward III. His brother was Henry, Earl of Essex. He received his education at Oxford, and was chancellor of that University from 1434 to 1437. His first dignity in the church was the deanship of St. Martin in London, from which he was advanced by Pope Eugenius IV. to the see of Worcester. In 1436 he was elected by the monks of Ely bishop of that see, but the king refusing his consent the election was not complied with, and the see continued vacant until the Papal bull of his appointment Burchier was translated thither. In April, 1454, Burchier was elected archbishop of Canterbury; and in December following received the red hat from Rome, being created cardinal-priest of St. Cyræus in Thermis. In 1456 he became lord chancellor of England, but resigned that office in October following for four years.

Several acts of Cardinal Burchier's life were memorable. He was one of the chief persons by whose means the art of printing was introduced into England. He was the person who, assisted by the generous presents of the principal city of Gloucester, persuaded the queen to deliver up the Duke of York, her son; and he performed the marriage ceremony between Henry VII. and Elizabeth of York.

He died at his palace of Knowle near Sevenoaks, on the 30th of June, 1454, and was buried in the church of Canterbury, where his tomb still remains on the north side of the choir near the high altar. It cannot be unknown to our readers that the archbishops of Canterbury and York, and the bishops of Durham had amply the privilege of coinage money. A half-groat of Edward IV. struck at Canterbury during Burchier's præmacy, has the family cognizance, the Bourchier knot, under the king's head. This is unnoticed by any of the writers on English coins.

(Wharton's Anglia Sacra, tom. 1, p. 63; Bentham's Hist. of the English Church, vol. ii, p. 156, &c.)

BOURDALOUE, LOUIS, was born at Bourges, Aug. 20, 1632, and professed among the Jesuits on Nov. 30, 1648. Having lectured successively in grammar, rhetoric, humanity, and moral philosophy, with considerable reputation, he was afterwards made a sub-dean in the cathedral church at St. Louis at Paris in the year 1669. It was not long before Louis XIV. became a personal attendant upon his sermons, which were heard with undiminished delight by overflowing congregations in the seasons of Advent and Lent for four-and-twenty years. After the revolution of the edict of Nantes, Bourdaloue was despatched, in 1666, on an especial mission into Languedoc, in which province he produced a deep impression, chiefly at Montpellier. His latter years were principally devoted to charity sermons, and he continued the habit until his death, which occurred in a few days before his death, which occurred on May 13, 1704. His sermons have often been reprinted. They abound more in sound reasoning and theological learning than in oratorical power, and they are better suited to the chastened taste of Protestantism than the efforts of most other celebrated French divines. It has been said with more justice than usually belongs to antithesis, that Bossuet is sublime from elevation, Bourdaloue from depth of thought.

BOURDON, SEBASTIAN, one of the most eminent painters of his school, was born at Montpellier, in 1616. His father, a painter on glass, instructed him in the elements of his art. At the age of seven, a relation took him to Paris and placed him under an artist of no great ability; but the genius of the pupil supplied the deficiencies of the master. While yet a boy, being in want of other employment, he enlisted in the army. Luckily his commanding officer possessed taste enough to discern the natural power of the young artist, and he gave him his discharge. At eighteen he passed into Italy, where he made acquaintance with Claude Lorrain. He remained there but three years, being obliged to leave the country in consequence of a quarrel with a painter, who threatened to seduce him from the path of his parents. In 1641, he went back to France, and began to study the ancient masters, first himself in practice, studying, and imitating the works of Titan, Poussin, Claude, Andrea Sacchi, Michel Angelo delle Battiglie, and Bamboccio. So retentive was his memory, that he copied a picture of Claude's from recollection; a performance which astonished that great master as much as any who saw it.

On his return to France, Bourdon received some instruction from Du Guerrier, a miniature painter in great repute, whose sister he married; a connexion which procured him better employment. After a settlement in the French collections, he was broken in by the civil wars in 1659, he went into Sweden, and Christina, who then occupied the throne, appointed him her principal painter. In this capacity he executed many pictures, and among them a portrait of his royal mistress on horseback. While he was at work upon it, the queen took occasion to mention some pictures which her father had become possessed of, and desired him to examine them. Bourdon returned a very favourable report of the collection, particularly of some by Correggio; and his generous patron promised to send him over the works of Titian and Tintoretto; but however, with no less generosity, declined the offer; saying that the pictures were among the finest in Europe, and that she ought not to part with them. The queen kept them accordingly, and taking them to Rome with her after her abdication, they ultimately found their way into the Orleans collection for five years.

When Christina vacated the throne, Bourdon returned to France, which had become somewhat quieter, and employment offered itself in abundance. At this period he painted the ' Dead Christ in Aisie,' which is the most perfect of his two of his most famous pictures. He does not appear, however, to have ever amassed any sum of money; for while on a visit to his native place, an admiring tailor made him a suit of clothes, with a red cap, and sent them to his master; and another kind gentleman, a painter, loaded Bourdon with a box of pictures, and a fine portrait of himself dressed in the clothes, with his friend the bearer by his side. Being much pleased with his success, he had not the heart to send the picture to the munificent tailor, as he had intended, but he made a copy which he gave him instead. In 1648 he assisted in forming the Royal Academy of Painting, and was elected its first rector. He died at Paris in 1671, aged 55. He had some daughters, miniature painters, who survived him. Guilbert, M. and F. Varouze, and Nicholas Loir, were his pupils.

Bourdon had a most fertile genius, an ardent spirit, and great facility, which enabled him to indulge too much in a careless mode of study. He had no fixed style of painting, but followed his own caprice, imitating many; and he excelled equally in all kinds, history, landscapes, battle-pieces, and comic subjects. His colour is fresh, and his touch light and sharp; his expressions lively, and his invention ready; but his drawing is hurried, and his extremities modelled with great carelessness. He did not finish highly; nor are his most finished pictures his best. His execution was so rapid that he is said to have completed by his own mind his own thoughts after nature, and the size of life, in a single day; and they were esteemed equal to some of his best productions. This surprising facility enabled him to enrich his landscapes with some of the most singular and happy effects from nature. When a second time he had studied the landscapes of France, his great attention, and his admirers trace some of the beauties of the Venetian in his landscapes; they partake also of the style of Poussin, and have a wildness and singularity peculiar to himself. (D'Argenville; De Piles.)

BOURG, the name of several towns in France, of the principality of which we subjoin an account. The word denotes 'town, like our own borough or borough [Borotou, Boros], and in France is applied especially to smaller places which do not take the title of ville.'

Bourg-en-Bresse, also Bourg-en-Bresse, from its situation in the district of Bresse, a subdivision of the Duchy of Bourgogne [Bourgogne, Bresse], is on the river Reysseau, a small tributary of the Saône, about 230 m. in a straight line S.S.E. from Paris, or 266 m. by the road through Auxerre, Autun, Chalon, and Maren;
and 50 m. by the road N.E. of Lyon. It is in 45°13'11" N. and 5°12' E. long.

M. de Thou, in speaking of a siege which this town sustains, says ( Hist. des gens de Savoie, tom. II. p. 181; and M. Malte Brun, following, it is likely, M. de Thou says, that in the 4th century it was called Tanus. D'Anville, however, does not fix my town upon the site of Bourg; nor does he notice Tanus; and Forum Segusianorum is, according to the maps of Loire. It seems, then better to prefer the account given by Longueville (Description de la France, Ancienne et Moderne, liv. iii.), that Bourg was founded by the lords of Baugé or Bagé, formerly capital of Bresse, and that it does not appear to have been of earlier date than the 10th century; about which time the name appears in several records. Guy, last lord of Baugé, and marquis of Bresse, granted to Bourg the privileges of a free town, in consequence of which the place increased and became of some importance under the government of the counts and dukes of Savoy, to whom Bresse came by marriage in the 13th century. In 1556, or 1558, the then reigning duke of Savoy, Emanuel Philibert, caused a strong citadel to be built at Bourg, on a height, which, however, was demolished by order of the regent Mary of Medic, mother of Louis XIII., about ten years after Bresse came under the treaty of Lyon) into the hands of the kings of France.

The town, which is in an agreeable situation, is adorned with some handsome buildings and fountains, and farther embellished by promenades. It has a church of beautiful Gothic architecture, which has been raised to the dignity of a cathedral: previously to the revolution it was a collegiate church. There were in the town three monasteries for Jacobins, Capuchins, and Cordeliers; three nunneries, of the orders of St. Clara, St. Ursula, and the Visitation; and two hospitals, for the poor, one attended by the Nuns Hospitalières, and one for poor girls. There was a college once in the hands of the Jesuits. There was also, in 1804, the ruin of an old castle of the dukes of Savoy, used as a prison. The town possesses a college, or lycée, which has been (by the treaty of the Congress) given to the congregation of philosophical instruments; also an agricultural society. The manufactures consist of coarse woollens, silk stockings, leather, and clocks and watches, but the latter is not flourishing. An older authority (Dictionnaire Universel de la France, 1804) adds to these articles, linen, lace, hats, and combs. The chief trade is in corn, cattle, horses, and the articles of manufacture above mentioned. Its situation, remote from any navigable river, prevents it becoming a place of much commerce. The pop. in 1832 was 7826 for the town, 4889 for the village of Brou, which is once in the episcopal list. In 1515 Bourg was, by a bull of Pope Leo X., made the seat of a bishopric. The bull was, however, revoked in 1516. In 1521 the town was again raised to an episcopal rank; but in 1536 the bishopric of Bourg was finally suppressed.

The arrond. of Bourg contained, in 1832, a pop. of 117,289 persons. Close to the town of Bourg, in the village of Brou, is a church once remarkable for its fine monuments of the family of the Dukes of Savoy; but they were destroyed during the French revolution. Seglav, a French writer, of some note, and the astronomer Lalande, were natives of Bourg. [Martinière; Expilly; Robert.]

Bourg, called also Bourg-sur-Mer, a town and port in the dep. of Gironde, near the confluence of the Garonne and Dordogne, is a triangular town, a port, and city of the Garonne, which is formed by their united streams. It is about 10 m. above Blaye, which is on the same bank of the riv., and about 15 m. below Bourdeaux, following the course of the Garonne.

This is an ancient town. Sidonius Apollinaris, in the 5th century, speaks of it under the name of Burgus, and has written a poem of above 230 lines upon it. It is, however, now inconsiderable. Its chief trade is in the export of the wines of the neighbouring district. Our latest authority (Glotz, History of Bordeaux, 1822) claims for it the appellation of Port de la France (1804), which gives it at 2200. The hills in the neighbourhood of Bourg yield a greyish white stone (gris-blanc), which the inhabitants call bastard marble. Though far inferior in hardness to marble it will take a polish.

Bourg-Argental, a small town in the dep. of Loire, near the border of the dep. of Ardèche. It is close to the little riv. Dauje, which flows into the Cance, a feeder of the Rhône.

Some lakes and cramps are made, and silk of dazzling whiteness is prepared here. The pop. in 1832 was 1734 for the town, or 2502 for the whole commune.

This town is not of very high antiquity, but was once more considerable, and it is said to be built upon the site of a more ancient town, Manto, which was destroyed by fire in 16th century. In 1656 it was much injured by the Calvinists, who also attacked it in 1598, when it had scarcely recovered from the effects of famine and pestilence, which had nearly depopulated it in 1655 and 1656. The attack was, however, repelled by a solemn annual procession long commemorated the defeat of the assailants. In 1589 it was taken from the party of the League, in whose hands it then was, and pillaged by the duke of Ventadour; but he was driven from it in 1591 by the Duke of Mayenne, who Duke and finally took over the League. It had a castle, which was demolished in 1595. (Malte Brun; Expilly.)

Bourg Désols, or Bourg Dieu, a town very near Châtelauroux, of which it may almost be regarded as a suburb. It is however on the other side, viz., the right bank of the Indre. It was once a place of importance, and capital of the principality of Dols. The town appears to have had, at one period, three parish churches and a castle, which in the 10th century Raoul de Dols gave up to the monks of an abbey which his father had founded; and erected for himself a castle at Châtelauroux, in the immediate neighbourhood. The abbey flourished exceedingly; and although it fell into ruin at a subsequent period, yet the remains of the buildings were sufficiently superb to show the munificence of its former abbots. Of the three churches, one, which was a part of the building remained in occupation; and the three par. churches had been reduced to one. The pop. in 1833 was 1792 for the town, or 2113 for the whole commune. (Cha-

Châteauroux.]

Bourg d'Oisans or d'Oyane, a small town in the dep. of Isère, on the road from Grenoble to Branson, and close to the riv. Romanche, which flows into the Drac, a feeder of the Isère. There is a lead mine in the neighbourhood, and gold is also found. (Bryen. Method.) The pop. of the com-

This little town is seated in a valley in the midst of the mountains, which, branching out from the main chain of the Alps, cover a considerable portion of the dep. Traveling from Grenoble towards the town, there is yet to be seen the dyke of the Lake of St. Laurent, which once covered this valley in its whole extent. The following account of this lake we translate from the Itinéraire Description de la France of M. Vaysse de Villiers, quoted in Malte Brun's Geographie Universelle (3me. ed.).

The town and surrounding district is the extreme of two centuries to one of the most terrible accidents to which the valleys of the Alps are exposed. Two rapid streams (torrens) rush opposite to each other from the summit of the mountains into the Romanche, at the very spot where this riv. quits the large hollow (côte) of Gap (Gap), and the dep. of D'Oisans. These two streams suddenly swelled, in the 11th century, to such a degree as to carry with them to the bottom of the valley an immense quantity of rock, earth, and gravel, which uniting from the two sides, at last closed up the valley, and the waters of the Romanche retained by this dyke, rose to the level of it, covering all the valley to the depth of 60 to 80 (French) ft. A relic of the bridge, which may be seen on the road that leads to the Bourg d'Oisans, still points out to travelers the depth of the lake, and conse-

The violence of these two streams, and the descent of the mountain, gave the lake its height of 80 ft. From its nature, it was nature which destroyed it:—the waters of the lake, which had been undermining it for a long time, at length burst through it, in the 15th century (in Sept. 1292), and rushed impetuously over into the valley below, and filled the then lake, which occupied the whole of the Isère. They carried with them all the villages and all the houses which lay in their course, and flooded the city of Grenoble. There was nobody saved except those who had time before the flood came on to take refuge either in the hollows, or in certain caves judgement, which had been made deep enough. After all the bridges were overthrown. The first accident had buried the plain of Oisans; the second raised it from its grave. But the catastrophe which overwhelmed it may occur again; the cause always exists, and may, at any moment, lead to the same evil result. The violence of the two streams, and the debris of the mountains which they bring with them, may again close up the valley, by opposing a new barrier to the Romanche, and form a new lake, which,
in like manner, could only find an outlet by rising to the
height of a larrikin.'
Bourg St. Andoël, otherwise Bourg-sur-Rhône, a town in the
former district of Vivares in Languedoc, and now included
in the department of Ardèche. It is on the right bank of the
Rhône, about midway between Viviers and Le Pont St. Esprit, in 14° 17' 50" W.
It is named after its saint, St. Andoël, who suffered martyrdom
in the reign of Septimius Severus, at the commencement
of the third century. It was, before the Revolution, the usual place of residence of the bishop of
Viviers, and had a seminary for the education of the profes-
sion, which was said to be a good estimation. The relics of St.
Andoël were said to be preserved in the par. church.
The tomb which was shown as his was however of pagan
origin. This town is situated at the mouth of a small
stream, which flows from the mountains of the Vivarais, and
through a part of the Rhône. It carries on some trade by
the river. Pop. in 1832, 3782 for the town, and 4268 for
the whole commune.
Near Bourg St. Andoël is a remarkable monument of
antiquity, a bas relief, which seems to have been consac-
rated to the god Mitra, or the sun. It is carved on the
face of a calcareous rock, from which a mineral water
flows; and beneath it is an inscription in Latin almost
officiale. The bas relief is also much defaced; but there
may be distinguished a bull which a deity seems to attack,
the figure of Mitra, and a human figure in the act of attack else-
where, and a man is apparently about to sacrifice him.
Above this group is a figure surrounded with rays and sup-
posed to represent the sun, from which, as well as the in-
scription, the destination of the monument has been
ascertained and it represents the moon.
The whole of the bas relief is included in an oblong square,
about four ft. and a quarter high, and nearly six ft. and a
half wide. The inscription, if the many gaps in it have
been rightly filled up, is a dedication of a monument
dedicated to Mitra, by Maxammas as well as Menumus.
The worship of this deity had been introduced at Rome by the
soldiers of Pompey on their return from the East, and from
thence it spread into the provinces. The monument is
supposed to be of the third or fourth century. (Millin,
Topographie de la Midi de la France.)
Bourganeuf, a town in France in the dept. of Creuse, not far from the left bank of the riv. Thordon, a
feeder of the Vienne, which is a tributary of the Loire. It
is 206 m. from Paris by the route from Limoges.
Bourganeuf is in 45° 57' N. lat., and 1° 44' E. long.
The town contains a tower of considerable height built
for Zizim or Djim, son of Mahomet II., and brother of
Bajazet II., emperors of the Turks. This prince, after
having been defeated by his brother, put him to death and
put him in the possession of the throne, took refuge
with the grand master of the Knights Hospitalers, who
were then settled at Rhodes. By virtue of a treaty with
Bajazet, in which the grand master stipulated carefully to
death his guest, Zizim was supported in the same place
and detainted in different castles. Among the other places
at which he sojourned during his captivity was Bourganeuf,
which was the residence of the grand prior of the Orde
of the language of Auvergne. Here he was twice
deated; and the tower above mentioned was built for him during his
sojourn in this place. It is six or seven stories high, and the
walls are so thick as to admit of a spiral staircase being
made in them. In the lowest story are the baths which
were constructed either by the prince, or out of regard to
his eastern habits by those who had charge of him. (Ex-
plicitely, art. "B.)
Bourganeuf has two manufactories of porcelain, and one
of paper. Tiles are also said to be made here. The pop.
in 1832 was 2110 for the town, and 2849 for the whole
commune.
The town is the capital of an arrond., which in 1832 con-
tained a pop. of 37,965 (Malte Brun.)
Bourgeois, Sir Francis, was the descendant of a
family of respectability in Switzerland, where, it has been
said, many of his forebears were suspected of
considerable truculence. He was the father of Sir Francis
banks, who was said for several years in England, it is believed, under
the patronage of Lord Heathfield; and Francis was born
in London in 1756. His early destination was the army,
but having been instructed, while a child, in some of the
rudiments of painting by a foreigner of inconsiderable merit as
a painter of horses, he became so attached to the
study, that he soon relinquished all thoughts of the military pro-
fession, and resolved to devote his attention solely to painting.
For this purpose he was placed under the tuition of
Loutherebourgh; and from his having connections and
acquaintances access to many of the most distinguished col-
gnors in Europe, he owed the introduction to the best so-
ciety and most valuable repositories of the arts. At his
return to England Bourgeois exhibited several specimens of
his studies at the Royal Academy, which obtained him
reputation and patronage. In 1791 he was appointed
court painter to the Prince of Wales; an eminence, to
primate, had been much pleased with his performances
during his residence in this country; and at the same
time he received the knighthood of the Order of Merit, which
was afterwards confirmed by the king of England, who in
1794 appointed him his landscape painter. Previous to
this he had, in 1794, been elected a member of the Royal
Academy.
As a painter Sir Francis cannot be very highly esteemed.
While his pictures display a feeling for nature, they equally
evince the want of power to express it on the canvas; his
subjects are often beautiful, as a scene; but his style of
work is very imperfect, and he is otherwise very deficient.
On the other hand, his drawing is tame and lifeless, his colour-
lessness is generally and monotonous, and his touch heavy;
and though there is an appearance of labour in the process,
the result is ill done and unfinished. He very closely imitated
the manner of his instructor.
It is as the bequestor of the Bourgeois collection to
the custody of Dulwich college, for the use of the public, that
he has most claim to our gratitude. The collection was
formed by Noel Bourgeois, an eminent picture-dealer, who
dying left it to Sir Francis, with a request that it be held in
close friendship. Sir Francis, at his death, left it to the
widow of his friend, with the greater part of his property,
for life; bequeathing 2000L to Dulwich college for the
purchase of building a gallery for the pictures, the
reversion of which to his widow, and also that the property, charged with expenses of preserving the pictures,
and altering and enlarging the chapel. Desenfans had been
interred in a chapel attached to Bourgeois's house;
but Sir Francis desired in his will that their bodies might
be removed and deposited together in a mausoleum in
Dulwich college, which was accordingly done.

The college was founded by an act of the name of
Alleyne. (Alleyne.)

The Dulwich gallery, as it is generally termed, comprises
upwards of 300 pictures; they are mostly of a cabinet size,
and, being in a dim light, and many of them hung some-
what high, they are not seen to the best advantage.
The collection however is a fine one, and contains some of the
most beautiful specimens of Poussin, Cypri, Rembrandt,
Murillo, Zuvreranius, besides other masters (Lysons's
Enquiries; Gentleman's Magazine for 1811.)

Bourg in France, a city of France, capital of the dept. of
Cher. It is situated at the junction of the Arvon with the
Eure, or as it is written in more modern maps Levertre;
whose name, amongst others, was confounded with that of
the Cher, one of the great feeders of the Loire. This
city is indeed situated close to the junction of many streams,
for the Lavrete receives the Collins, the Langa, and
the Moulin, either in or just above the town; while the
Arvon receives the Careau, and in the Arvon itself, and
is 120 m. in a straight line due S. from Paris, or 131 m.
by the road through Montargis, or 144 through Orleans. It
is in 47° 5' N. lat., and 2° 33' E. long.

This city may vie in antiquity and ancient importance
with almost the capital city of France. It is the seat of
a branch of the Bituriges which was known, according
to Strabo, Ptolemy, and Pliny, by the surname Cubi,
whereby it was distinguished from the Bituriges Viviscii,
a branch probably of the same stock which had settled on
the upper river. Certainly the bank of the Arvon, whose
capital was Burdegalae (Bordeaux). The Bituriges,
according to Titus Livius (Historiar. v. 34), were the
dominant tribe in Gaia Celtica as early as the reign
of the Roman king Tarrminis Priscus; whilst their king
Ambitugis sent out two immense host of emigrants under
his nephews Belenus and Sigevogus, the former into the
north of Italy, the latter into the vast Hercynian forest,
where he ruled as a semi-autonomous chieftain. Later,
he moved to Germany, Hungary, and Poland. In the time
of Caesar they had lost their supremacy, and the Bituriges
Cubi were themselves under the protection of the Alodii.
At that period their capital, the Gallic name of which,
as latinized by Caesar, was Tungovia, was not under
their own administration, but in Caesar’s time it was a place of importance. In the struggle with the
Romans, at the head of which was Vercingetorix, near
the close of Caesar’s proconsulship, the territory of the
Bituriges became the seat of war. Agreeably to the de
novo recognition of many of the names upon the approach of Caesar’s
army, above twenty towns of the Bituriges were taken
up by the flames, and in a general council it was debated whether
Avaricum should be burnt or defended. The Bituriges fell
at the feet of all the Galli, and begged ‘that they might not be
compelled to see fire in their own hands to that which
was almost the kindliness of all Gallia, and which was
ornament of their state. They declared they could easily
defend themselves from the advantage of the situation, for
the place being surrounded on almost every side by the
river or a marsh had but one entrance, and that very
narrow.’ Contrary to the opinion of Vercingetorix, whose
sounder judgment wished to continue the defensive warfare
which they had begun, but who yielded at last to their in
treasures, and to the general commiseration excited by them,
it was resolved that a stand should be made at Avaricum,
and Vercingetorix was the general and garrison was selected. (Cæsar. de Bell. Gall. lib. vii. c. 15.)

Cæsar lost no time in forming the siege of the place;
and notwithstanding Vercingetorix pitched his camp about
15 Roman m. off, and afterwards even nearer, he carried on
his operations with his usual activity, and the garrison
counteracted his efforts with considerable skill, being,
as Cæsar described them, ‘a people of very great in
vaginity, and very ready in the imitation and carrying into effect of any plans which they may acquire from others.’ They diverted the attack of the Roman machines, under
mined their works, raised their own walls higher with
wooden towers covered with hides, so as to keep pace with the
towers which the Romans built to assail them, inter
rupted the operations of the Romans or set fire to their
works in constant daily and nightly sallies, and retarded
the continuation of the trenches (apertas cucunae) up to
the walls of the town. These walls of the town were con
structed, with considerable art, of alternate layers or courses
of wooden beams and of stone, so as to form a secure
defense, not only against the cannonading of the besiegers
by fire, and the wooden beams deadening the shock of the
battering ram. In 25 days the Roman works had made
considerable progress, when the besieged managed to
undermine and set fire to the mound (augger) which Cæsar
describes as being 30 m. high, and agreed to be taken by
the garrison, which, however, after a most obstinate
struggle, was driven again into the town. The garrison in
despair now determined on abandoning the place, and it was
only when the women, who besought them not to forsake
them, gave notice of the design to the Romans by their
cries, that they desisted from their purpose. The following
day Cæsar observing that the walls were not so watchfully
guarded, ordered a general assault, and thus carried the
town. The Romans had been exasperated by the massacre
of some of their countrymen being killed by fire, and by
the tokens of the siege; they spared neither age nor sex;
old men, women, and children, were involved in indiscriminate slaughter; and out of 40,000 persons who
had been shut up in the town, scarcely 800 escaped to the
camp of Vercingetorix. (Cæsar. de Bell. Gall. lib. vii. c.
16-20.)

By what degrees Avaricum recovered from this dreadful
blow is not known. Malte Brun says, but does not quote
his authority, that Augustus made it the capital of Aqui	ania. It was improved and fortified by the Romans, and
became a city of considerable size and importance. (See
presently notice,) the seat of a bishopric. Of the walls of
the old town (which is comprehended nearly on all sides by
the new town) some parts remain: these are, as we gather
from a comparison of the different authorities, supposed to be
Bersama, or Bersali. The duke of Aquitaine, when Francis
I. of France married Elisabeth of Savoy, was the first abbess
and one of Cistercian nuns, supposed to have been founded in
the 12th century. Among the convents was one for
the Annunciation nuns, founded by the Princess Jeanne (Joan),
otherwise St. Jeanne, daughter of Louis XI., and of
the order of Cistercians. One of her daughters married a
Monsignor Malo, and she was known as the Mother Superior.
She: she was the instigator of the order of the Annunciation,
and the convent of Bourges was the first convent o
that order. Besides these institutions, which were in exist-

202
ence when Expilly wrote, there was one suppressed abbey of the order of St. Augustine, whose house or church of two collegiate churches had been united to the seminary for the priesthood. This seminary was under the direction of the religious of the Benedictine abbey.

There was also at Bourges a university of great repute and well frequented. It was founded by Louis IX. (St. Louis) King of France: but this is doubtful. It was re-established by Louis XI. in 1463. It comprehended the four faculties of theology, law, medicine, and arts. The front and last were four stories in the hands of the abbot. These edifices also had a cromlech of Bourges, one of the finest and most extensive in the kingdom. (Expilly, Dict.)

The revolution and the political convulsions that have followed since, have of course made considerable changes in this university, a college of chancellors, and in the general ravages of that stormy period, and is one of the noblest Gothic edifices in the kingdom, and indeed in Europe. It is the highest spot in the city; and its front, notwithstanding the irregularity of its architecture, is remarkable for the richness of its ornaments and the delicacy of its finish. The ascent to the front is by a flight of steps; and at each end of the front is a lofty tower. Five grand entrances occupy the front; and one of these is adorned with sculptures representing the last judgment. The inside dimensions of the court are: 650 feet in length, 500 feet in width, and 140 English feet for the width, without including the chapels. The vaulted roof of the nave and its side aisles are supported by Corinthian columns (Expilly) of great height and delicacy of workmanship. The town-hall was founded by Louisa, Queen of France, in the time of his presidency, who gave to the University of Charles VII. to re-conquer the country that had been subdued by the English in the reigns of Henry V. and VI. Having obtained of him considerable sums, that thankless prince caused or permitted his wife to be proscribed for imaginary crimes, or rather for acts that were not criminal, despoiled him of much of his wealth, and Cour ended his days in a foreign land. Colbert, the celebrated minister of Louis XIV., having come by purchase into possession of this house, gave it up to the nobility of Bourges, who made it the town-hall. The edifice is in the richest style of the architecture of the age in which it was built (the 15th century), and the walls alone are said to have cost 135,000 livres (5300 sterling), a vast sum for those days. The very chimneys are richly ornamented, and are built to resemble the towers and gates of towns. The walls are adorned with sculptures of shells and hearts; these are probably the arms of Jacques Coeur, which Expilly mentions as being carved in several places, and which, according to his hugging motto, A vaillant Coeur rien impossible. The building, of great magnificence: the garden attached to it is used as a public promenade, and contains an obelisk erected to the memory of Bethune Charost, a man whose unbounded benevolence, and whose services to the department of which Bourges is the capital, render him worthy of such a memorial.

There is also an ancient palace built by John duke of Berry, son of John II. of France, in the 14th century, or in the beginning of the 15th century. Since the revolution and the abolition of the privileges of the noblesse, the manufactories and commerce of Bourges have been increased, but not to any great extent, for the population has not much advanced. The Dictionnaire Universel de la France (1804) notices a manufactury of salt-petre, and three other manufactories, one of cloth, and one of linen generally; but Malte Brun affirms that there is not a linen manufactury in the whole department, though a great quantity of hemp is grown. The industry of the town consists chiefly in the produce of the country around, corn, wood, and divers kinds of stone quarried in the neighbourhood. The pop. in 1832 was 17,026 for the town, or 19,730 for the whole commune. The opening of the Canal de Berri which passes through the dep. of Cher, though at a considerable distance from Bourges, has increasedvery greatly to the commerce of this part of France. Bourges is the seat of an archbishopric. The diocese is very ancient. St. Ursin, said to have been the first bishop, lived about A.D. 252. The archbishop took the title and rank of patriarch, and primate of the provinces of Aquitaine. As patriarch he claimed jurisdiction over the archbishops of Narbonne, which were either resident orIMATE, over those of Bordeaux and Auch, metropolitan districts of the second and third Aquitaine. As metropolitan, he had at one time eleven suffragans, viz., the bishops of Alby, Cahors, Castres, Clermont, St. Flour, Limoges, Mende, Le Puy, Rodez, Tulle (in the diocese of). These have been raised to the rank of metropolitan, and the bishops of Cahors, Castres, Mende, Rodez, and Valence, made suffragans to him, there remained only five suffragans to the archbishop of Bourges, viz., the bishops of Clermont, St. Flour, Limoges, Le Puech Lozére. (Expilly.) These are still his suffragans. The diocese of Bourges includes the departments of the Cher and Indre. There are an Académie Universitaire, a Collège Royal, or high school, a seminary for the priesthood, and a school for music; besides a society of agriculture, of commerce, and of arts, a rich public library, a museum or art gallery, an historical cabinet, and a theatre. There is a Cour Royale, or high court of justice, the jurisdiction of which extends over the three departments of Cher, Indre, and Nièvre. Bourges is also the chief place of the fifteenth military division, which comprehends the several departments of Cher, Indre, Allier, Creuse, Nièvre, Haute Vienne, and Corrèze.

The situation of the town is pleasant. In the neighbour- hood there is a mineral spring, called the spring of St. Firmin, or the iron spring; and another in the Faviére St. Firmin, which is about 200 feet across, and is 18 feet above the gravel. The arrond. of Bourges had in 1832 a pop. of 97,537.

Among the eminent natives of Bourges may be men- tioned the celebrated preacher Louis Bouzidoulo, born here in 1632; Joseph de Fouchet, a military engineer; and characters of the Revolutions of England and of Spain, born in 1641 (both these were Jesuits); Jacques Coeur, already noticed. and the King Louis XI., by whom, as we have seen, the University of Bourges was founded or re-established.

BOURGOGNE (BOURGUIGNON).—The name of Bour- gogne is derived from the Bourguignons, one of the northern nations by whom the Roman Empire in the west was overthrown, and who established on the frontiers of France, Italy, and Switzerland, a kingdom of some extent, though not of long duration. As the account of this kingdom belongs to general history, and not particularly to French history, it is given under the article BURGUNDIANS, the usual English form of the name. The history and de- scription of the bailiwick of the Budal dynasty and province which inherited the same designation, we give, as belonging to French topography or history, under the French designation of Bourgogne.

General description of Bourgogne.—Bourgogne was of considerable extent and of very irregular form: its greatest dimension or length was from N.N.W. to S.S.E., from the neighbourhood of Bar-sur-Seine to the extremity of Bresse, in which direction it extended about 195 m.: the breadth, measured at right angles to the length, varied very much; the extreme east was bounded from near Bourgogne to the neighbourhood of Pontoux being about 90 m., and the least about 30 m. It was bounded on the N. by Champagne; on the E. by the county of Bourgogne, (usually called La Franche Comté.) Switzerland and Savoy; on the S. by Dauphiné; on the W. by Burgundy, (often called) the Bourbonnais, Nivernais, and Orléanais.

The country thus bounded comprehends portions of the basins of three of the principal rivers in France, the Loire, the Rhône, and the Seine. The W. part is watered by the Loire, the Saône, the Rhône, and smaller streams, which flow immediately or ultimately into the Loire, and by the Loire itself for a short distance; the E. part is watered by the Vienne, the Tille, the Ouche, the Dheune, the Doubs, or as it is written in maps of 70 m. and 80 m. since the days of Caesar; others, tributaries of the Saône, and by the Saône itself, a consid- erable part of the course of which is in Bourgogne; the N. parts include the source of the Seine, the sources of the Ouche, the Armançon, the Serein, and the Cure, all of which, and part of the course of the Yonne, ultimately unite.
with the Seine. The district of Bresse is bounded on the S. by the Rhône, and watered by the Ain which falls into the Rhône. These three basins are separated from each other by a range of hills which, entering Bourgogne from the E., runs nearly due N. to the neighbourhood of Château-Chinon, separating the basins of the Rhône and the Loire, and at Château-Chinon divides into two parts, one of which running N.W. separates the basin of the Seine from that of the Loire; while the other, the Côte d'Or, runs N.E. towards Langres and the Chain of the Voges, and separates the basin of the Seine from that of the Saône, or more properly the Rhône. Two important canals cross the country; one, Le Canal du Centre or du Charolais, unite the Seine at Chalon on the Loire and the Saône at Châtillon; the other, Le Canal de Bourgogne, unite the Saône at St. Jean de Losne with the Yonne, between Auxerre and Joigny, following very nearly the course of the rivers Ouche and Armançon.

Watered by so many rivers, possessing a fine climate and fertile soil, Bourgogne may be regarded as one of the districts of France most favoured by nature. Grain of all kinds is plentiful, vast numbers of sheep are fed in the pasturages, and the forests yield timber for the buildings and fuel. Henp, fruit, fish, and game, are plentiful; but the principal article of produce is wine, which is among the very best in France. The following wines may be mentioned as of the finest quality: the red wines of Auxerre, La Romaneé-Conti, Chambertin, Richelieu, Oudon; the white wines of Meursault, Pommard, Chapaize, Georges, Corton, Les Tourins, and Chenas; and the white wines of Puligny (growth of Monthrachet), Pouilly and Buissé. The wines of the district are known by the general name of Pon de Bourgogne (Burgundy wine). For further information, see Bourgogne and its productions, trade, etc., Bourgogne, see Aix, Aube, Côte d'Or, Saône and Loire, and Yonne, among which department this extensive and valuable territory has been shared. (Malte Brun, Dict. Univ. de France.)

Bourgogne has been considering it, was formerly divided into the prov. of Bourgogne properly so called, and the three dependent districts of Bresse, Bugey (including Valromey), and Gex. The prov. of Bourgogne was again subdivided into the duchy so called, (comprehending Le Dijonnais, L'Autunois, Le Châtillonnais, or districts of Dijon, Autun, and Châlons, L'Auxois, and Le Pays de la Montagne,) and the dependent counties of Le Charolais, Le Mâconnais, L'Auxerrois, and Bar-sur-Seine; which counties took their names from the towns of Charolles, Macon, Auxerre, and Bar-sur-Seine; (Garreau, Description de Gouvernement de Bourgogne.)

The principal towns of this important government, of which Dijon was the capital, with the river on or near which they stand, and their pop. in 1832, as far as we can ascertain it, we give for convenience sake, the towns of those two counties are given for the pop., the first list of the town itself (population agglomerée), the second that of the whole commune.

<table>
<thead>
<tr>
<th>Town</th>
<th>Pop.</th>
<th>Total</th>
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<tbody>
<tr>
<td>Array-le-Duc</td>
<td>2,416</td>
<td>2,416</td>
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<tr>
<td>Avalon, on the Veison, a branch of the Cure 5,089</td>
<td>5,569</td>
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<tr>
<td>Autun, on the Rhône 8,610</td>
<td>9,921</td>
<td></td>
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<tr>
<td>Auxerre, on the Yonne 10,959</td>
<td>11,439</td>
<td></td>
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<tr>
<td>Auxonne, on the Saône 3,477</td>
<td>5,287</td>
<td></td>
</tr>
<tr>
<td>Bar-sur-Seine, on the Seine 2,626</td>
<td>5,272</td>
<td></td>
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<tr>
<td>Beaune, on the Bourb, a branch of the Dheune</td>
<td>1,200</td>
<td></td>
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<tr>
<td>Bourbon-Lancy, near the Loire, about 2,900</td>
<td></td>
<td></td>
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<tr>
<td>Bourg, on the Royse, a feeder of the Saône</td>
<td>8,996</td>
<td></td>
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<tr>
<td>Charolles, near the Puisard, a feeder of the Rhône 7,926</td>
<td>8,996</td>
<td></td>
</tr>
<tr>
<td>Châtillon-sur-Seine, on the Saône 3,689</td>
<td>4,173</td>
<td></td>
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<tr>
<td>Dijon, on the Ouche 25,342</td>
<td>25,552</td>
<td></td>
</tr>
<tr>
<td>Gex, near the Valserine, a feeder of the Rhône 1,750</td>
<td>2,834</td>
<td></td>
</tr>
<tr>
<td>Jean, (St.) de Loane, on the Saône 1,744</td>
<td></td>
<td></td>
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<tr>
<td>Mâcon, on the Saône 10,998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuits, on the Meuizin, which unites with the Bouroux and flows into the Dheune</td>
<td>3,050</td>
<td></td>
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Leurmean en Auxois, on the Armançon 3,985
Semur-en-Blomis, near the Loire 4,688
Oueure, on the Saône 3,574
Vaux, on the Brune, a feeder of the Armançon 1,904

For an account of the above-mentioned places, we refer the reader to their respective articles, for the larger towns: the others, so far as they call for notice, will be found in the account of the departments of Côte d'Or, Saône and Saône et Loire.

The history of Bourgogne presents perhaps more points of interest than that of any other district in France.

History of Bourgogne—Celtic period—The Ædui—When Caesar invaded Gaul, Bourgogne, for the most part, was the territory of the Ædui, whose capital Bibracte, afterwards Augustodunum, was the modern Autun. Portions however were occupied by other tribes; as Bresse and Bugey by the Ambardi (dependents of the Ædui), and by a part of the Allerobres, and of the Santonians, which led people also occupied those portions of Chalonnes and Le Dijonnois, which were on the left or S.E. bank of the Arar or Saône. The Lingones possessed parts of Dijonnois, including Dijon itself, and of L'Auxois, and Le Pays de la Montagne; of the last-mentioned the Mandubii, a small tribe, part of the Auxois, and the Aulerci Brannovices part of dependents of the Ædui, the Brienneis, which is part of the duchy of Bourgogne.

Of these people, who were all of the great Celtic race, the Ædui were especially numerous, and inhabited the S.E. before Caesar's arrival, the head of one of those factions, into which, with a remarkable propensity to party division, the Celts were separated. Their principal rivals were the Arverni and the Sequani (who inhabited, respectively, the districts of Laon and Dijon), and the Auvergnats, who had the predominance so long as the contest lay between them and the other people of the Celtic race. Their power seems to have been confirmed by their alliance with the Romans, who had gradually subdued that part of Gallia which lay to the W. of the Seine and E. of the Loire, and further the Alps (the Cottian Alps). Shortly, however, before Caesar's arrival, the Arverni and the Sequani, desiring to make head successfully against the supremacy of the Ædui, determined to call in the Germani to their aid; and a large body of these, crossing the Rhenus (Rhine), utterly defeated the Ædui and their dependents in two battles, in which the vanquished lost all their senate, all their nobility and all their cavalry. The Ædui were compelled to give up hostages the chief men of the state, and to swear that they would never have recourse to arms against the Romans. (Cass. de B.C. i. 11, vi. 11, 12.) While in this depressed condition, the Helvetii (Swiss), the most warlike of the Celtic nations, with their allies, abandoning in a body their native country, set out for Gaul, and landed on the coast of Cottiae (the Cot tenge), where they determined to settle. Their road lay through the country of the Ædui, which they ravaged, without encountering any effectual opposition. The only hope of this wretched nation was now placed in their Roman allies, and they sent ambassadors to Caesar, who had just entered upon the government of the Roman provinces of Gallia Citerior, and Ulterior Illyricum (which comprehends the N. of Italy and the S. of France), pleading 'that they had always so conducted themselves towards the Romans that their hands had never been stained with the blood of their countrymen, and their towns burned with the flames of the Roman army.' (Cass. de B.G. i. 11.) Their request was complied with; Caesar marched against the Helvetii, cut off their rear guard while on the point of crossing the Arar, and in a second engagement entirely defeated them with great slaughter, and compelled them to return home. He then, by the desire of the Ædui and other Celtic people, led his victorious army against the Germans and defeated them, their king Arriovistus escaping across the Rhine, with a very few survivors of his numerous army.

During the greater part of Caesar's command in Gaul, the Ædui appear to have adhered steadily to the interests of the Romans; but in the general revolt which took place in the seventh year of his government, they were induced to join their countrymen in the struggle for national independence. A body of their troops under Epoporix and Verduumarus (who had been sent by Caesar when he
knew of the revolt of their countrymen), took possession of Nociudunum (Nevers), where Cæsar had deposited the hostages of the Galli, as well as the corn, money, and baggage for his army; and having carried away the hostages, divided the spoil and burnt the town. Cæsar therefore crossed the Liger (Loire) by a ford and marched R. towards the country of the Sequani, while the Galli held a general council at Bibrice (Autun) to determine to whom the chief command should be intrusted. The Āduli had required that they should ask them, but the confederates preferred the tried courage and skill of Verecingetorix, the Arvernian; and the Āduli, though mortified, were obliged to submit. The war now assumed a very serious character, and the affairs of the Romans were in a most critical situation; for the Gallic confederates had defeated an engagement of the cavalry, with the loss of Eperoedoix, and some other men of note who were taken prisoners: and the main body of the confederates retired, closely pursued by the Romans, to Alesia (Alise, or rather a mountain near Alise, a little town of the Aucois in Bourgogne), under the walls of which, in a very strong position, the Galli encamped. Verecingetorix, dismissing his cavalry to their respective states, with directions to gather all their forces and come to his relief, remained with eighty thousand chosen men to sustain the siege which the Gauls had already begun. Great economy and wise management, to make his scanty store of provisions last till the return of his countrymen.

Cæsar, aware of the inadequate number of his forces to guard lines of circumanvallation of the extent required to hem in the enemy, resolved to effect a stratagem by which he might take upon himself the appearance of being stronger than he was. The besieged were reduced to great distress for want of provisions; but their spirit was unbroken, and they determined in a general council, if no relief came, to kill those whom age rendered unable to bear the fatigues of war, and to render their part to their neighbours. At last the unexpected succours came, to the number of two hundred and forty thousand infantry, and eight thousand horse. Repeated attacks were made upon the Roman entrenchments both from within and without. The！engagement of Augustus, included in Gallic Belgia, though the inhabitants of it were of Celtic race.

First Kingdom of Bourgogne.—Early in the fifth century the Burgundians, a branch of the Vandals, one of the people occupying the ancient Germany (under which name was comprehended the country from the Rhine to the Borysthenes), who had gradually approached the Roman frontier, crossed the Rhine into Gallia, and established themselves there. This was probably about A.D. 407; and in a few years they so far spread their conquests that they gave name to it the Kingdom of Burgundy, comprehending the whole S.E. of France, and extending beyond the Rhone, and even the Loire. This kingdom was conquered (A.D. 534) by the Frankish princes, descendants and successors of Clovis, viz., Childerich, king of Paris, and Childebert, king of Soissons, and perhaps Theodebert, king of Austrasia. [BURGUNDIANS.]

Second Kingdom of Bourgogne.—In 555 Cloïaire, the sole successor of the race of Clovis, reunited under his own sway the portions of the kingdom of the Burgundians which at the conquest had been allotted to the victorious princes; and in 561 Goutran, his son, who succeeded to the kingdom in the person of his mother Gudrun, married to Gunther, king of the Burgundians (but much of what these people had subdued was attached to the kingdom of Austrasia), took the title of king of Bourgogne, and fixed his usual residence at Clithuns sur Sone. It is needless to trace the history of this kingdom which followed; sometimes it was divided with its sister kingdoms, Neustria, Austrasia, and Soissons, or with one or two of them; at others it was separate and single. It followed the fortune of war or of inheritance, and its boundaries varied also according to circumstance, but it never extended to the lands which are now united with one or more of the other kingdoms of the Franks.

To the weakness and incapacity of the Merovingian princes succeeded in 745 the more vigorous government of Pepin le Bref (the Short). Upon the division of the territories of丕针 his son Carloman and Charles or Carma- magne, the kingdom of Bourgogne fell to the former, but upon his death became part of the widely-extended empire of Charlemagne. In the partition of this empire, after a bloody war, among the children of Louis le Debonnaire, A.D. 843, the kingdom of Bourgogne was divided between the W. of the Saône to the lot of Charles le Chauve (the Bald), the part E. of the Saône to the Emperor Lothaire.

Supposed Third Kingdom of Bourgogne.—In the division of the territories of the Emperor Lothaire between his three sons the Burgundians were allowed a portion which resulted from the division was called the kingdom of Bourgogne. This kingdom comprehended what has since been known as the governments of Dauphiné and Provence, which had been included in the kingdom established by the Burgundians in this part of France, and had been also partially included in the second kingdom of Bourgogne under the Merovingian Guертan. But Plancher in his Histoire de Bourgogne asserts that this kingdom bore the name, not of Bourgogne, but of Provence; and although it was within the lines of the Burgundian empire, it does not appear to have included more than a very small part, if any, of either the province of Bourgogne as described at the beginning of this article, or of the county of Bourgogne or Franche Comté. Those portions of the province of Bourgogne which were in the time of Emperor Lothaire (Bresse, Bugey, &c.), were included in the kingdom of Austrasia, which came to Lothaire, second son of the emperor, and which took from him the name of Lotharingia, whence the more modern name of Lorraine. This portion of the Burgundian empire was affected by the various changes in following years. That part of Bourgogne which was comprehended in the dominions of Charles le Chauve passed by succession to his son Louis le Bave (the Stammerer), and in the partition of the states of this prince it fell to the lot of a domain of Provence, under the name of Dauphiné. The possessions of Carloman and his brother Louis II. were united into the kingdom of France, to be a portion of that kingdom.

Supposed later Kingdoms of Bourgogne.—Bourgogne Cisjurane, Bourgogne Transjurane, Arles. It has been already noticed that in the partition of the states of the Emperor Lothaire, A.D. 855, one of the kingdoms, that of Provence, formed by the partition and allotted to Charles, the youngest son of Lothaire, has been incorrectly styled by some the kingdom of Bourgogne. This kingdom was of short duration, and the title of king was assumed only by A.D. 863. In 879 another kingdom of Provençal origin, in which some authors give the title of Bourgogne Cisjurane, was formed by Boson, a powerful French noble. It comprehended Provence, Dauphiné, and afterwards part of the Aquitain and Viennoise.

During the troubles that succeeded the death of Charles le Gros (the Fat), king of France and emperor of Germany, under whom the empire of Charlemagne had been reunited, a kingdom was formed by the successful ambition of Duke of Burgundy, one of the nobles of that country (comprehending the various parts of the countries of the east and west of the former kingdom of the Burgundians), to which the vague and extensively applied name of Bourgogne Superieure, or Upper Burgundy, was given. This kingdom was called Bourgogne Transjurane, and comprehended Switzerland and some smaller districts. Rudolph, its first king, was elected in 888.
About A.D. 930 these kingdoms were united in the person of Rodolph II, king of Bourgogne Transjurane. He was consequently lord of all those extensive territories of northern Italy; and Hugues, to secure the peaceable possession of this, ceded to Rodolph, with certain reservations, his own original kingdom of Provence. The two kingdoms thus united were called the kingdom of Gaul or Franche Comté. It was a pilgrimage, the Holy Land, to which the Crusaders went at the time of the first crusade. Another of his descendants, Hugues III, visited the Holy Land as a crusader in 1171, and again he accompanied Philippe Auguste, king of France, in the crusade which he undertook in 1190-91, in conjunction with Richard L., king of England. Upon the return of Philippe to France, after the capture of Acre, the duke of Bourgogne was placed at the head of the French crusaders who remained in the Holy Land, and by his fear or jealousy prevented the advance of the Christian army when at the point of victory.

First race of Dukes of Bourgogne of the blood royal of France.—Robert, the son of Hugues Capet, is said to have bequeathed the Duchy of Bourgogne to his younger son Robert. Henri the elder son became feudal lord of the kingdom of Provence. In the war between the brothers, the testamentary disposition of the late king was confirmed, and Robert became Duke of Bourgogne and founder of the first royal race by which that dignity was held. Eudes, one of his descendants, died a pilgrim in the Holy Land during one of the crusades at the time of the first crusade.

Duchy of Bourgogne—Earliest Dukes.—The Duchy of Bourgogne consisted of a considerable part of the territory which now forms the department of Jura, and included several small districts, one of which was the Forest Comice, with some adjacent territores which were long ago disjoined from it, as the city of Langres in Champagne, and the city of Nevers, with its surrounding district of the Nivernois. Some also add the city of Lyon; but the dukes of Bourgogne have never acknowledged any authority in virtue of their title over that city, which therefore cannot be regarded as part of their domain. It appears that the name Bourgogne as given to a country has had very different applications. We have 1. The original domaine of a preceding not only the district which is the particular subject of this article, but also the whole S. E. of France and Savoy. 2. After the extinction of this kingdom, the name of Bourgogne appears to have been given to the districts composing it, though there was no jurisdiction exercised over it under that title except in the case of the second and later kingdoms, to which, whether correctly or not, its name is given. Of these later kingdoms, that formed by Goutran in the 6th century appears to have been the only one which was nearly coextensive with what is now the department of Jura, and the other date comparatively late and confined to certain portions of that kingdom to the E. and S. of the Rhône and Saône. 3. The county or the Franche Comté. 4. The Duchy, nearly coincident with that part of the province or military government of later times which lies N.W. of the Saône, and which, being a possession of the Duchy of Bourgogne under the Duchy of Burgundy, the districts of Bresse, Bugey, &c.

The earliest dukes or governors of Bourgogne under the Frankish kings were those at the head of the province, and in process of time their dignity and authority became hereditary, and from Richard le Justicier (brother of Bonson king of Provence, already mentioned), who held the title of duke in the latter part of the 9th century, the dignity descended by hereditary right to Hugues Capet king of France, in the middle and latter part of the 10th century. But although the practice of inheritance thus grew up, it was not yet recognised as legal; it was rather a concession made by the weakness of the kings to the fast-increasing power of the great feudal families. It was not until the 12th century, when the French were compelled to assume, probably by the influence of Hugues Capet, Robert the younger, the title of Hugues Capet, Robert granted the Duchy to his son Henri, who succeeded him on the throne of France as Henry I, and thus reunited the ducal crown with the crown.

First race of Dukes of the blood royal of France.—Robert, the fourth son of Jean II, king of France, received from his father (Sept. 1363) the Duchy of Bourgogne, to be held by him and his lawful heirs; and the government was continued by the house of Bourbon until 1364 by Charles V., son and successor of Jean II, and brother of Philippe. The duchy was distinguished by courage; he was present when only fifteen at the battle of Poitiers, where he was taken prisoner, and he held command in the armies of his brother in the wars which he carried on against the English. He married Marguerite, daughter and heiress of the count of Flanders, and upon the death of his father-in-law came into possession of the Comté de Flanders, Artois, Bourgogne (Franche Comté), Rethel, and Nevers; by prudence and mildness he ruled with great ability, and the kingdom was confirmed to him by the death of Charles V. He was one of the guardians of the new king, Charles VI., who came to the throne a minor, and afterwards had the government of the kingdom when that prince became a loutic.

In the year 1396 he sustained a severe blow in the captivity of his son, Jean, count of Nevers, who conducted a troop of the choicest of the young nobility of France to the succour of Sigismund king of Hungary against Bajazet or Bayazid, sultan of the Turks. In this troop, more eminent in high birth than in number, were the three eldest sons of the count of Nevers, who had been almost entirely the stable of France, Jean de Vienne, admiral of France (who had formerly defended Calais against Edward III. of England), Le Maréchal de Boucicaut. Confident in their courage, they rashly engaged near Nicopolis on the S. bank of the Danube with the vastly superior forces of the Sultan, and were either killed or taken prisoners. The defeat of this presumptuous band involved that of the whole Christian army, of which they formed the advanced guard. The aged and heroic De Vienne perished in the field; the duke of Nevers, the son of the Duke of Bourbon, was taken prisoner, and the highest rank were ransomed; the greater part of the prisoners were massacred in cold blood by Bajazet's order. Philippe le hardi died in 1404, aged sixty-three.

Jean, duke of Nevers, who had obtained the name of Bajazet from his father, and had been chosen to succeed the duched of Bourbon on the death of his father, being then thirty-three years of age. He succeeded also to the rivalry which had existed between his father and Louis, duke of Orleans, brother of the imbecile Charles VI. These princes had disputed the government,
with the dauphin, in an interview with whom, at the bridge of Montereau-sur-Seine, he was assassinated 10th Sept. 1419. His body, after remaining all night naked on the ground, was carried in a pauper's bier to the church of Notre Dame, in Montereau, from whence it was removed, in the course of the following year, on the capture of Montereau by the Bourguignons and the English, to Dijon, and buried in the church of the Carthusians there.

Philippe, surnamed le Bon, the son of Jean Sans-peur, succeeded to the duchy, being then twenty-three years of age. The general cry for vengeance against the assassins of the late duke, co-operating with the solicitations of Isabelle de Bavière, the deceased lady's sister, and the feelings, prompted Philippe to offer his alliance to Henry V. of England. Henry was too skilful a politician to refuse the offer, and a treaty was concluded between the two princes, the object of which was the ruin of the dauphin. The duke had in consequence assembled troops, reduced the towns that lay in his way, joined the English forces, reduced Montereau, and entered Paris by the side of Henry V. Some time afterwards Philippe attacked St. Riquier on the Somme, then one of the strongest places in Picardy, and took prisoners with his own hand Xaintrailes, or Saintrailes, a celebrated French captain, who attempted to relieve it.

On the deaths of Henry V. of England and Charles VI. of France in 1422, the regency of France during the minority of Henry VI., son of Henry V. (to whom, by virtue of marriage with the daughter of Edward III., a dukedom was also offered), was offered to the duke of Bourgogne; but he declined it in favour of John duke of Bedford, uncle of the young king. The marriage of Bedford with the sister of Philippe rendered their union closer; but that union had nearly been broken between him and his opposite. Margaret de Brabant, cousin to Philippe, and Humphrey duke of Gloucester, a younger brother of Bedford. Jacqueline, heires of Brabant, Holland, Zeeland, and Friesland, had married Jean, and brought to him the rich inheritance just mentioned; but mutual wrongs produced a separation, and a divorce had been obtained on the plea of consanguinity. The duke of Gloucester married the divorced Jacqueline, and by virtue of this marriage claimed her inheritance, and embarked a considerable force to take possession of it. The duke of Bourgogne took up the cause of the Duke Jean of Brabant, gained several advantages over the English, and took Jacqueline (who had been abandoned by Humphrey) prisoner. She escaped; but afterwards, Duke Jean being dead, and Duke Humphrey having divorced her, she put herself forward by her own request, and went over to that of the princes. Another accommodation, negotiated at Bourges (A.D. 1412), restored some appearance of tranquillity to France. Jean still seems to have retained predominance, at least in the capital, which was the residence of his brother-in-law, and composed of the vilesst of the rabble, committed great disorders. Hostilities breaking out again, he was afterwards compelled to leave Paris, where his opponents established themselves. Not content with this, they pursued the duke, who had assembled his troops and retired to the neighbourhood of Paris, but had retired on finding it was defended. Another peace, that of Arras, put an end to these disturbances for a time (A.D. 1414): Jean was excluded from the capital, and though still powerful, was no longer predominant.

In England Edward IV. invaded the north of England in the great battle of Agincourt, the flower of the Armaignac party fell. Jean upon this marched toward Paris, but with strange irresolution stopped short at Lagny, and being ordered by the Constable, the Count d'Armaignac, to retire, did so. The tyranny of the constable however soon caused the Parisians to embrace again the Bourguignon interest; they opened the gates in the night to the captains of that party, upon whose entry the rabble again signalized their ferocity by the massacre of the Constable d'Armaignac and others. Jean at this time arrived at Orleans, and was compelled to witness further massacres by the populace; on the first of his brothers whom he could not restrain. His life and power were however approaching their close. Jean, with all his queen, having the king in his power, was at enmity with the dauphin chief of the Armaignacs. He tried to negotiate with the king of England for a division of the disputes of faction, was extending his conquests in France, and had just taken Rouen (A.D. 1419). Failing however in this negotiation, he attempted a reconciliation

The opposite party however gathered strength; and though hostilities were not absolutely declared, armed bands, gathered by each faction, used great license in the country. A commission of inquiry, empanelled in London, (A.D. 1411), was only a prelude to more serious disturbances. Open hostilities took place, and the duke of Bourgogne allied himself with the king of England, Henry IV., who was then at London, and went over to that of the princes. Another accommodation, negotiated at Bourges (A.D. 1412), restored some appearance of tranquillity to France. Jean still seems to have retained predominance, at least in the capital, which was the residence of his brother-in-law, and composed of the vilest of the rabble, committed great disorders. Hostilities breaking out again, he was afterwards compelled to leave Paris, where his opponents established themselves. Not content with this, they pursued the duke, who had assembled his troops and returned to the neighbourhood of Paris, but had retired on finding it was defended. Another peace, that of Arras, put an end to these disturbances for a time (A.D. 1414): Jean was excluded from the capital, and though still powerful, was no longer predominant.
this treaty, but that it was occasioned by grief at the hearing or

Upon the peace of Arras the duke of Bourgogne assisted by his troops in the recovery of Paris from the English; and in 1436 or 1437 he attacked Calais, which he attempted unsuccessfully to wrest from his late allies. Following years were occupied by troubles in the Netherlands, where the commercial interests and the possession of the rich cities of Bruges and Ypres were in constant danger; and, in 1441, the English kindled a war of destruction and aggression among the Burgundian nobles, but the latter were not intimidated by their example. In 1443, Charles, the second son of the duke of Burgundy, was slain by accident; otherwise he would have been one of the leading men of his time. Philippe d'Orléans, who succeeded him, was only a child. The duchy of Burgundy was, therefore, in a state of despondency when the death of Charles V. occurred. The Burgundian lords, therefore, took advantage of the situation, and, by a treaty with the English, made a division of the kingdom of France. The treaty was in favor of the English, and was ratified by the Estates-General of France. The English, however, were not satisfied, and, in 1445, a new treaty was made with the Burgundian lords, which was ratified by the Estates-General of France.

The year 1446 was distinguished by the decline of the power of the duchy of Burgundy. The Burgundian lords, who had been the chief supporters of the French king, were now weakened by the weakness of the duchy of Burgundy. The Burgundian lords, therefore, took advantage of the situation, and, by a treaty with the English, made a division of the kingdom of France. The treaty was in favor of the English, and was ratified by the Estates-General of France. The English, however, were not satisfied, and, in 1445, a new treaty was made with the Burgundian lords, which was ratified by the Estates-General of France.

[THE PENNY CYCLOPÆDIA.]
sought to trim the balance between Bourgogne and France, by intriguing with both the princes, was detected in his double treachery, and by a compact between the duke and the king, was delivered up to the latter, who had him tried and decapitated without delay. During this interval, Charles managed to acquire the landsgraviate of Alsace, a possession of the Holy Roman Empire, to put an end to a constant rivalry in sessions; and encouraged by the extent of his territories and his power, he sought to obtain of the Emperor Frederick III. the title of King. The emperor was once on his way to confer this dignity, when some suspicion caused him to retire; so nearly had this ambitious noble obtained the regal dignity.

But the close of Charles's career was beset with misfortunes. In the year 1474 he was involved in hostilities with the emperor of Germany, the Swiss, and his old inveterate enemies, the English. The French not only raised a formidable force of English and Italian adventurers, and the success that had attended his enterprises for some time had increased his natural arrogance of temper. He was however compelled to yield to the pressure of his enemies; and was glad to purchase a reconciliation with the emperor. In 1475 he possessed himself of the duchy of Lorraine; and in 1476 he attacked the Swiss, who, though far inferior in numerical force, defeated him in a battle at Granson, in the Pays de Vaud, near the S.W. extremity of the L. of Neuchâtel. Emperor Frederick, however, arrived in the nick of time, and the Emperor of Germany, the Swiss, and his old inveterate enemies, the English. The French not only raised a formidable force of English and Italian adventurers, and the success that had attended his enterprises for some time had increased his natural arrogance of temper. He was however compelled to yield to the pressure of his enemies; and was glad to purchase a reconciliation with the emperor. In 1475 he possessed himself of the duchy of Lorraine; and in 1476 he attacked the Swiss, who, though far inferior in numerical force, defeated him in a battle at Granson, in the Pays de Vaud, near the S.W. extremity of the L. of Neuchâtel. Emperor Frederick, however, arrived in the nick of time, and the

Bourgoign, Canal de, one of the most important of the canals of France, and a portion of that system of inland navigation by which it is proposed to connect the Seine with the Rhine. This can (which is either yet uncompleted, or not yet open to navigation) connects the basin of the Seine near Montbard, by a circuit it returns again to the Seine, and runs side by side with that riv, to its source. It is carried by a tunnel nearly 8 m. long, under the chain of hills which separates the basins of the Seine and Sabine; and following nearly the course of the Ouche, below the plantation of Neuvy, the basin of the Sabine is 190 to 190 m. By thus uniting the Seine and Sabine it opens the navigation from the Channel to the Mediterranean; and by means of the Canal deJonquisier, which communicates from the Sabine to the Rhine, it opens the navigation from the Channel and the Seine to the Rhine. It is comprehended in the departments of the Seine and Côte d'Or.

Bourgoign, Jean François, Baron de, was descended from a noble house, not unknown in the history of France. One of his predecessors, Edmond de Bourgoin, prior of a monastery of Jacobins at the time of the Ligue, eulogised the regicide Jacobin Jacques Clement, declassified and fought against Henri IV.; and was sentenced, by the parliament of Toulouse, to be torn to pieces by the windmills of that city. The Duc de Bourgoin, having since successively published books, now forgotten, upon history, finance, jurisprudence, philology, and divinity. Jean Francois, the subject of this present article, was born at Noyers, a.d. 1743. At the age of twenty-three he quit the duties of his diplomatic employment as Secretary of Legation. In that capacity, in the year 1777, he accompanied M. de Montmorin, the French ambassador to the court of Spain, to Madrid, where he resided nine years, for the last two as Chargé d'Affaires. His resignment to Caffarey, to be in charge of the French intercourse with the Spanish court, the condition of Spain, political, statistical and social, which, upon his return to France, he embodied in his Voyage en Espagne, or Tableau de l'Etat actuel de cette Monarchie, published in 1783, and then esteemed the best work extant upon Spain. In 1791 Bourgoignie's return to Spain as minister plenipotentiary, remained there until 1793, when he collected additional materials for his book, of which a second edition, thus enlarged, appeared in 1797. Third and fourth editions, with successive additions and corrections, in several other countries. A new edition, published in 1805, appeared in 1803 and 1807, under the title of Tableau de l'Espagne Moderne. It is upon this work, which has been translated into the English, German, and Spanish languages at least, that the Baron de Bourgoignie's claims to fame are based. He left France in 1796 quitting Spain until Bonaparte assumed the government of France, when he was again employed in several diplomatic missions, and died, a.d. 1811, as French envoy to Saxony. His recent work, Les Memoires Historiques et Philosophiques sur le Royaume de Pologne, is a posthumous work, and is an important addition to the historical literature of the country. There are also some Memoires de la maison de Bourgoin, in the Encyclopedie, and a Biographie Universelle, which are valuable contributions to the literature of the country. Bourgoignie's work, Tableau de l'Espagne Moderne, is a complete and accurate history of Spain, and is a valuable addition to the literature of the country.

Bourignon, Antoine, was a celebrated religious enthusiast, and founder of a sect which acquired so much importance that, under the name of the Bourgignons, the designation was applied to those who cultivated the art of divination. He was denounced by candidates for holy orders in the Church of Scotland. She was the daughter of a little merchant, and was born in the year 1610, so singularly ugly that a family consultation was held upon the propriety of destroying the infant as a monster. This fate she escaped, but remained an object of derision to her mother, in consequence of which her education was neglected, and the first books she got hold of being to be 'Lives of the early Christians,' and mystical tracts, her ardent inclination acquired the title of fanatical. After his death, it has been asserted that her religious zeal displayed itself so early, that at four years of age she outran to be removed to a more Chris-
tian country than Lille, where the unevangelical lives of the townpeople shocked her.

As Antoinette was a considerable heiress her deformity did not deter her from being brought in marriage; and when she reached her twentieth year one of her suitors was accepted by her parents. But the enthusiasm had made a vow of virginity, and on the very day appointed for celebrating her nuptials she fled in man's clothes. She now obtained admission amongst the sects, and supporting herself by the labour of her hands until the year 1648, when she inherited her father's property. She was then appointed governess of an hospital at Lille, but soon afterwards was expelled the town by the city police, on account of the disorders that her doctrines provoked. She then resumed her wanderings. About this time she was again persecuted with suitors, two of whom were so violent, each severally threatening to kill her if she would not marry him, that she was obliged to apply to the police for protection, and two men were sent to guard her house. She died in 1649, and left her property to the Lille hospital of which she had been governess.

She taught that the true church was extinct, and God had sent her to restore it. She allowed no liturgy, worship being performed during the service of her doctrine mystical, and she required an impossible degree of perfection from her disciples. She is said to have been extraordinarily eloquent, and was at least equally dignified, for she wrote twenty-two bulky volumes, most of which were printed at a press she established, and devoted itself to their promulgation. After her death Poiret, a mystical Dominican, and a disciple of the Cartesian philosophy, wrote her life, and reduced her doctrines into a regular system. (Algers. Deutscher Rechel Encyclopaedie; Bieg, Univ.; Chalmers, Theological Dictionary.)

BOURN, or BURNN. [Keswick, Lincashire.]

BOUSSAC, a town in France, in the dep. of Creuse, and capital of one of the arrond. into which that dep. is divided. It is upon the river Creuse, about 174 m. nearly S. of Paris, 40° 32' N. lat. 1° 19' E. long. 'Boussa,' says M. Maite Brun, 'the least populous of all the chief towns (whether of arrond. or dep.) of France, stands on a rock almost inaccessible to carriages; surrounded by walls flanked with towers, commanded by an ancient castle of the Counts of Poitiers, from whose eyes the eye looks down upon a pass formed by mountains of acid and wild aspect; this place is the most desolate abode that can be imagined.' The pop. of the town is omitted in the returns of 1811. In the general list of the late dynasty, by a previous census (we believe that of 1836) it was 757.

The arrond. of Boussac contained, in 1826, 86,783 inh.

BOUSSU. [Hainault.]

BOUSTROPHEDON. [Alphabet, p. 892.]

Boutros, or Boutrosse (Greek word for the metaphysician, professor of moral philosophy at the University of Gottingen, is chiefly esteemed for his 'History of Modern Literature.' He was born in the year 1756, at an iron foundery near Goslar, and completed his studies at Gottingen. He was educated for the law, but was diverted from his legal pursuits by the charms of lighter literature. At an early age he published several poems and a novel, 'Graf Donamar,' which is said to give a good picture of German life; but at the age of 25, being struck with a sense of the insufficiency of such occupation as the business of life, he devoted himself to metaphysics as a disciple of the then reigning masters, Kant and Jacobi. He was in consequence appointed to the chair of moral philosophy at Gottingen in 1779. Both in his lectures and in his metaphysical writings, he has ably expounded the principles of the metaphysicians of the 18th century, and produced nothing brilliantly new or original. His literary reputation rests upon his 'Geschichte der Neueren Poetische und Beredsamkeit,' in 12 volumes 8vo., published in 1801. This work contains separate critical histories of the Belles Lettres of Italy, Spain, Portugal, France, England and Germany, from the revival of letters to the close of the 18th century, and is still reckoned one of the best books that Germany has produced in this kind. It is not however to be quite implicitly relied upon, especially in the earlier volumes; the author either improved as he proceeded, or laboured with heartier good will upon English and German literature. Portions of Bouterow's work have been translated into French and English. Professor Bouterow died on the 5th of January, 1839, at Gottingen, in the 76th year of his age. Sir J. T. Smith, of the Mission to the Mohawks, states that he laboured the 19th of June, 1838, at the age of 56, in the Indian village of the Oneidas, on Lake Ontario, N.W., from which Bovignes is a kind of suburb, in 54° 17' N. lat. and 4° 53' E. long.

Bouignes, which was formerly a well-peopled place, carrying on a considerable trade, is now a very inconsiderable place, having rather the appearance of a village, and contains only 161 houses and 779 inhabitants. The town has a church, two chapels, a town-hall, an hospital, a prison, and a commercial school, in which 68 children are instructed. The commune contains two iron founderies, a pottery, two refiners of salt, and three saw-mills.

The castle of Bouignes was in existence in the seventh century. In the ninth century it was sacked and burnt by the Normans. In 1110 a fort was built by Godfrey, Count of Namur, on the side of the hill by which the town is commanded. In 1175 the town was surrounded by walls, and twelve years afterwards was besieged and taken by the Count of Hainault. At the beginning of the 14th century the inhabitants of Bouignes and Dinant were stimulated by commercial jealousy to make war upon each other, and it was only by the intervention of Lyon, that the fortress of Creve-coeur was built by the inhabitants of Bouignes. Only the ruins of a part of this fort now remain: they are rendered memorable by the heroic death, in 1545, of three females when the town was taken by the French. These three valiant women, having taken refuge in a church, threw themselves from the rocks rather than fall into the hands of the enemy. On this occasion the bravery of the defenders of the town was ill required by the conquerors; the inhabitants, who were not killed during the siege or in the assault, were allowed to retire freely.

Bouignes was ravaged by the plague in 1262, in 1306, in 1478, and in 1579. It was exposed to a very disastrous inundation of the River Maas in 1800. (Dict. Geol. de la Prov. de Namur, par Vandermaelen; Recueil, &c., par Y. der M. Gautier's Voyages.)

BOUVINES, a vil. of France, in the neighbourhood of Lille, dep. of Nord, remarkable only for a great battle fought here in the year 1214, between the emperor Otto IV and his allies, the Counts of Flanders, Boulogne and others, under the one hand, and Philip Augustus king of France, on the other. The forces were about equal, and by no means so numerous as the estimates of some historians would make them. The rival monarchs distinguished themselves by their valor; the latter also showed that the army remained with Philip. Otto fled, and the counts of Boulogne, Flanders, and others, were taken prisoners.

BOW. [ARCHERY.]

Bow, in music, a machine used for drawing out the sounds from the strings of stringed instruments, by moving the violin kind. The bow consists of—1. the stick, which should be of hard elastic wood, Brazil wood being generally used for the purpose; 2. of from eighty to a hundred horse-hairs; and 3. of a nut regulated by a screw, by which more or less tension is given to the hairs. The violin bow is very short in Corelli's time, but gradually increased in length, till Viotti, whose dictum in whatever concerned his instrument was received as law, fixed it at twenty-eight inches. The violincello bow is larger and stronger. That of the double-bass is almost two feet long, and the stick is bent, forming something like the segment of a circle, of which the hairs when stretched are the chord.

BOW ISLAND (HE-OW), the largest of the coral islands in the Dangerous Archipelago, was discovered by M. J. J. Arago, in July, 1827. It is 50 miles in length, and at its narrowest point is about 20 miles wide. In the middle of the island, and about 4 miles from the beach, is a vast lake, in the middle of which is a coral island, about 2 miles in circumference, which is covered with a flat forest. The water of the lake is tranquil, and is of a deep dark green; the bottom appears to be covered with a deposit of sand and mud. In the interior of the island is a large lagoon, which is 10 miles in length, and 3 miles in width. The shore is of coral reef, and the whole island is covered with a forest of coconut, coco-de-mer, and other species of palm, with many kinds of flowering shrubs. The interior of the island is divided into two large basins, which are connected by a narrow neck of land. The climate of the island is very healthy, and the air is very pure. The soil is of a light loamy character, and the vegetation is luxuriant. The inhabitants of the island are a mixed race of Chinese, Malays, and natives of the island. The produce of the island consists chiefly of coconuts, sugar-cane, and breadfruit. The population of the island is about 5,000, and the annual produce of coconuts is about 300,000. The island is governed by a Resident, who is appointed by the British government. The island is said to be rich in copper and gold.
of trees and heaps of sand, is little more than a reef, over which the sea washes into the lake; but there is no passage even for a boat, except in one spot which may be entered by a large ship. This opening leads to the north end of the island, and is only 115 feet broad from reef to reef, with a coral knoll in the centre. When, owing to the heavy surf breaking over the reef into the lake, the latter has attained a higher level than the ocean, the water rushes through the opening; and during the rainy season it sometimes causes overfalls which would be very dangerous to boats.

Within the lagoon the anchorage is perfectly secure; the bottom is generally of a fine white sand. Water may be procured by digging through the sand into the coral rock, and drawing up the water with sieves. Some fish, and to flow into the wells as fast as casks could be filled. In this manner the Blossom obtained ten tuns a day, which proved tolerably good, though it does not keep so well as spring water; it was found to be impregnated with marl of a dark colour, and the bottom of the wells contained a dark red colour, and very hard; there are also cocoa-nut palms, and pandanus trees. The lagoon abounds in shell-fish, particularly of the pearl oyster kind. A brig belonging to the Australian Pearl Company, which had been out there, after the purpose, procured sometimes 1700 a day, but they did not yield well, being mostly of the seed kind.

The island is inhabited by about a hundred persons, living in miserable huts; they are an indolent ill-looking race, with black skin, and their eyes turned down at the corners, wrinkled countenances, and long bushy hair matted with dirt and vermin. Their stature is above the middle size, but they are generally crooked; their limbs are long, muscles flaccid, and the only covering is the grass growing on the backs of their heads. Hitherto, however, there were, the women presented a still more revolting appearance; they are obliged to labour hard for the men in collecting shell-fish on the reefs, and the pandanus nuts, which, with other fish caught by hook and line, and the cocoa-nuts, is their only diet. They have a few rude-made canoes. The number of house-flies is quite incredible; the young children lying naked on mats become so covered with them that it is difficult to discover any part of their skin. Their language is a peculiar one, who is believed to be their native, and whose body is the only covering to his superior bodily powers. They appear to have been cannibals; but the bodies of enemies, of those who die violent deaths, and of murderers who have suffered, were the only subjects selected for these feasts; and when the partiality for them in such state they devour fish, or turtle which are sometimes found on the shore.

Every man has his own deity, of which the most common is a piece of wood with a tuft of hair attached to it; or the head of a monkey, which is considered as more efficacious than the wood. This is suspended to a tree, and to it they address their prayers. Polygamy is usual; and they appear to believe in the transmigration of souls. The bodies of the dead are wrapped in mats and buried, with a wooden image of the deceased, which is believed that the soul for a time frequents the spot. The manufactures are mats, maros, baskets, fishing-hooks of the mother-of-pearl, lines, &c. The entrance to the lake lies in 18° 45' S. lat., 140° 57' W. long. (Beechey's Voyages to the Pacific and Behring's Straits, BOWDICH, THOMAS EDWARD, was the son of a merchant of Bristol, where he was born in 1799. His father at first intended to educate him for the bar, but, much against his wishes, it was eventually arranged that he should engage in trade. On being admitted, while still young, a junior partner in his father's house, he married; but, after a struggle of some years, both with his own inclinations, and with want of success, he entered himself at Oxford, where he was for a very short time. By the interest of his uncle, Mr. J. Hope Smith, the governor-in-chief of the settlements belonging to the African Company, he obtained a writership in that service, and proceeded to Cape Coast Castle in 1814. About two years afterwards he returned for a short time to England, when he was appointed by the Company to conduct a mission to the King of Ashantees; but on his arrival at Cape Coast Castle it was thought by his uncle and the council there that he was too young to go to the head of the mission, and Mr. James, the governor of the fort of Accra, was put in his place.

[Ashantees.]
Merchant Taylors' School. Bowyer was entered, in June, 1716, a scholar of St. John's College, Cambridge; where he formed an intimate friendship with several eminent individuals, whose services at a later period contributed to his reputation and prosperity, more particularly with Jeremiah More, and the learned numismatist, the Rev. Wm. Clowes. His industry, heathen knowledge, and proficiency in the Greek and Latin classics, moreover, commenced at an early age, and illustrated works which he printed, the following, as specimens of typographical beauty, may be selected: — Matthew Parker Cant. Arch. de Antiq. Brit. Eccles., vol. 1729, Vertot's 'Knights of Malta,' 2 vols. fol. 1729; 'Maittaire's Marmorum Rerum, &c.' 2 vols. fol. 1731; 'Itineraries and Travels,' 6 vols. fol. 1732; Pococke's 'Description of the East,' 3 vols. fol. 1743; the 'Copitic Pentateuch,' by Dr. Wilkins, 1731; 'Lyseis Orations,' by Dr. Taylor, 4 to., 1739. B. published also Dr. Middleton's 'The Origin of Printing, corrected by the Author, 12mo. 1740.' Dr. Middleton's Dissertation in origin, Engl. 2d., 'Mearman's account of its invention at Haarlem, with numerous notes and corrections.' Although the result of more recent bibliographical researches has entirely discredited the legend about Laurens Coster at Haarlem, the learned illustrations which B. has given to his publication must always render it one of the most important on the subject. But the reputation of Bowyer has been most extended by his 'Critical Conjectures on the New Testament,' which were published in the first year of the 18th century, in Greek text, of which the title in full is 'Novum Testamentum Graecum, ad fidem Graecorum solum Codicium MSS., nume. primorum expressum, adstituente Joanne Jacobo Wetsteinio, juxta sectiones Jo. Alberti Bengelii divinae et nova inter. Emendationes Conjecturales viarum doctorum undecunque collecta. Curia, typis, et sumtibus Gulielmi Bowyer;' 2 vols. 12mo., 1763. This, says Dr. Harwood, in the appendix of his own edition, 'is a valuable Greek Testament; Mr. Bowyer is an excellent Greek scholar, and it is to be feared in the last learned printer in England.' In Le Long's Bibliotheca Sacra, ed. Masch, tom. i., p. 246, it is highly approved, and the author is said to be 'viri doctus, et Stephano- rum tum in arte sof, tum in Graecarum litterarum scientia praestantissimus.' This work was long printed in Massachusetts, in returning thanks in 1768, for a presentation copy, say, 'The very accurate editions of many erudite authors, published under your inspection, assure us of the greatness of your merit as a learned editor. Your very curious edition of the Greek Testament, your 'Critical Conjectures,' notes, and many happy conjectures, especially as to punctuation, an affair of the utmost importance in ascertaining the sense, we esteem as a rich treasure of learning, and of more intrinsic value than many large volumes of the commentators.' The alteration of the text of Bowyer in the 2nd vol. a catalogue is given of the readings of Wetstein which are at variance with the text of Mill, or, which is the same thing, that of the 3rd edition of R. Stephens; excepting the Apocalypses, in which the variations were too numerous to be included. The words proposed to be, without substitution of others, omitted, as Roman. iv. final., I John v. 7 and 8, are inclosed within parentheses. A critical account of this edition is given in the Bibliotheca Theologica, Ernestus, tom. vi. p. 551, et seq. (in the translation of Bishop Marsh, Introduction, vol. ii.) 'Many obscurities in the Greek text are owing,' says Michaelis, p. 516, 'to an improper position of points; in collecting the opinions of the learned on punctuation, very few have pointed their heads so high as to render his work indispensable to the commentator and the critic.' But after the assertion, p. 395, that 'a collection of critical conjectures may be of great use in establishing the text of the Greek Testament; and such is the work published by Bowyer, a learned London printer; a work classical in its kind, to which the remarks of future critics will be annexed; it is stated, with apparent inconsistency, in the following page, that 'of the several hundreds of critical conjectures which Bowyer has produced there is hardly one which, after impartial examination, should be maintained; yet so much enlarged and improved edition of the 'Conjectures' was published in 1772. It was translated into German by the professor of Theology and Oriental Literature at Leipzig, Dr. Schultze. A 3rd edition appeared in 1782; and the 4th and best in 1815, in 4to. As it furnishes the greatest evidence of Bowyer's erudition and critical sagacity, we subjoin at length its title:— Critical Conjectures and Ob-
BOY or BOYARD, the general name for a Russian
monarch. The original nobility of Russia were composed of
persons descended from the leading warriors of the first
Russian monarch, Rurik and his successors, who, like the
Norman warriors under our own William I., received large
feves in the country which their valor had enabled their chief
to win. The feves seem to have been held by the sole tenures
of military service; they paid no imposition to the prince, but
were pledged in default of service to do him personal and
right of customs and tribute which himself had on Aix
domains. The fierce struggles between kings and nobles
which we read of in other countries were not known in
Russia. Various causes have been assigned for this; the
ordinary levies were subject to the direct supervision of the
commandant, who, however, was only a mere
doublet one; to which we may add the circumstances
which combined to prevent any great power from being
concentrated in the hands of individual nobles. In the first
place, the scarcity of cities and strong holds prevented any
large body of troops from being formed; the military
monarchy was subject to continual mutation in the
struggles which took place; the loss of the power of
the prince, which was always a matter of doubt to
result from the singular law of succession, by which the
brother of a deceased prince, and not his son, succeeded
to the vacant appanage. It was also an unfavourable
circumstance resulting from this law, that the prince of the
lateral branch was usually a stranger in the appanage to
which he succeeded, and that he generally came to it with a train
of nobles and followers who engrossed his favour and
preference. In fact, the princes themselves had more analogy
than the boyards to the turbulent nobles of France
under the French kings, who, in order to secure the
chivalry, which in those countries regarded the barons as their
immediate superiors.

The boyards of Russia then owed their final elevation
to the extinction of the petty principalities, and to the
establishment of the principalities of the grand dukes.
In 1340, a law was passed by Ivan the Terrible,
which vested the title of grand duke, and
contingent, until he arrived on the verge of 80, to correct
all the Greek works which he printed. His long career
of incessant application to study and business was terminated
by the publication, in 1777, of his edition of Bentley's
Dictionary of the Classical Languages of Greece and
Edition of Plutarch's Lives, which excited a great
veneration for 'the mighty scholar,' and augmented his
Dissertation with numerous remarks collected by
himself from the works of Markland, Upton, Lowth,
Owen, Clarke, Warburton, and Dr. Salmon, Master of the
Chair of the University of Oxford, who was in 1768
constituted a member of the Grand Collège for
the system of spelling, as saught, reit, diein, reperc, &c.
In the same year, on the 15th of November, at the age of
78, Bowyer died, and was interred at Low Leighton, in
Essex. In his will he left considerable sums to indigent
princes; the following is Cattarino's, who, as he
subscribes it thus: 'Typographerum post Stephanos et
Commelinos longo docetissimus; linguarum Latinae, Graecae,
et Hebraice perstitissimae.' There were indeed, at the time,
several celebrated printers, as Baskerville of Birmingham,
Foulis of Glasgow, and Crapeau of Paris; but Bowyer,
as to erudition and critical accuracy, was unrivalled by any of
his profession in England or on the Continent, during more
than half a century. Among the numerous
of literary erudition with whom he maintained a learned
correspondence, his most intimate correspondent was the
Archbishop Secker, Bishops Lowth, Hurd, Warburton,
Pears, Sherlock, Clayton, Pococke, Atterbury; Dr. Wotton,
Chandler, Whiston, Taylor, Pridmore, Jortin, Conyers
Middleton; Pops and Thompson; Garrick, Lord Lyttelton;
Dr. Mead, Gough, Chislett, Clarke, Ainsworth, De Masly,
Markland, Maitaile, and Palairet, who in his Latin letters
salutes him as 'vir doctissimo et carissimo.' Although a
true Jacobite son of the Church, he manifested a most
charitable disposition. In his remarks, for instance, on the
English translation of the Bible published in
1746, a translation, with learned notes by himself, he says,
'It is one of the hardest things in nature to give to
an enemy the praise he deserves—the idea of apostasy is sup-
pocused to be inconsistent with every virtue; and the
man who has rejected the Christian religion is thought to have
abandoned humanity.' He was greatly admired and re-
spected by the author of the noted Arian 'Essay on Spirit,'
Bishop Clayton, who gave him the copyright of the whole
of his works. Bowyer was estimable not only for his
literary labours, but for his benevolence. In general moral
rectitude and amiability simplelicity of manners, few have exceeded
'the last of learned printers.' His bust in marble, with a portrait of his father,
is in St. John's Hall.

BOYAR, or BOYARD, the general name for a Russian
monarch. The original nobility of Russia were composed of
persons descended from the leading warriors of the first
Russian monarch, Rurik and his successors, who, like the
Norman warriors under our own William I., received large
feves in the country which their valor had enabled their chief to
and Italian composers. In 1738 he succeeded Walden as one of the composers to the Chapels-Royal, and in performing services and many anthems which reflect so much honour on the English school of church music. Some years after he set Edward Moore's Solomon, a serenade, to music, in which are the duets ‘Together let us range the fields,’ ‘the air of the shepherd,’—and other highly esteemed compositions. In 1749 he was selected to set an ode for the installation of the Duke of Newcastle, as chancellor of the University of Cambridge, where the degree of doctor in music was, unsolicited, conferred on him. The same year he gave birth to The Chapel, a drama written by Moses Mendels, the music of which, composed by Boyce, immediately became popular, and so continued many years afterwards.

On the death of Dr. Greene, in 1753, Dr. Boyce was appointed to his place, and to the post of Organist to the Chapel Royal, and was called upon by the College of Musicians, then a lucrative and honourable office. In that year he also produced his finest work, the grand anthem, 'Lord, thou hast been our refuge,' which he wrote for The Feast of the Sons of the Clergy, and at the annual meeting of that corporation in St. Paul's cathedral, which office he held in conjunction with that of composer. In 1760 he published in twelve large folio volumes, the Cathedral Music of the English Church, a work which, with the splendid and useful work, in which the disinterestedness of the editor is not less remarkable than his deep research and acute discrimination; for not desiring any pecuniary remuneration for his labours, he fixed a price on the publications which were necessary to inform him, which only indemnified him for the expense he had incurred in preparing and bringing it out.

Dr. Boyce during many years suffered much from the gout, which attacked him in 1755, which became more frequent, and as he advanced in years, his health became worse. In 1758 he was in a state of great weakness, and was confined to his bed for some weeks. In 1759 he was converted to St. Paul's cathedral, and his obsequies were performed with every mark of affection and respect, many persons of distinction attending, together with almost every person of rank in London, as all known for talent, or connived for the great occasion. A second is the last recorded of him, the latter died many years ago, leaving no issue.

The published works of this excellent composer are, Fifteen Anthems, together with a Te Deum and Jubilate, in several parts; 1580, a grand anthem, Lord, thou hast been our refuge, for a full band. A second, Blessed is he that considereth the poor and needy, for the same, 1692; a Te Deum, Jubilate, and six anthems, printed in Dr. Arnold's Collection of Cathedral Music; the Serenata of Solomon; the Rosary Mass, which was performed at Westminster Abbey, which appeared in Lyra Britannica; The British Orpheus; The Vocal Musical Masque, &c.

BOYDELL, JOHN, was born, as asserted in the 'Gentleman's Magazine,' in Staffordshire; at Stanton in Shropshire in 1739, or 1740, it is no longer certain. According to Mr. Nichols in his 'Literary Anecdotes' (vol. iii. p. 411), an acknowledged authority for such particulars, in Derbyshire, in the year 1719. In his youth he was designed for the profession of his father, that of a land surveyor, to which he was for some time attended; but having, it is said, accidentally seen a volume of views of country seats by Baldy, his taste was developed, and he resolved to become an engraver. He accordingly proceeded to London, where, though, at the age of 21, he bound himself for seven years to a Mr. Diddams, but was discharged before the expiration of his apprenticeship he published by subscription, in 1746, a volume of his own engravings, consisting of 152 views in England and Wales; price 5 guineas. They are now interesting chiefly as an indication of the imperfect state of the Art in England, and are compared as compared with the improvement effected afterwards by his own exertions. Indeed he never himself excelled as an artist, a fact which his judgment and candour induced him often to acknowledge. These humble specimens served however to commence a very long and continuous course of prosperity; for with the profits of this publication he entered into business for himself as a print-seller; and by the adoption of a very liberal policy in employing and amply remunerating the best artists of the time, he gradually extended his speculations, and acquired a large income, and a great reputation as an enterprising and generous patron of genius. He engaged Woollett to engrave the celebrated pictures of Niobe and Phaeton; paying for the former 100 guineas, and for the latter 150; and both are sold at 20 guineas each; but have since, at auctions, produced 10 and 11 guineas: in short, he contrived to employ every aspirant to distinction whose energies wanted encouragement. When Boydell began business there were no very eminent English artists in London, and the foreign engravers, by the circumstances were reversed; for the importation of prints was almost entirely discontinued, and a large exportation ensued. Holland, Flanders, and Germany were the principal markets in which the engravings of Boydell were in demand. The demand was complete succeeding editions of his engravings, the engraving, and his indignation at the opprobrium which foreigners cast upon their countries for the deficiency of their taste in other departments of the fine arts, led him to attempt a similar improvement in the art of painting. For the Wexford Society, a Committee of the fine arts of the kingdom; and selected for illustration the works of Shakspeare, as supplying the most appropriate subjects for etching and displaying, the abilities of each individual. An English school of historical painting was the object. Oil paintings, of every description, Northcote, and others were all employed. Spacesious promises were purchased in Pall Mall, where, in the famous Shakspeare Gallery, were exhibited for several years those paintings which, in the words of Boydell, may with confidence be said to be executed with as much fidelity and peculiar freedom of conception, whatever has issued from the Flemish, French, or Italian schools. The following passage, in an article on the fine arts, in the 'Edinburgh Rev.' (vol. xvi. p. 969), is strangely at variance with the information of all other old opinions on the subject: to national reputation, rejoiced at seeing the Shakspeare Gallery dispersed, and deprived of the means of collectively disgracing his country. The beautiful plates which, under the liberal patronage of Boydell, were engraved from these numerous works of Shakspeare, formed a royal folio, of which the dimensions are three feet by two; the title, 'A Collection of Prints from Pictures painted for the purpose of Illustrating the Dramatic Works of Shakspeare,' was prefixed. In 1801, the British, Boydell, 1853,' A most superb edition of Shakspeare's dramatic works was at the same time undertaken by Boydell, and printed at the press of Bulmer, 1792-1801, in 9 vols. folio. There is a florid description of this magnificent folio, which was published in 1800 in the Critical Magazine, and The Critical Magazine. In 1800 also, he purchased the prints of the celebrated book of Botany, by C. D. Macklin, with which Boydell had nothing to do.

Being now (1804) at the advanced age of eighty-five, and having, in consequence of the commercial obstacles occasioned by the wars of the French Revolution, become involved in unavoidable difficulties, he obtained an act of parliament enabling him to dispose of the paintings of his Shakspeare Gallery by a lottery. In the memorial in the House of Commons he states that his enthusiasm for the promotion of the arts induced him to lay nothing by, but to employ continually the whole of his gains in the further education of these artists with unemployed artists; that the sums he had laid out with his brethren in the advancement of this object amounted to 330,000l., and that he had accumulated a stock of copper-plates which all the print-sellers in Europe would together be unable to purchase. He lived only until the last ticket of his lottery was sold. The affair was finally decided sub-

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BOY

296

BOY

sequent to his death, which occurred on the 12th of Dec., 1804. He had been elected alderman in 1782, sheriff in 1785, and mayor in 1790. He held also the office of master of the Stationers' Company. As the most generous promoter of those arts which refine and elevate the moral sentiments of man, he was honoured with a public funeral.

Among the collections published by Boydell was that of 120 engravings from the Houghton Gallery, which was purchased by the Empress Catherine of Russia. In 1771 he had published in fol. the Liber Veritatis, containing copies of 200 of Claude Lorraine's first sketches, in the cabinet of the dukes of Devonshire; in 1794, the 'History of the River Thames,' 2 vols. fol.; and in 1803, in 4to., 'An Alphabetical Catalogue of Plates engraved by the first Artists, from the finest plates of the Italian, Flemish, German, French, and English Schools.'

BOYEAU is any trench executed by the besiegers of a fortress to serve as a covered communication, or line of approach, during the progress of the siege. It receives the denomination of a parallel, an oblique, or a zig-zag boyeau, according to the line of its direction with respect to the general front of the works attacked. [TRENCH.]

BOYER. [Argens, Marquis d']

BOYLE, RICHARD, was born at Canterbury, Oct. 3rd, 1627. He was respectable, and was the name of Bluville had been settled in Herefordshire for many generations; but it was first rendered illustrious by the subject of the present notice, who from having been employed in the service of the chief baron of the Exchequer as a boy, had been at last rewarded with the honour of being admitted to the bar of the court of Exchequer; and they were insufficient to mark the sense which was generally entertained of his abilities, it has been usual to style him 'the great Earl of Cork.'

From Benet College, Cambridge, Mr. Boyle passed to the Middle Temple, having lost both his father and mother; his resources were probably not sufficient for his maintenance during the usual course of study, and he was thus led to offer his services to Sir R. Manwood, at that time chief baron of the Exchequer. The circumstances in which he was placed had afforded him an opportunity for the exercise of his talents, and in his twenty-second year he went to Dublin in question of a suit more suitable to the activity of his disposition. On landing in Ireland, he was not in possession of more than 27s. 3d. in money, and a diamond ring and bracelet of gold, the gift of his mother; and his wardrobe, as he states in the short but instructive memoir which he left of his life, was still slenderly furnished. His confidence arose from his energy and a determined resolution to do his utmost to succeed. His first employment was to draw up memorials and other documents for individuals connected with the government, by which means he acquired considerable insight into public affairs.

He had married one of the co-heiresses of a gentle- man of Limerick, who in admiration of his talents over-looked the inadequacy of his fortune. His wife died in giving birth to her first child, and left him in possession of 300l. a-year arising from landed estates, and a sum in cash besides. He lived with strict economy without being parsimonious, and as land sold at a very cheap rate in Ireland, he increased his property by considerable purchases in Ulster. The envy of several influential persons was excited by his prosperity, and they severally addressed letters to Godolphin, then the principal preacher, but had the occasion's his friend Sir George Carew, the lord deputy of Ireland, knighted him on his wedding-day. In 1666 he was sworn a privy councillor to King James for the province of Munster; in 1612 a privy councillor for the kingdom of Ireland; in 1616 he was created Lord Boyle, baron of Yougball; and in 1620 Viscount Dungarvan and earl of Cork. In 1629 he was constituted one of the lords justices of Ireland; in 1631 lord high treasurer, an office which was made hereditary in his family.

During the reign of Charles I., he inherited the earl of Cork's character and talents, and as an acknowledgment of his services, created the earl's second son then living, Lewis, a child of eight years old, Viscount Kneymleakey. Lewis was killed in the battle of Liscarril in 1642, and his widow was created being then without issue. She married Robert Boyle, who on the death of this able man attained he often looked back with just and gratified pride to the early origin. He selected the following as his family motto, and caused it to be engraved on his tomb: 'God's Providence is my inheritance."

Boyle's son, who died September 25th, 1700, in the seventy-eighth year of his age. His wife, by whom he had fifteen children, died in 1630. (Budget. Memoirs of the Family of the Boyles, 1732; Life of the Hon. Robert Boyle, by
Birch; Memoirs written by the earl of Cork in 1632, called True Remembrances.)

BOYLE, ROGER, fifth son and eleventh child of the first earl of Cork, born April 26, 1621, was created Baron Broghill, almost while in his infancy, by Charles I. He ran away from his father's house, took up the name of Sir John Molyneux of Shankill, married a lady of Rank in Ireland the day after the breaking out of the rebellion, which he displayed great activity in quelling.

The death of Charles I., and the state of his possessions in Ireland, which he almost gave up as lost, induced him to seek redress of grievances, whether in the occupation of the House of Commons, or in the formation of schemes for the restoration of royalty. He had gone so far as to obtain a passport, and was on the point of leaving the kingdom for the purpose of having an interview with Charles II., when his proceedings, and the future course of his life, were laid under the management of Cromwell, who, with the members of the Committee of Public Safety, had become acquainted with Lord Broghill's intentions. Cromwell had been struck with the possibility of securing the services of Lord Broghill in the cause of the Commonwealth, and having the sanction of the members of the committee, he sent a message to his lordship informing him of his desire to wait upon him, and followed his own messenger so quickly, that he entered his lordship's apartments before he had time to deliberate upon the matter. He was then in the rank and file of Cromwell, who, without specific authority, persuaded Lord Broghill that the Committee of Safety were acquainted with his intended movements, which he detailed. Lord Broghill attempted to deny the facts, on which Cromwell produced copies of papers which his lordship had confidentially deposited at the hands of his confidential clerk, and issued in his name. The candid and mangled manner of Cromwell, the just compliments which he paid to Lord Broghill's merits, and the real service which he was doing by protecting him from the consequences of his conduct, completely succeeded in gaining him to his cause. Cromwell received Sir John Molyneux with an army to Ireland, offered Lord Broghill the command of a general officer, with a condition that his services should be limited to the immediate object of the expedition. Lord Broghill, after some hesitation, accepted Cromwell's proposition, which he had been hitherto unable to resist, and was not overrated. On one or two occasions Lord Broghill's boldness and activity were of signal value, especially during the siege of Clonmel, when his vigilance prevented the rebels from forming in the rear of the army during the siege. He was engaged upon this service when he received an urgent message from Cromwell recalling him to Clonmel, the siege of which he feared he should be compelled to raise, as there was much disease in the army, and it had been twice repulsed by the Irish. At the end of three days Lord Broghill returned to the station he had left, and on the way, when Cromwell caused the whole army to salute him by the cry of 'A Broghill! A Broghill!' Lord Broghill himself embraced them, and shortly afterwards, though it was in the depth of winter, Clonmel was taken.

Lord Broghill was one of the privy council, and at the special request of Cromwell he went to preside in Scotland. Richard Cromwell selected Lord Broghill as one of the cabinet council, along with Dr. Williams and Colonel Philips, and more than once his lordship was politically employed in sustaining the Protector's interests. But the impossibility of Richard Cromwell any longer retaining the protectorate becoming soon evident, Lord Broghill, conceiving that the country might otherwise fall into the hands of a cabal of the old party, restored himself to the army. He repaired to Ireland, and by his influence secured the cooperation of some of the most important individuals in the army, and soon after sent Lord Shannon, his younger brother, with a letter encouraging Charles II. to land in Ireland. After the Restoration Lord Broghill was created earl of Orrery, and took his seat in the cabinet council. He also acted as one of the lords justices for the government of Ireland, and was appointed lord president of the province of Munster.

In a leisure which succeeded the active part of his life, the earl of Orrery, at the king's request, wrote several plays. He wrote also some verses on the death of Cowley, and other poetical pieces; a thin folio, on the art of war; and 'Parthenissa,' a large romance in folio, part of which he wrote by desire of Henrietta Maria, daughter of Charles I. These productions have no great merit, and were chiefly written during severe attacks of the gout.

He opposed a petition presented to the king by the Irish Catholics, praying for the restoration of their estates. Mr. Morrice, his private chaplain, asserts in his memoirs of Lord Orrery, that he was offered a large sum of money, and landed property worth 7000l. a year, on condition of withdrawing his petition. In his lordship's address to the privy council the Irish were charged with having broken all the treaties into which they had entered; and with having made an offer of the kingdom of Ireland to the pope, to the king of Spain, and likewise to the king of France to have reduced authentic documents in proof of his assertions. The claims of the petitioners were rejected. The Act of Settlement, which was drawn up by the earl of Orrery, contains stipulations by which those Roman Catholics who had conducted themselves loyally to the Irish were to be rewarded. The historian states that he conceived it highly barbarous to persecute men for any opinions which were not utterly inconsistent with the good of the state; he wished for nothing more than to see a union between the Church and the Dissenters. On the Bill of Exclusion being brought in, he declared himself averse to a change of the succession, but equally ready that, in case of the crown devolving upon a Catholic prince, some restrictions should be provided of a nature equally efficacious.

In a letter of which he presided in virtue of his office of Lord President of Munster, he is stated to have acted with great wisdom and equity.

The earl of Orrery died Oct. 16th, 1679, in his 59th year.

BOYLE, ROBERT, was the seventh son of Richard Boyle, earl of Cork, and was born in 1634. His eldest sister was daughter of Sir Geoffrey Fenton, secretary of state for Ireland. There were fifteen children of this marriage, and the subject of this memoir (the fourteenth) was born on the 25th of January, 1626, at Lismore in the province of Munster. His sister Catherine Boyle married the lady Ranelagh, afterwards mentioned, was considerably older, having been born on the 22nd of March, 1614.

The autobiography and correspondence of Robert Boyle have been almost entirely forgotten in the superior fame which has been given to Robert Boyle the physicist and metaphysicist. If we consider the position in which he stands among our philosophers, it will not appear superfluous, having his own words to quote, if we give the account of his earlier years at some length. The narration in question (in which he calls himself Philosopher, and writes the third person) is prefixed to Dr. Birch's edition of his works in 5 vols., which we here quote once or twice. — The Works of the Hon. Robert Boyle, in five volumes, to which is prefixed A Life of the Author, London, printed for A. Millar, 1744. Of his birth and education there is not much to say. He was educated at Christ Church, Oxford, and fixed himself up to Dr. Birch's edition of his works in 5 vols., which we here quote once or twice. — The Works of the Hon. Robert Boyle, in five volumes, to which is prefixed A Life of the Author, London, printed for A. Millar, 1744. Of his birth and education there is not much to say. He was educated at Christ Church, Oxford, and fixed himself up to
study from the accidental perusal of Quintus Curtius, which first made him in love with other than pedantic books.

He always declared that he was more obliged to this author than to any other. Two years afterwards the Romance of Amadis was put into his hands to divert his melancholy, and by this and other such works his habit of persevering study was weakened. He was obliged afterwards systematically to conquer the ill effects of the fatal regimen, and the most effectual means found to be the extraction of the square and cube roots, and especially those more laborious operations of algebra which so entirely exact the whole man, that the smallest distraction or heedlessness constrains us to renew our trouble, and re-begin the operation. His father had now come to England, and was employed in Dorsetshire; on which account Robert Boyle was soon removed from Eton to his father’s house, and placed under the tuition of the rector of the parish. In the autumn of 1638 he was sent to travel with an elder brother, under the care of M. Marcombes, a Frenchman, of whom he says, with many other eulogies, that ‘if he were given to any vice himself, he was careful by sharply condemning it to render it uninfectious.’ ‘The worst quality he had was his choleric; and that being the only passion to which Philestes was much observed to be inclined, his desire to stung clashing with his governor, and his accustomedness to bear the sudden sallies of his impetuous humour, taught our youth so to subdue that passion in himself, that he was soon able to govern it habitually and with ease.’ It had been intended that he should have served in the dragoons; but before this thought was raised, but the illness of another brother prevented this. He travelled through France, and settled with his governor at Geneva, for the prosecution of his studies. A thunder-storm which happened there in the night was the cause of their departure, as the thing was thought to happen in his life, and, it should be added, without giving into either the fanaticism or the intolerance of his contemporaries. He carried his theological studies to considerable depth. He cultivated both Hebrew and Greek, though a proficient in the latter of verbal studies, that he might read the originals of the Scriptures. On this subject he remarks in his manuscripts (Works, vol. i. pp. 29, 30)—‘When I have come into the Jewish schools and seen those children that were new born for more than an hour, they broke up to speak (what hath been particularly called) God’s tongue as soon as their mother’s, I have blushed to think how many gentlemen, that boast themselves to be the true Israelites, are perfect strangers to the language of Canaan; which I would not have been able to pay God the respect usual from civil inferiors to princes, who otherwise would not have found a way to converse in their own languages. And I confess myself to be none of those lazy persons that seem to expect to obtain from God the knowledge of the wonders of his book only by easy terms as Adam did a wife by sleeping profoundly, and having her presented to him at his awaking.

In September, 1641, he left Geneva, and travelled in Italy, where he employed himself in learning the language, and in the study of the works of the great star-gazer Galileo, whose ingenious books, perhaps because they could not so otherwise, were confuted by a decree from Rome; his highness the pope, it seems, presuming, and that justly, that the infallibility of his chair extended equally to determine laws and as in religion, and that the sum of stability of that earth then was such that was not balanced his kingdom. Having seen Florence, Rome, and Genoa, he came to Marseilles, and here his own narrative ends. At Marseilles he was detained for want of money, owing to the state of England; however, procured funds from his governor, he returned to London, where he found (in 1644) his father dead, and himself in possession of the manor of Stalbridge, with other property. At that place he resided till 1656, not taking any part in public business, but devoting himself to the science of philosophy in both parties, whereby his property received protection from both. The epistolary correspondence of Boyle is amusing, and furnishes one of the earliest specimens of the lighter style. Considering the formality of the age, and the then state of the art of correspondence, the letters which give from a letter to Lady Ranelagh will appear original; while the letter immediately following, written from Boyle when at Eton to his father (stated to be taken from the original in the Brit. Crit.) will show the manners of the time:—

‘My most honoured Lord Father, heartily praying for the continuance of God’s favour to your Lordship still in soul and body, I humbly prostrate myself under the pardon for my remissness, in presenting my illiterate lines unto your honorable kind acceptance. Whereas I have been heretofore cloyed with our college exercise, I could not so often visit your Honour in writing; but now being placed in the true station of a scholar, and the license of Sir Harry Wotton, and our schoolmaster, come to London, where we make four days’ residence, have found opportunity to offer unto your Honour that oblation due unto so good and so noble a father, that is most humble duty: desiring your Honour to pardon him for his levity, who strives to do your Lordship’s will and commandments.

London, decimo 4to Martii. ROBERT BOYLE.

Superscribed, For my dear Lord Father, the Earl of G—.

The following is a part of his account of his first journey to Stalbridge, written to Lady Ranelagh, March 30, 1646:—

‘As we went along, we met divers little parties, with whom we exchanged fears, and found that the malignant humours, which were then abroad, had frightened the country into a shakingague, till we got to Fencham, which we found empty and ungarded. With divers contemplations upon this subject, I went to supper, and thence to bed, not without some little fear of having our quarters beaten up by the cavaliers that night; when lo! I second my apprehensions, and heard a violent knocking at the door. It was the night, I heard a thundering at the door, as if they meant to fright it out of the hinges and us out of our wits. I presently leaped out of my bed, in my stockings and clothes (my usual night-posture when I travel), and while Roger was lighting a candle, got my Bible, and other instruments from under my pillow; whereupon Roger opening the door, saw it beset with musketeers, who no sooner saw us, but said aloud that we were not the men they looked for; and being intreated to come into the chamber, restored to us all that brought them there. I was not a little troubling us with as transcendent compliments as the brown bill could afford. I wondered at their courtesy till I knew that it was the town constable, that, making a search for some suspicious persons, and coming by my chamber, that wanted a lock, either had a mind to make us take notice of so considerable an officer, or no mind that we should sleep while our betters watched; and for his not coming in, some accents of fear that fell from him made me suspect I was obliged for that to myself; and I remember that he espied me drawing a pistol out of one of my holsters, which I believe made him so niggardly of his company. The next day we dined at Winchester, and ever and anon, by the trembling passengers we met, were as nicely catechized concerning ourselves, as if we were some number of the new lay elders. From thence we reached Salisbury that night, though before we came thither, we were fain to pass in the dark through a wood, where we had warning given us that about an hundred woodmen (we were not the English) lay there, where these night-birds used to exercise their charity, in easing weary travellers of such burdensome things as money and portmanteaux. But coming nearer, and knowing the state’s messenger, as he called himself, they drust not meddle neither. And so on the 27th of April, 1646, we arrived in London, very lovingly; and had we not been there, would, I believe, have opened to search for malignant letters, such as use to be about the king’s picture in a yellow boy. I am loaded with civil language and fair promises; but I have always observed that in the poor, and the meanest, are so close and thick written with promises, that there is no room left for such a word as performance.

From this time to the end of his life he appears to have been so engrossed in study. His chemical experiments date from 1646. He was the first manager, as he calls it, which has since become the Royal Society. The rest of his public life is little more than the history of his printed works, which are voluminous, and will presently be further specified. He must have written with singular facility, for an article of 1800 lines, as appears on the face of it, in the morning, previously to making his preparations for a journey in the afternoon, is of a length which would occupy five columns of this work.
After various journeys to his Irish estates, he settled at Oxford in 1644, where he remained till 1668. Here his life ('Works,' vol. i.) states him to have invented the air-pump, which is not correct, though he made considerable improvements in it. ['Air-Pump.'] On the accession of Charles II., he left Oxford, where he took up his abode with Lady Ranelagh, in London, and in 1653 was one of the first council of the newly incorporated Royal Society. In the year 1666, his name appears as attesting the miraculous cures (as they were called by many) of Valentine Greartrafts, and a band of associates of such number as to give them the appearance of giving many hands the means of giving patients almost instantaneous relief. This gentleman, Mr. Greartrafts, a man of respectable family, and an Irish magistrate, (whose printed letter to Robert Boyle, besides being accompanied by the testimonials of himself and others to facts, is, as far as such a thing can be, evidence of good faith by its style and documents,) one day believed himself enabled by the power of God to cure diseases by his touch, and whatever the cause might be, has left sufficient evidence at least to the personal testimony of his. Therefore, Boyle did shortly leave those who suffered from them. Mr. Greartrafts published his letter to Mr. Boyle in 1666, and some remarks written in the fly leaf of a copy we have seen will make a good résumé of the state of the evidence. 'In looking into the account given in this letter, it is necessary to observe that they are by the most learned and philosophical individuals of that period, it is impossible to deny the existence of the facts as attested, without rejecting in toto the evidence of every historical record. Credulity may have distorted and exaggerated the alchemical process; but the facts recorded by Boyle, Cutworsh, Wilkins, Patrick, &c.; but doubtless the facts are essentially true as reported, and as certainly to be accounted for on the principle of mental and physical sympathy, the imagination of the patient being wrought upon by a sort of magnetic attraction.' The writer thus impugned the hundred works of the most philosophical and scientific physicians might be cited in confirmation of the astonishing effects of that agitating excitement of the nervous system produced by operating upon the imagination: 'which perfectly explains all the wonders of animal magnetism.' We may add that the phenomena certainly witnessed at the tomb of the Janseni Abbe Paris were not better attested, and were less extraordinary in degree, than those in question; and that, as we shall see, all of the men of his time. Robert Boyle, by his experiments, showed the value of the innocent, social, in the service of his country, and it was deemed desirable to have. The reputation of Mr. Greartrafts extended through the three kingdoms, and Flamstead, among others, ('Baily's Flamstead, p. 12,) was among the number of those who went to Ireland to be touched, and called in vain for the cure. Mr. Boyle himself also received benefit himself, but whether from the touch or from subsequent sea-sickness, he is not certain, but judges from both. At the same time, in illustration of what we shall presently have to say on the distinction between Boyle as an eye-witness and Boyle as an exponent of evidence, we find him in 1669 not disposed to receive, and that upon the hypothesis implied in the words, the 'true relation of the things which an unclean spirit did and said as Mascon, in Bur- gundy, &c.' That he should have been inclined to prosecute inquiries into this mysterious and ambiguous state, it is necessary to consider the state of chemical knowledge in his day; and we find even Newton inclined to fear, from the result of some experiments of Boyle, (the results of which only had been stated,) and to speak in time, as once became one who should afterwards be master of the mint, a word in favor of the curacy. In a letter to Oldenburg, dated 1676, Newton writes thus: 'Yet but because the way, by which mercury may be so impregnated, has been thought fit to be concealed by others that have known it, and may therefore possibly result to the prejudice of the noble author to whom it is dedicated without immense damage to the world, if there should be any verity in the Hermetic writers; therefore I question not but that the great wisdom of the noble author will sway him to high silence, till he shall be resolved of what consequence the thing may be, either by his own experience, or the judgment of some other that thoroughly understands what he speaks about; that is, of a true Hermetic philosopher, whose judgment (if there be any such) would be more to be regarded in this point, than that of all the world besides to the contrary, there being other things beside the transmutation of metals (if these great pretenders brag not) which none but they understand. In all this, because the thing is not the subject of controversy in this point, I have been so free as to shoot my bolt; but pray keep this letter private to yourself. Your servant, ISAAC NEWTON.'

It appears that both Boyle and Newton were started with the result of the experiments of the former; and the treatment which old believers in alchemy have experienced from the present age will render it no less than just to say, that faith in alchemy now, and the same in the middle of the seventeenth century, are two things so different in kind, that the same ridicule, which in both is shown nothing but the ignorance of the laugher.

Boyle had been for years a director of the East India Company, and we find a letter of his, in 1676, pressing upon that body the duty of promoting Christianity in the East. He caused the Gospels and the Acts of the Apostles to be translated into Malay, at his own cost, by Dr. Thomas Hyde; and he promoted an Irish version. He also gave a large reward to the translator of Grotius De Devertato, &c. into Arabic, and would have been at the whole expense of a translation of the Gospels, if he had not been prevented by the king's blessing him of a part. In the year 1680 he was elected President of the Royal Society, a post which he declined, as appears by a letter to Hooke. ('Works,' i. p. 74,) from scruples of conscience about the religious tests and oaths connected with the patent and charter of the Society. He received a high tribute from his manuscripts had been lost or stolen, and others mutilated by accident; and in 1689, finding his health declining, he refused most visits, and set himself to repair the loss. In that year, being still in a sort of expectation that the King's health might return, he ventured on the repeal of the statute 5 Hen. IV., against the multiplying of gold or silver, and what was still more useful, the same statute contains a provision that 'no mine of copper, &c. shall be adjudged a royal mine, although gold or silver may be found in it.' He now began to assume a more serious character. Lady Ranelagh died on the 23rd of December, and he followed her on the 30th of the same month. He was buried at St. Martin's in the Fields, Jan. 7, 1692, and a funeral sermon was preached on the occasion by Dr. Burnet, with whom he was a close friend, and to the expenses of whose history of the Reformation he had largely contributed.

Boyle was never married. In a letter to his niece, Lady Barrimore, on a rumour of the kind, he says, 'You have no idea of the happiness of a single life. Nothing is so desirable as to be unengaged. Single life is one of the greatest blessings that a man can possibly have.' He was never married. He was unengaged. His reputation is one of the greatest blessings that a man can possibly have. He was never married. He was unengaged. His reputation is one of the greatest blessings that a man could possibly have.
and Newton and Boyle together. The merits of Boyle are indeed singular, and almost unprecedented; his discoveries are in several cases of the highest utility: but we do not think the inference that they were the result of a reasoning power, or a distinctive sagacity, of the highest order, is at all justified. He has not been corrected through the medium of the world. His understanding in the first place, and proportionately in all the things they all agreed in, also regulated his views of philosophy; so that he tossed Laud and Paracelsus on one side, Pyrane and Descartes on the other, and began to investigate for himself, on the simple principle of examining closely and strictly, into the nature of the things themselves. This reminds us strongly of those of Roger Bacon: they are all of full senses of views and experiments of his own, and of absurdities derived from the relation of others. He leans too much, for one of our day, to the attempt to discover the fundamental qualities of matter, instead of endeavouring to connect and classify what he had actually observed. And what we maintain is, that his discoveries do not show him to have that talent for suggestion and power of perceiving points of comparison, which is the distinguishing attribute of the greatest discoverers. To take an instance: in his experiments 'showing how to make flame stable and ponderable,' he finds that various substances gain weight by being heated. He states it in an exact, rational, and conclusive manner; he does not relieve the anxiety of the philosopher by the assurance of the chemists, that an offlux of the fire, will be, what chemists would call, corporated with metals or minerals exposed naked to its action. But it never suggests itself to him, that the additional substance added to the metal or mineral may be air, or a part of air. When a character has been overrated in any respect, the discovery of it is usually attended by what the present age calls a reaction: the pendulum of opinion swings to the side opposite to that on which it has been unduly brought out. Our author's instructive discourse prefixed to the Supp. Ense. Britanniæ, Mr. Brande speaks thus: 'Boyle has left voluminous proofs of his attachment to scientific pursuits, but his experiments are too miscellaneous and desultory to have afforded either behalf or usefulness: his Chemicals are seldom satisfactory; and a broad vein of prolixity traverses his philosophical works. He was too fond of mechanical philosophy to shine in chemistry, and gave too much time and attention to theological and metaphysical controversy to attain any excellence in either, or furnish any immediate aid to science, which is surely too much. Perhaps it will be a fair method to take a foreign history of physics (where national partiality is out of the question) and try the following point:—What are those discoveries of the Briton of the seventeenth century which have been of most durable worth omitted or deformed in a Frenchman of the nineteenth? In the Hist. Phil. du Progrès de la Physique, Paris, 1816, by M. Lubes, we find a chapter devoted to the 'Progrès de la Physique entre les mains de Boyle;' and we are told that the air-pump in his hands became a new machine—that such means in the hands of a man of genius multiply science, and that it is impossible to follow Boyle through his labours without being astonished at the immensity of his resources for tearing out the secrets of nature. The propagation of sound by the air (the more creditable to Boyl, because of these, had been led astray as to the cause), of the absorbing power of the atmosphere, of the elastic force and combustive power of steam, of the approximation to the weight of the air, the distinction of electric and non-electric body, are mentioned as additions to the science. Between the character implied in the two preceding quotations, we have no doubt the true one is to be found. But there is a peculiar advantage consequent upon such a labourer as Boyle in the infancy of such a science as chemistry. Here we observe facts of such common occurrence, and the phenomena of which are so distinctly understood, that any theory receives something like assent or assent, and may be received as such. After a long series of years, the chemist is most likely to think himself found, whatever he has discovered, and will spend his time merely in refining, or in setting forward the facts discovered, as he has discovered, and will spend his time merely in refining, or in setting forward the facts discovered, for the sake of his admired author. Whatever he has discovered, he must have originated to chemistry research in the same relation as the objects of botany to those of mineralogy: the first presenting themselves, the second to be sought for. The mine was to be found as well as worked; and every one who does not suppose that the chemists are brought forward by showing at least one place where it was not. In this point of view it is impossible to say what degree of obligation chemistry is to limit its acknowledgments to Boyle. Searching every inlet which phenomena presented, trying the whole material world in detail, and with a desire to be accurate in every act of his, as truly discovered, it cannot be told how many were led to that which does exist, by the previous warning of Boyle as to that which does not. Perhaps had his genius been of a higher order he would have made fewer experiments. He was admirably fitted for the task he undertook, and no one can say that his works, the eldest progeny of the 'Novum Organum,' were any thing but a credit to the source from whence they sprung, or that their author is unworthy to occupy a high place in our Pantheon, though not precisely on the grounds taken in many biographies or popular treatises.

The characteristics of Boyle as a theological writer are much the same as those which appertain to him as a philosopher. It is characteristic of his writings that he renders a firm faith, and preserves a quiet and argumentative tone throughout. In his discourse against customary swearing, written when he was very young, he shows a little of the vein which distinguishes his letters: but the very great prolixity of his style, which renders a firm and quiet faith, and preserves a quiet and argumentative tone throughout. In his discourse against customary swearing, written when he was very young, he shows a little of the vein which distinguishes his letters: but the very great prolixity of his style, which renders him sometimes tedious and at others, as he informs us in his youth, a writer of verses, and one fancy-piece in prose, 'the Martyrdom of Theodora,' has been preserved, wherein his hero and heroine make set speeches to each other, of a kind somewhat like those in the plays of his days. And this is in another play also, until the executioner relieves the reader. His 'Occasional Reflections' have fallen under the lash of the two greatest satirists in our language, Swift and Butler, in the 'Pious Meditation upon a Broomstick' of the former, and an 'Occasional Reflection on Dr. Charlton's feeling a dog's pulse at Gresham College,' published with the posthumous writings of the latter. The treatises 'Seraphic Love,' 'Considerations on the Style of the Scriptures,' and the great Veneration that Man's Intelect owes to God, have a place in the course of the 'Register' of the University. The 'prohibitorum' of the Roman Church. (Kippis, 'Bibl. Brit.').

The 'Boylean Lectures' were instituted by him in his last will, and endowed with the proceeds of certain property, as a salary for a 'divine or preaching minister,' on condition of his delivering a sermon on the debt of gratitude in the Christian religion against notorious infidels, viz. atheists, theologians, pagans, Jews, and Mahometans, not descending lower to any controversies that are among Christians themselves. The minister is also required to promote the propagation of Christianity, and answer the scruples of all who apply to him. The stipend was made perpetual by Archbishop Tenison, Mr. Bentley was appointed the first Boylean lecturer. We shall not give a detailed list of all the titles of Boyle's works, which would occupy much room to give, but shall merely mention that he wrote for a very rare and scarce in the English rare volumes folio, and contains the life which has furnished all succeeding writers with authorities, besides a very copious index. The collection of letters in the fifth volume is highly interesting. The second complete edition was published in 1772. The first complete edition was published in 1744 by Dr. Birch, as already noticed. The second complete edition was published in 1798. As far as may be, the works have been variously and scatteredly published, with abridgments and good indices added, but we cannot find any references to the originals. There is a list of Boyle's works in Hutton's mathematical dictionary, and another in Moreri. There
is a copious life, taken mostly from Dr. Birch, in the Biogr. Brit., and the same with some additions in Dr. Kippis's unfinished reprint.

It will be useful to remember as to contemporary chro-
nology, that Boyle was born in the year in which Bacon died, and Newton in that in which Galileo died; Boyle being fifty years older than Newton.

BOYLE, CHARLES, second son of Roger, the second earl of Orrery in Ireland, was born at Chelsea, August, 1676. He was entered, in his fifteenth year, at Christ Church, Oxford, as a nobleman. The directors of his studies were Dr. Burnet, afterwards Bishop of Rochester, and Dr. Friend, the eminent physician, or, as others say, his brother, the master of Westminster school. The elevated rank and accomplishments of their pupil appear to have given the highest satisfaction to the master of the college, Dr. Aldrich, for in his account of the college, he says: 'I have adopted as the Oxford University text-book, he declares him to be 'magnus aestro nostro monumentum.' It is requisite here to say a word or two in explanation of the circumstances which gave rise to the famous controversy ostensibly sustained by the Hon. Charles Boyle against the great Aristarchus of Cambridge, Dr. Bentley, but which in reality was an affair with which Boyle himself had almost nothing to do. In addition to the particulars in the article on Bentley, p. 250, concerning the origin of this fierce contention of wit and learning, it may be added that the two learned men whose names are so frequently met with in connexion with this contest, were both anxious to promote the reputation of their college, encouraged the students in the practice of editing, every year, some antient classic author; and as Sir Wm. Temple, in his 'Essay on Antient and Modern Learning,' had just then asserted (Works, I. 350), that 'the Town in which the original had still in their kind the best; the two most antient in prose are 'Æsop's Fables' and 'The Epistles of Phalaris:' the latter exhibit every excellence of a statesman, soldier, wit and scholar; I think they have a greater force of wit and genius than any book of that kind that has yet been translated. These two Greek relics of antiquity, which Temple imagined to be of the age of Cyrus and Pythagoras, were chosen as subjects for the stirring Christ-Church editors. 'Æsop was published by Alsius, and Phalaris by Boyle, who was then at the age of twenty-three. The 'Epistles of Phalaris' was published by gentilum Tyrannorum Exempla ex MS. recognitum, annotationibus et vita insuper authoris donavit Car. Boyle: ex Ædio Chriati, Oxon., 1693.' In the preface it is stated, that the text was collated only partially with the MS. in the King's Library, because the librarian (Bentley) had the singular kindness to refuse the use of it for the requisite time; the words are 'pro singulari sui humanitati negavit.' This petulant passage is said to have been occasioned by Bentley's reminding, at the time of lending the MS., that it was a special work, the first of its kind at that period, and most of these two Greek relics of antiquity, which Temple imagined to be of the age of Cyrus and Pythagoras, were chosen as subjects for the stirring Christ-Church editors. 'Æsop was published by Alsius, and Phalaris by Boyle, who was then at the age of twenty-three. The 'Epistles of Phalaris' was published by gentilum Tyrannorum Exempla ex MS. recognitum, annotationibus et vita insuper authoris donavit Car. Boyle: ex Ædio Chriati, Oxon., 1693.'

In his 'Epistolary Correspondence,' vol. i. p. 1-22, upbraid Boyle with ungratefully requiring his services in planning, writing half, and correcting the whole of the 'Examination.' See also Warburton's 'Letters,' svo, p. 11, for a confirmation of the fact that all the wit and erudition displayed under the name of Charles Boyle, was the produce of his father. Dr. Friend, who wrote with his brother, Dr. Boyle, in his Biogr. Brit., asserting that 'Mr. Boyle wrote extremely well in defence of his performance;' and the polite Dr. Felton observing that 'if we own Dr. Bentley is the better critic, we must acknowledge that his antagonist is much the better detached writer.' The truth is, the united efforts of the Oxford scholars resulted in total failure. 'In many parts of the Examination,' says Bishop Monk, 'the critics seem to have parted too soon with their grammars and lexicoms.' It occasioned, however, at the time, a very great sensation, and it is facetiously said, as it was for though it left unimpaired the main arguments of the 'Dissertation,' yet, abounding in ready wit and satirical vivace, it procured for the young nobleman of Oxford a temporary triumph. Bentley put forth, in 1699, his 'Dissertation' enlarged and separately printed: it effected the most complete demolition of the Oxford wits, who threatened but never attempted an answer. For many interesting particulars of this memorable controversy, see Dr. Monk's 'Life of Boyle,' 4to., p. 43-107; D'Israeli's 'Quarrels of the Time,' 1846, p. 152 seqq., and Dr. Warburton's 'Letters,' svo. Boyle, in 1700, was elected a member of parliament for Huntingdon: and, in consequence of a quarrel with his opponent, Mr. Wortley, he fought a duel with him in a gravel-pit near Grosvenor Gate in Hyde Park, an affair which occasioned great excitement. The duel was fought, however, beyond the bounds of the law, and it was not till 1703 he succeeded to the title of earl of Orrery. He entered the service of Queen Anne, received the command of a regiment, and was made a Knight's Companion of the order of the Thistle. In 1709, as major-general, he fought with the title of chief at the battles of Marston Moor and Chelsea. After the death of Marlborough and Prince Eugene, at Malplaquet, near Mons, in Belgium. On his return to England he was sworn a member of the privy council, and sent, at the time of the treaty of Utrecht, in 1713, as envoy extraordinary to the Court of Rome, to which office he was appointed at the instance of the Pope. An occasion he was raised to the English peerage with the title of Lord Boyle, Baron of Marston, in Somerset. On the accession of George I. he was made a Lord of the Bedchamber, and became a confidential favourite at court. In September, 1722, he was abruptly committed to the Tower on a charge of high treason, as an accomplice in the sedition called Layer's Plot. After six months' imprisonment he was bailed by Dr. Mead and others, and was ultimately acquitted. He amused himself in the latter part of his life with some literary and philosophical works, and was an enthusiastic and ingenious watchmaker, who constructed the mechanical instrument representing the planetary revolutions, and in gratitude to his benefactor, gave it the name of an Orrery. 'The whole merit of inventing it belongs,' says Dr. Johnson, 'to Bowley, a mathematician of Lichfield.' (Ibid., vol. ii. Suppl. Swift's Works.) In the 2nd vol. of the works of Roger earl of Orrery, are several literary compositions of Charles Boyle; among other tritres, a comedy called 'As you find it.' He published also a volume of Occasional Poems and other works, of which Sir Richard Blackmore has the following instance:—

"After his foolish rhymes, both friends and foes
Conclude they knew who did not write his prose."
Marston, Somersetshire, Nov. 16th, 1762, in his 56th year. In 1774 appeared a volume entitled 'Letters from Italy,' which he had written while residing in that country in 1754–5.

Boylston, Zabdiel, an American physician, was born in the state of Massachusetts, in 1684. He was the first to introduce inoculation into New England, where the practice became general before it was common in Great Britain. In 1721 the small-pox broke out at Boston in an alarming manner, when Dr. Cotton Mather pointed out to the President an account of inoculation as practised in the east, which was contained in a volume of the 'Transactions' of the Royal Society. Notwithstanding the ridicule with which his medical brethren treated this mode of counteracting a virulent disease, Boylston had the courage to inoculate his patients. In the year 1722 the practice of inoculation spread, and, with one or two exceptions, it was attended with the most successful results. But such were the obtrusive prejudices of the profession and the public generally, that clamours were raised against Boylston, and his life was in danger, consequent on the excitement of a popular feeling; even the 'select men' of Boston passed a by-law prohibitory of inoculation. It was alleged that the practice increased the probabilities of contagion, and also that the disease being a judgment from Heaven on those who introduced inoculations to America, was a part of its wrath. Boylston outlived these prejudices, and acquired a considerable fortune by the successful practice of his profession. During a visit which he paid to England, he met with great attention, and was elected a fellow of the Royal Society. He returned to America, and in 1729 published his 'Transactions.' He was the author of two works relating to the small-pox (one a pamphlet published at Boston), both of which are in the library of the British Museum. The other was a romance, published in London, during the visit which he paid to this country.

Boyne, a river of Ireland; rises near Carberry, in the barony of Carberry and co. of Kildare, whence, flowing W., not far from Edenderry in the King's County, it receives the waters of the river Meath, N.W., the river Erne, N., and the river Weir, N. E., all of which are tributary to the Liffey, N. of the line of the Grand Canal; then, turning to the N. E., which direction it keeps throughout the remainder of its course, it receives the Yellow and Milltown rivers out of the bogs extending from Cloghan hill to Tyrell's Pass in the co. of Westmeath. Soon after this it enters the co. of Meath at Clonard, crosses the Royal Canal, and receives the Deel, a large stream flowing parallel to the Yellow River from Mullingar in Westmeath. The Boyne having now left the marshy shores of the bog of Allen flows through the rich pastures of Meath, past the water of Nine Milehill till, passing Trim, where its banks are crowned with the lofty ruins of numerous abbeys and castles, it sweeps past the base of Tara hill in a more northerly direction to Navan, where it meets the Blackwater, descending by a S.E. course from the lake of Virginia on the confines of Cavan and Meath, but in its navi- gation at a distance of 25 English m. direct from the sea, and resuming a more E. course by Slane and Oldbridge proceed along the S. part of the co. of Louth to Drogheda, and thence to the Irish channel, which the Boyne enters after a windsing course of about 48 Irish m. or 60 English from its source. The navigation of the Boyne from Drogheda to Navan was effected by a company in 1770. An extension of the line to Trim and Athboy was projected, but never carried into execution. The whole navigation of near 26 m. from Drogheda to Navan is under the charge of the directors of the company (The Boyne Navigation Company); but the title of the company to levy tolls being disputed, it was decided that the lower 12 m. from the Carrickdexter Lock to Drogheda was legally vested in the Irish Board of Works, which accordingly took possession in August, 1834. The Boyne divides the co. of Meath diagonally into two nearly equal parts. Its whole course through this co. affords rich landscape scenery, the descent of the river being in general gradual, and the banks abound with numerous colonies of trees. The river has been called the 'Boyne of Science' from the number of monastic institutions on or not far from its banks, among which may be enumerated Clonard, Trim, Beechtree, Donaghmore, Slane, Mellifont, Monasterboice, and the various religious foundations of Drogheda.

The Boyne however derives its chief interest from the important battle fought upon its banks on the 1st July, 1690, between the English army under William III. and the Irish under James II. The Boyne between Slane and Drogheda, a distance of 6 m., is fordable at three points; one below the bridge of Slane, another at Rosnaare, about a mile farther down, and a third opposite the little village of Oldbridge and hill of Donore, 2 m. to the W. of Drogheda. Here the Boyne branches, and a sweep and forms two small islands in front of Oldbridge; the banks here rise gradually towards the hill and church of Donore on the S. side, and along the beautiful ravine, still called King William's Glen, towards the ruined castle they are terminated by a thick wood. In the year 1798 the Irish army marched from Carrickfergus, where he had landed on the 14th of June, mustered his force of English, French, Dutch, and Danes at Dundalk on the 27th, and finding that the Irish had retired beyond the Boyne, moved forward on the 30th, and crossed the river at Donore. The battle was fought on the 1st July, on the south side of the river between Mellifont and Drogheda. William had with him the Duke Schomberg and his son Count Schomberg, Generals Ginkel, Douglas, and Kirk, and other distinguished persons. James, accompanied by the Dukes of Berwick and Tyrconnell, the Generals Hamilton, Sarsfield, and Dortingon, and the Count Lauzan, was encamped along the opposite bank with 27,000 Irish and French prepared to dispute the passage of the fords at Oldbridge, while Lord Ivenagh, occupying Drogheda on the N.E. side, was in readiness to cut off any retreat. On the evening of the 30th, while William was yet undecided what course to pursue, he rode down with his staff within range of the Irish lines, and some field-pieces being brought to bear upon his party, he was in imminent danger of being shot at point blank. He then ordered his regiment to form line, to which was added a light dragoon regiment, and was dressed in a red coat and lacerated his shoulder. On this the English artillery was brought up and a brisk cannonade was commenced across the river, but no further step was taken by either army until the next day. On the morning of the 1st July, the English were formed in line, and Generals Douglas and Count Schomberg were dispatched with a body of 10,000 horse and foot to cross the fords below Slane. On the other side, a body of 5000 French foot, supported by Sir Neal O'Neill's dragoons, moved from the left. On reaching the river the French were met by the fire of the Irish, and their ford was soon effected; Sir Neal O'Neill fell and the head of his regiment on the first charge, and after a sharp dispute upon the bank, General Douglas made good his position against the French infantry. The success of this movement, so far, being announced to William, he gave the word to his centre, composed of the Dutch guards, the Enniskillen infantry, and two regiments of French Huguenots, supported by Hamer's and Count Nassau's dragoons, to cross the river opposite Oldbridge, where the Irish centre lay partly under cover of ditches and breastworks, and partly exposed to the fire of the French. The Men on the left bank of the river first, above the little islands; the French and Enniskillen crossed by the upper island of the two, and the Danish cavalry between them. The Dutch, although warmly received, succeeded in dislodging their opponents; but the French were broken by a charge of horse led by Lord Byron, Sir Alexander Parker, and M. Callernot their commander was slain; one squadron also of the Danish horse was driven back across the river by Hamilton's dragoons, and Count Nassau's cavalry with difficulty withstood several trying attacks of the Dutch and Young's guards. While the conflict was here at its hottest, William, at the head of the cavalry of his left wing, crossed the river a little below, and came to the support of his centre. Just about the same time Duke Schomberg, who commanded the reserve, crossing opposite Oldbridge to the help of the French, charged to the support of Lord Byron, and Mr. Walker, celebrated for his heroic defence of Lendonderry, fell shortly after. The Enniskillen regiments, which had fallen back, is said, through mistake, now rallied, and animated by the presence of William, charged the ranks of the French and Danish cavalry, while the Dutch, who were on Oldbridge by the Dutch, began to fall back on Donore hill, where James is asserted to have stood during the engagement an idle spectator of their struggles in his cause. The French however the Irish rallied, and repulsed a charge made by General Ginkel and his division. The head of his regiment General Hamilton was taken prisoner, and his men were driven back with considerable loss. At the same time General Douglas, higher up the river, had pushed the French foot from their position, and was pursuing them towards Duleek, a town upon the road to Dublin about 4 m. in the rear. Hither the whole Irish army shortly after began to direct their retreat, which was
covered by the duke of Berwick, while Sarsfield conducted James from the field under the protection of his own regiment of cavalry. The English, concentrating their forces on the enemy, pursued them to the river near Duloeck, where the duke of Berwick, after crossing the stream in considerable confusion, rallied once more upon the opposite bank, and ordered the vanguard to make a stand where shipping had been prepared to carry him to France. His army, freed from its irreligious councils, retired upon Athlone, and thenceforth fought with vigour and determination. An obstinacy of grand proportions was erected in committee of the battle of the Boyne in 1736. It immediately faces the ford at Oldbridge, marking the spot where William received his wound on the evening before the engagement. It is 150 ft. in height, by 20 at the base. Oldbridge, although only a ford in 1690, had been the site of a bridge at a very early date, for its name, which indicates as much, is found in the patent rolls so far back as the reign of Richard II. The Boyne is also rendered famous in more ancient history by the invasion of Turguesius the Dane, who sailed up with it a fleet of Norsemen to the plunder of Metha a.p. 838. It is a deep and wide river, and it is supposed that vessels of large form would be capable of receiving vessels of much greater burthen were the bar which now obstructs its entrance partially removed. The total descent of the river is 336 ft. (Stat. Surv. of Meath; Reports on Irish Bogs; Storey’s Impartial Narratives; Twiss’s History of Ireland; Post Chaise Companion.)

BOYSE, SAMUEL, a writer of considerable poetical talent, but remarkable chiefly for the singular contrast of his elevated imagination and rectitude of moral sentiment, as displayed in the ‘Friend’ and the ‘Artist.’ He was born in Dublin, in 1705. Being destined for the pulpit, he was sent by his father to the University of Glasgow, where, after spending a few months in idleness, he married while yet in his teens; and, with his wife and her sister, who in dissipation and idleness were similar to himself, he returned to Dublin, and occasioned by his disolute conduct the ruin and death of his father, who, as a pauper, was buried at the expense of his congregation. He then went to Edinburgh, and published in 1734 a “Lamentation” on the death of his mother, of which a dedication to the Countess of Eglinton, who, with Lord Stormont (on the death of whose lady, Boyse had published a laudatory elegy) patronised him, and kindly recommended him to Lord Mansfield and the duchess of Gordon, by whom, and also by Lords Stair and Townshend, he was engaged as a tutor to the Lord Chancellor, Sir Peter King, Pope, and other important personages in England, whither he removed, to escape from the importunity of his creditors in Scotland. But his indolence and aversion to refined society defeated the friendly intentions of his patrons; so that, resorting to a squallid garret in London, he relied upon the sale of his verses and the charitable donations of literary individuals, whose compassion he excited by the most scoriv and pathetic protestations of his miserable condition. In 1740 he published a religious poem entitled ‘The Vow,’ which was favourably noticed by Fielding (see a periodical called ‘The Champion,’ Feb. 12, 1740; and ‘Tom Jones,’ b. vii. c. 1.) and by Hervey (Medit. vol. ii. p. 239, ed. 1767). It has been reprinted in several collections of the minor poets. (in order to be noticed by some of the subscribers, ‘The Vow’ is sublime and beautiful. It is one of the numerous attempts at poetical sublimity in which the most ridiculous faults are tolerated solely on account of the subject. The following lines from the poet’s invocation of his muse are a fair specimen of that which almost deters the literary of admiration than intelligible and consecutive ideas—

‘Then present were when forth the Almighty rod, When Chie trobled at the voice of God.’

‘Where art thou, O Lord, when I need thee? When Nectar from his word existance knew?’

To the atheist the author explains—

‘Goli all the sightness realms of spase survey!’

The devotional reflections, though incoherent, and made often apparently to furnish a rhyme, display an occasionnal energy of poetical conception which even Pope declared he was not born. But we can feel only disgust at the pious pretensions of a man who, often with a guinea obtained by employing his wife to write mendicant letters, could gratify his sensuality at a tavern while she and her child were suffering with cold and hunger; and who, in order to indulge in the vices of a rake, had to borrow all the money he received the wages of her prostitution. Boyse was a very copious contributor of verses to the ‘Gentleman’s Magazine.’ For these compositions he was paid per 100 lines: they have the signatures X and Acelum; and, if collected, would form about six 8vo volumes. Among other publica- tions are ‘Albion’s Triumph,’ a poem on the battle of Det- tingen; ‘An historical Review of the Transactions in Europe during 1739-45; ‘Chaucer’s Tales in modern English,’ &c. He was not deficient in ability as a classical scholar, and a translator of German, Dutch, and French; but his invariable habit of drinking hot beer in the lowest pothouses at length stupified his mind, and reduced him to the necessity of pleading even his clothes. In this predicament he sometimes, for several weeks, sat up in bed composing odes and elegies to the ‘Gentleman’s Magazine.’ All the mourning he could afford on the death of his wife was a pennworth of black ribbon, which he tied round the neck of his little dog. His wretchedness, like that of Savage, was commiserated by Dr. Johnson, who instituted for him, among his friends, a seconder. His name, however, did not more than his application, at length abandoned him, and, in May, 1749, he died in his garret in Shoe-lane, with his pen in his hand, as he sat in his blanket, translating the treatise of Fenelon on the existence of God. He left a second wife in extreme poverty, and was buried at the expense of the parish. (See an elaborate Biography in Gibber’s Lives of the Poets.)

BOZZARIS, MARCOS, a native of Souli in the moun- tains of Epirus, born about the end of the 18th century, was yet a boy at the time of the war of extermination waged by the Egyptians (1798-1801). [Ali Pacha.] At the close of that war in 1803 Bozzaris and his father were among the remnant of the Souliote popula- tion who succeeded in reaching Parga, whence they went over to the Ionian islands, then under the protection of the British fleet. In 1807, Bozzaris was knighted by the Sultan Ali, and appointed to command the Souliote forces; and when in 1809 the sultan and Ali, about 800 Souliotes, who were still in the Ionian islands, offered their services to the Ottoman admiral against their old enemy, and were accordingly landed on the coast of Epirus. Soon after however, having reason to complain of the inactivity of his sovereign and the neglect of the favourable proposals with a bribe of money from Ali, they went over to the pacha, by whom they were replaced in possession of their native mountains. This was a great stroke of Ali’s policy, which enabled him to carry on the war against the Turks for twenty years. The Souliotes now fought for him with their accustomed bravery under the command of Bozzaris, and their ranks were swelled by other Epirotes to about 3000 fighting men. With this force Bozzaris gained several advantages over the Turkish army, which was acting in Epirus against him. In the spring of 1821 the sultan sent Khourshid Pacha with a fresh army, who laid siege to Jannina. Bozzaris and his Souliotes annoyed the Turks by bold diversions in their rear, while the Greek revolution breaking out at the same time added to the difficulties of the garrison of Jannina and the death of Ali in Feb. 1822, the Souliotes continued the war on their own account, and being attacked by Khourshid in their mountains, they defeated him with great loss in May and June of that year. Khourshid at length retired and negotiated with Omer Said, who was master of the coast of Epirus, while at the same time Prince Maurocoradoto landed at Mesolonghi with a body of regular troops in the Greek service, and being joined by Bozzaris advanced towards Arta. This movement led to the battle of Peta, July 16, 1822, wherein Philip Bozzaris and the garrison of Gogos, an old Kleftis and captain of Armstoles, Bozzaris, after fighting bravely, was obliged to retire with Maurocordato to Mesolonghi. Soon after the Souliotes, who had remained in their mountains, signed a capitulation with the Turks, by which they gave up the garrisons of Missolonghi, Khiafa, and Gogos, paid the amount of a sum of money, retired with their families to Cefalonia, in Sept. 1822. Bozzaris with a hand- ful of Souliotes remained with Maurocordato, determined to defend Mesolonghi to the last. He kept the Turks at bay by various sorties, and also amused them by promises of surrender, until a Hydrocte Flotilla coming to relieve the
place, the Turks raised the siege and retired into Epirus, March, 1823. The pacha of Scodra advanced next with a numerous force of Albanians, determined upon taking Mesolonghi. Bozzaris feeling the importance of that town to the Greek cause, and knowing the weakness of the fortifications, sent an embassage to the Greek government to request his assistance to besiege and take Mesolonghi, and to be permitted to join the army. The government readily agreed, and Bozzaris arrived in the same character. On the 17th of May, 1823, he raised the siege of the town, having been attacked by the Turks under an exacting treaty. Having held a council with his officers, it was determined to attack the enemy's camp the following night. The Souliotes marched silently to the attack and surprised the Albanians, of whom they made a great slaughter. Bozzaris, being mortally wounded, died on the spot, and soon after another in the face, when he fell and expired. The Souliotes then withdrew, carrying away Bozzaris' body, which was interred at Mesolonghi with every honour. The executive government of Greece being informed of the event issued a decree in which they styled Bozzaris the Leonidas of modern Greece. His brother, Constantine Bozzaris, succeeded him in the command of the Souliote battalion. The self-devotion of Bozzaris was the means of protracting the defence of the town; the Greeks, despairing of its capture, dispirited by the loss they had sustained, the pacha of Scodra after some fruitless demonstrations against the town withdrew into Albania, and no fresh attack was made till 1825, when Mesolonghi was besieged and at last taken by the Egyptians under General Pasha of the Isthmus. The memorable battle of Kepenise is more remarkable is, that the Miridades, whom Bozzaris fought, were Christians like the Souliotes, though in the Ottoman service. They were said to have lost more than 800 of their men in the night of the attack. (Gordon's History of the Greek Revolution; Life of Ali Pasha &c.)

BRABANT, DUCHY OF, formerly one of the most important provs. of the Netherlands, was bounded on the N. by Holland and Guelderland, on the E. by Guelderland and Liége, on the E. by Hainaut and Namur, and on the W. by Belgium and Zealand.

Under the successors of Charlemagne, the dukes of Brabant were possessed of considerable power and influence over the rulers of the other Netherland provinces. Joan, eldest daughter of John III., the last duke of Brabant, bequeathed the dukedom to Anthony, second son of Philip the Bold, Duke of Burgundy; and by degrees, through intermarriages, inheritance and purchase, the various Netherland provs. which composed the Circle of Burgundy, came under the dominion of the house of Hapsburg. The death of Charles the Bold, the last of these dukes, whose daughter Mary was married to Maximilian, the son and successor of Frederick IV., Emperor of Germany, Brabant passed under the dominion of the house of Austria. In 1516 Charles V., Emperor of Germany, a grandson of Maximilian, became King of Spain, and his Netherland dominions were united with the crown of Spain.

The religious persecution instituted in the reign of Philip II. against all who would not profess the Roman Catholic religion, caused the inhabitants of the seven N. provs. to rise in defence of their liberties; and in 1581 these provs. were formed into an independent union, under the title of 'The United Provinces,' Prince William of Orange being declared Stadtholder. The seven provs. thus allied stood an ominous barrier against their rival, the house of Hapsburg. Guelderland, Holland, Zeeland, Utrecht, Friesland, Overysell, and Groningen. To these were afterwards added, by conquest and under treaties, Drenthe, and the 'Généralités,' so called on account of their belonging to the States-General of France. In these Généralités was included the existing prov. of N. Brabant.

The remaining Netherlands provs., including S. Brabant, continued united with the crown of Spain until 1795, when, after the battle of Ramilies, they acknowledged for their sovereign Charles V., Elector of Bavaria of Germany, and were thenceforward known as the Austrian Netherlands.

In the progress of these events the duchy of Brabant was not only divided in the manner described into separate provs., but it was also limited in extent by the erection of part of its territory into the prov. of Antwerp. In the course of the war which broke out in 1793, the whole were united to France. In 1806 the United Provinces were erected into a separate kingdom under Louis Bonaparte, who resigned his crown in 1810, when the territory was re-annexed to France.

At the Congress of Vienna, the whole of the seventeen provs. of the United Netherlands, including both N. and S. Brabant, were ceded to the King of Holland; but at the revolution of 1830 S. Brabant joined the revolt of the provs. which had formerly constituted the Austrian Netherlands, and it has since formed part of the kingdom of Belgium.

The two provs. of Brabant thus forming separate provs. and now belonging to different kingdoms, it becomes necessary to describe them under distinct heads.

BRABANT, NORTH, a prov. of the kingdom of Holland, bounded on the N. by S. Holland and Guelder- land, on the N.E. by Friesland, on the E. by the Belgian prov. of Limburg, and the Rhenish prov. of Prussia; on the S. by the Belgian provs. of Limburg and Antwerp; and on the W. by the Dutch prov. of Zealand. North Brabant lies between 51° 12' and 51° 56' N. lat., and 4° 12' and 6° 9' E. long.

This prov., which once formed part of the 'Généralités,' is generally level, but on the N. and W. there is some rising ground: it contains several marshes and extensive heaths. It is politically divided into three depts. (arrondis.), and nineteen districts (cantons).

The principal rvs. of North Brabant are the Maas, which forms its N. and E. boundary from 3 m. W. of Wansanum to its N. W. extremity; the Dommel, which has its source at Peer, in Limburg, enters North Brabant near the vil. of Eindhoven, and flows into N. past Eindhoven to Bois-le-Duc, after which, it, rejoining the Maas near Voorthuizen, flows into the Maas at Crevoucou. At Bois-le-Duc the Dommel is joined by the Aa, which rises in the prov. of Antwerp, about 4 m. N.E. from Turnhout, and enters North Brabant near the vil. of Hoogmeeden. The Mark or Merk has its source near Turnhout, and runs into the Maas from S. to N. enters North Brabant near to Meerle; it falls into Hollants-Diép opposite the isl. of Groeë, having passed through the town of Breda. This prov. is also washed on the W. by the channel which joins the E. and W. Schiedts, and which separates the Dutch from the Flemish from the continent; and on the N. by the arm of the sea called Hollants-Diép, and its continuation the Biesbosch.

The principal towns are Bois-le-Duc, Breda, Bergen-op-Zoom, Oosterhout, and Tilburg; the other towns of the prov. are Geertruydenburg, Willemstad, Feuden, Grave, Eindhoven, and Helmont.

Geertruydenburg, a small fortified town, is situated on the Biesbosch. This town was given up by treachery to the Dutch, in 1559, and was taken by Prince Maurice in 1593. It is situated on the Biesbosch, between 1550, 750 males and 800 females, together 1588 inh., a great part of whom are engaged in the fisheries. It has a good harbour, and is 7 m. N.N.E. from Breda.

Willemstad is situated on the Hollants-Diép, 13 m. S.W. from Dordrecht. Willemstad, which is fortified, was built in 1584, by William I., prince of Orange: it has a good harbour; and in 1830 contained 920 males and 947 females, together 1867 inh. It made a very gallant and successful defence in 1793, against the attack of the French under General Duplex.

Feuden, a fortified town near the Maas, is 15 m. N.E. from Breda. A great part of this town was destroyed in 1650, through the setting on fire by lightning of the castle, which contained 70,000 pounds weight of gunpowder. Pop. in 1830, 1010 males and 1010 females.

Grave or Graf, situated on the left bank of the Maas, is 16 m. N.E. from Bois-le-Duc. It is a fortified town, and is considered as the key of Guelderland, on the borders of which it stands. It was taken by the duke of Parma in 1566, and was restored to Prince Maurice in 1602. It made a stout resistance to the French army in 1794, and did not capitulate until a great part of the town had been destroyed. Pop. in 1830, 1458 males, 1375 females.

Eindhoven, situated on the riv. Dommel, was formerly the capital of the prov. of炫onville, which is a considerable trade, and various manufactures are carried on among them; they are cotton spinning, flax spinning and weaving, brewing and tanning. Its grain market is considerable. Pop. in 1830, 1490 males, and 1506 females.
manufacturers of woolens, cotton, and linen goods. The college of Helmond enjoys some reputation.

The pop. of Dutch Brabant amounted in January, 1830, to 318,691.

Males. | Females. | Total.
---|---|---
In towns... | 35,399 | 79,994
In rural districts... | 137,791 | 140,151
| 277,942 |

| 438,691 |

0f the above there were 41,840 Protestants
365,446 Roman Catholics
1,471 Few
129 not known

showing a progressive increase in the numbers of the people, accompanied by an improvement as regards the duration of life.

The area of the prov. being 1653 sq. m., gives a pop. of 211 to the sq. m., which is somewhat below the average density of 300, a fact which is attributable to its larger proportion of waste land.

North Brabant, in common with all the Dutch provs., and according to ancient usage, has its particular States Assembly, the members of which are elected by the nobles, the towns, and the royal municipalities. This assembly meets annually as a matter of course, and more frequently if con

voked by the King of Holland. Its functions are the regulation of local affairs, and the imposition of provincial taxes.

BRABANT, SOUTHERN, the metropolitan prov. of the kingdom of Brabant, is bounded on the north by Antwerp; on the E. by Liege and Limburg; on the S. by Hainaut and Namur; and on the W. by East Flanders. South Brabant lies between 50° 32' and 15° 3' N. lat., and between 3° 50' and 5° 10' E. long.

South Brabant is politically divided into three depts. (arrondissements): Brussel, containing 2 towns and 186 communes; Louvain, 4 110; Nivelles, 2 100.

The principal towns are, Brussel, Hal, Louvain, Aarschot, Diest, Tiersmont, Nivelles, and Ware.

Aarschot, or Aerschot, a small fortified town in the district of Louvain and prov. of S. Brabant, situated on the riv. Demer. This town was the capital of the barony of Aerschot in 1125; it was subsequently fortified by the Duke d'Aremberg, into whose possession it had passed. A part of the ancient fortifications, called Aurelian's Tower, still exists in a state of ruin.

Aarschot, which in 1829 contained a pop. of 3615, has a municipal government, consisting of a burgomaster, 2 sheriffs (chevëns), 9 councillors, a secretary, and a receiver. The town contains one commercial and two private schools, the former giving instruction to 35 and the latter to 230 children of both sexes. The principal branches of industry are those of brewing and distilling.

Aerschot is 4 m. W. from Montaignt, 15 m. N.E. from Brussel, and 2 m. S. from Antwerp.

The area of the province amounts to 328,426 hectares (312,419 acres), of which 216,883 are cultivated or productive 1,356 barren 1,768 occupied with buildings 8,419 roads and canals

328,426

The forest of Soignes, part of the remains of the great forest of Ardennes, is contained within the prov., and occupies 11,833 hectares (29,411 acres). This forest forms a sort of buffer between Brussel and Nivelles, commencing about 2 m. to the S. of Brussel, and extending beyond the vil. of Waterloo, a distance of 84 m.

The pop. of S. Brabant amounted on the 1st of Janu
ary, 1831, to 556,046 souls, on an area of about 1299 sq.

The number of births in 1853 was—

<table>
<thead>
<tr>
<th>Males.</th>
<th>Females.</th>
<th>Total.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,959</td>
<td>4,731</td>
<td>3,151</td>
</tr>
<tr>
<td>2,382</td>
<td>2,586</td>
<td>4,968</td>
</tr>
<tr>
<td>9,743</td>
<td>11,317</td>
<td>10,331</td>
</tr>
<tr>
<td>9,964</td>
<td>11,185</td>
<td>20,295</td>
</tr>
<tr>
<td>6,112</td>
<td>6,612</td>
<td>12,612</td>
</tr>
<tr>
<td>10,671</td>
<td>10,671</td>
<td>17,233</td>
</tr>
</tbody>
</table>

The number of marriages in the year was 3992. The proportion which these numbers bore to the whole pop. was 1 in 10 to 15 inhabitants.

Deaths 1 41 137

The average number of children born to every marriage is stated to be 4'8 throughout the prov.; the average number for the whole of Belgium before the war was 4'1. This is mainly due to the sex ratio.
low the surface. A range of these hills runs at a little distance to the S. of Brussels, and along their brow are the well-known woods, which cover 20,000 acres and skirt the field of Waterloo, forming a kind of barrier or part of a belt to the S. of the capital.

The best soils in South Brabant are towards Flanders and Hainault, which last may be considered as possessing the most fertile soils in the kingdom of Belgium. Judging from the rich appearance of the crops in the neighbours of Tournay and along part of the road from Thence to Brussels, it is a matter of no small advantage to Brabant, and to attribute to the goodness of the soil what is more properly due to industry and good husbandry. From attentive personal inspection we are inclined to believe, that the general cultivation of the whole district between Malines and Louvain in one direction, and Louvain and Namur in another, which includes the richest part of Belgium, does not, on the whole, exceed the average fertility of the inland counties of England, and is decidedly inferior to the rich alluvial soils of those counties, which are fatuated with refuse washes, and make an abundance of manure. The liquid part of the manure is collected in large tanks or reservoirs, and used either immediately on the land, or to accelerate the fermentation of the drier portions, by pouring it over and upon them as a compost.

The general system of husbandry in Brabant is very different from that in Flanders, and approaches much nearer to the most improved systems in England and Scotland. In some respects it is superior, in others not so; and both countries have practised for the most part the same agricultural improving practices, as far as is consistent with the difference of situation and climate, in which one country is more advanced than the other. The climate of Brabant is less variable and drier than that in the same parallel in Great Britain, there is less cold in winter, more intensity, and the snow lies longer on the ground. They are not so subject to late frosts in spring. In consequence of this their harvest is earlier. They have in general a fine dry weather after harvest, in which the land may be cleared of rock-weeds; and in this they spare no pains.

The crops in Brabant are not so varied as in Flanders. The larger extent of the farms does not allow so minute cultivation, nor so frequent a use of the spade; but from the moment the crop is severed from the ground, before it is out of the field, it is removed to stored houses, and laid away at worst, the hard ground is moved to the depth of only two or three inches by means of light sharp ploughs; it is repeatedly harrowed to encourage the germination of the seeds of annual weeds, and to destroy those that in the spring up; that root weed of which the Colchester turnip is a native, is carefully pulled and burnt, and the whole is cleaned, and all the advantages of a summer fallow are obtained. In autumn, after some showers, the soil is softened to the earth to a moderate depth, the land is ploughed again to a greater depth, and one or two smooths are measured for immediate sowing, or laid up in ridges to receive the beneficial influence of the winter's frost, and be ready for spring sowing.

In case it should not be sufficiently clean, according to the notions of the farmer, a crop of potatoes on light soils, or of parsnips on heavy, are planted to be cut and fed on the farm, the means of destroying weeds. Barley is mostly sown in autumn, and of the winter sort; but spring barley begins to be extensively cultivated, especially since the chevallier barley has been introduced from England, which is as hard and strong in the winter as the winter barley in common use before. Rye, both for bread and for distilling, is always a principal crop, and bears a higher price, in proportion to wheat, than it does in England. Clover is seldom sown with a spring crop, because they think, and perhaps truly, that the leguminous genus gets the whole plant so fast forward as to injure the crop sown with it. They prefer sowing clover amongst rye or wheat, which being allowed to a certain strength, is not so likely to be injured by the young clover; whilst it gives sufficient shade and shelter, and the winter barley in common use.

The cultivation of beans all over Belgium is the most imperfect: they are usually sown broadcast, mixed with tares or pease. The land is certainly kept clean by so close a crop, but, except it be cut up green for fodder, the produce is not very great; neither beans nor peas have room and air necessary for a perfect growth; and only come near to perfection. One of the greatest improvements in Belgian agriculture would be the drilling or dibbling of beans, and hoeing them by hand or hand hoes to prepare the land for wheat; at present they scarcely seem to know the value of the clover seed with which they both sown. In summer the clover seed is sown on roots when green food falls. As a consequence of a scarcity of dry fodder, the young and store cattle have little else but straw in winter, and sometimes get so low in condition as to suffer greatly in cold seasons, and be a long time in recovering flesh. This is a defect which the best agriculturists in Belgium acknowledge and endeavour to correct by their example, but prejudice and custom are everywhere opposed to, and retard rational improvement.

In rich deep soils hemp and flax are cultivated to a great extent, and the flax has been especially improved, and highly manured, and usually succeeded by wheat, which thrives well after them. Tobacco has been tried in a few places, and seems to flourish. Maise or Indian corn may be seen growing here and there, but not to any extent. In rich warm fields the corn ripens well, is very productive, but in most years the spring is too late for the plants, which cannot bear frost in its tender state. The variety which succeeds best is that called the quarrain. It is supposed in a warm climate to ripen early. The late corn, which is more intermediate, and the snow lies longer on the ground. It is not so subject to late frosts in spring. In consequence of this their harvest is earlier. They have in general a fine dry weather after harvest, in which the land may be cleared of rock-weeds; and in this they spare no pains.

The peach in Brabant is of a large and compact kind, more calculated for strength than for activity. The Belgians, more by nature than by choice, and by necessity, have been forced to feed their horses on turnips, and to feed them on turnips, instead of being able to feed them on grass, as they would like to do. The Belgians have not yet discovered, that a moderately sized animal may be more profitable than a larger; or that a small cow with slight bones, like the Alderney cow, the Jersey, the Durham, the Ayrshire, or the Brabant cow, may give as much and richer milk, on less food, than the large, clumsy type, which has been used up to this time. The government has taken pains to introduce improved breeds, and money has been expended for that purpose, but the prejudices of the peasants are not easily overcome; and though they have not yet inclined to take advantage of the good intentions of their rulers, they have not availed themselves of the opportunity to purchase cows and bulls of a finer breed imported from England, and will probably be the means of opening the eyes of others,
when it is observed that the finer breed is more profitable than the old.

The horses are large and strong, and on the whole fully equal to the general run of farm horses in England. They might be much improved by a cross with the more active Yugoslavian and also with the Norfolk breed. The Piemontese horses have a great defect in the form of their hips and in the croup, which falls suddenly towards the tail, which is called in England being goose-rumped.

The sheep are of a very inferior kind, long in the leg, with coarse wool and hanging ears. A few good Leicester and improved Cotswold sheep have been introduced and will probably improve the native breed. The fleece of a very fine wool imported from England being sorted and combed was exhibited in 1835 at Brussels at the annual exhibition of the industrious producers of the country, and excited universal admiration for the length and fineness of the staple, and especially for the quantity of the wool. The whole fleece when shorn weighed twenty pounds, and from this nine pounds of fine long dressed wool was obtained.

The Belgian pigs are similar to the French, and nearer to the shape of greyhounds than of pigs, with long sharp snouts, and very long legs, the whole body being in the form of an arch of a circle, and very thin. A better breed has however been introduced, and, from the naturally prolific nature of the animal, will soon spread and supplant the old breed. There is a general spirit of agricultural improvement amongst landed proprietors in the country which the government is anxious to encourage.

The implements of husbandry used in Brabant are few and rude. 'The Dutch have obtained a very fine-Flemish swing plough, which they call a foot plough, as it is also called in some parts of England, in contradistinction to a wheel plough. At the same time they also retain the old and heavy turn-wrest plough, with a shifting coulter and many other defects, as may be still seen in some parts, and hence, yet they allow that the light Flemish plough does the work as well in the stiffest soils, and requires less force. It is surprising that two instruments so very opposed to each other in principle should be used on the same farm and in the same field, but in the field. At last year's agricultural show at Thow, the ploughman tried both kinds of plough, and digged them in a common field, and at last year's agricultural show at Thow, the ploughman tried both kinds of plough, and digged them in a common field, and thus proved without dispute which was the best, the first plough requiring more horses and the second less. The reason is that the Flemish plough is of later introduction, and the prejudices against anything new are not yet totally overcome.

The plough is universally drawn by horses two abreast, driven in reins. Very few ox teams are seen. The land, in general, is not so neatly tilled as in Flanders, Scotland, and the best agricultural counties in England. There is not the same attention to the straightness and equality of the furrows in ploughing. The harrows are triangular, with wooden tines set at an angle, and which may scratch the surface but cannot penetrate to any depth. A heavy iron drag to tear up the clods, and bring deeply-laying roots to the surface is much wanted, but is not in use anywhere, as far as we could observe. Only a few tractors are seen in the province. A stone roller is used, set in a triangular frame, which drags on the planks and serves to break the clods, and is a simple useful instrument, of which we annex a figure. The triangle A B C

draws on the ground before the roller, and the horse draws by the hook B.

A winnowing machine with a fly and sever is the only additional instrument in general use.

BRACCIANO, LAGO DI, a lake in the Roman state, the antient Sabatius, about 17 m. N.W. of Rome. It is of a circular form, about 11 m. in circumference, and lies at the foot of Mount Cimino. It is about 120 acres in extent, and is surrounded by hills, except to the S., where it borders on the wide unwholesome plain which slopes down to the sea. To the E. the lake has an outlet in the riv. Arno, which flows into the sea at Macerace. On its S.W. bank the castle of Bracciano rises with its old embattled walls and towers, on a rock projecting into the lake, with the vil. built at the foot of the castle, and containing about 1500 inh., with several iron-works and a paper manufactury. Brac-
Leonardo wrote to him against giving way to his feel-

mgs. Poggio was still, nominally at least, papal secretary at the time. After Martin V. was solemnly acknowledged as legate at Pisa, he was the council dissolved in 1454, Poggio followed the pontiff on his return to Italy, as far as Mantua, where he suddenly left the papal retinue and repaired to England. Whether he left in disgust, or through fear for having expressed his sentiments too freely on church matters, is uncertain. In 1454 Poggio obtained a new benefice; he had received an invitation from Cardinal Beaufort, Bishop of Winchester. His expectations however from Beaufort's liberality were disappointed; and at length, having received through some friends in Italy an offer to resume his office as he, he left England about the beginning of his last year, during his residence in England there are scattered fragments in his published letters, and still more in the un-
edited ones. His picture of the manners and habits of the English is not flattering. He says that they were more addicted to every sort of luxury than those of any learning; and that the few who cultivated literature were more expert in sophisms and convivials quibbles than in real science.

Poggio continued in his office during Martin's pontificate, and at the same time he looks after MSS. and antiquities, for which latter object he made excavations at Ostia, and other parts of the Campagna. He also made Latin translations of the first six books of Diodorus Siculus, and of Xenophon's Cyropedia. Eugenius IV. having, in 1447, raised the Inquisition in Italy, Poggio took part in the popular rebellion to remove his court to Florence, then came the controversies between the Pope and the Council of Basal, which lasted during the rest of Eugenius's pontifi-
cate, till his death in 1447. The greater part of this work was improved and corrected by his son-in-law, who had purchased in the Val d' Arno, some say with the produce of some classical MSS. which he sold. He gives in his letters a description of this residence, which he had adorned with statues and other remains of antiquity, that he had collected in various places. He wrote there several works, among others 'Discourse on the Unhappiness of Princes,' which he dedicated to Thomas of Sarzana, afterwards Pope Nicholas V., and his virulent invectives against Felixio, who had been charged with lying in his excursions and of publishing false 

information; these invectives the most horrid charges are brought against Filefo, which however must not be taken literally, for it was the practice of Italian scholars in that as well as in the following ages, to abuse one another without any very strict regard to the truth. When the two fierce disputants became reconciled, Poggio wrote a sort of disavowal of his former accusations, which is found at the end of the invectives. In 1453 Poggio married Selvaggia, of the family of Buondelmonte, of Florence, a young and handsome lady, with whom he was already acquainted by correspondence. When to his marriage, he wrote a dialogue on the question—An esti sit uxor ducenda? From that time Poggio reformed his life, which had been before rather licentious. In 1447 he published a selection of his letters, written in Latin, like all his other works, in two volumes. When to the second volume of the Venetian, Biennio Conti, in the east also wrote Dialogus adversus Hypocrinam, in which, as well as in his disquisition, De Avaritia et Luxuria, he inveighs against the vices of the clergy, and especially of the monks, which were certainly very flagrant in that age, and were the main cause that led to the great reformation in the following century. Notwithstanding his satirical freedom he preserved the good graces of Nicholas, in support of whose right to the papacy he wrote a bitter invective against his rival the antipope Felix, in which, as usual of such attacks, he did not spare a hundred names of his adversaries, from Philip the Bold, Duke of Burgundy, to Florentine and Venetian clerics and laymen. He wrote Dialogus de laudibus et vitiis, which is a satire against the threepiece suit; a short time after he had written a poem against the new religion of the Greeks and Latins; in which he ridiculed the ceremony of the Eucharist, and the Greek theory of the elements, and denounces the absurdity of the Scholastics' arguments. Poggio also composed a treatise De Lingua Latina, and a satire against the learning and the dandies of his time. His greatest work was a brief history of the Medici, and he was the first who wrote the life of Machiavelli. In 1455, on the death of Carlo Aretonio, chancellor of the Pope, Poggio, through the influence of the Medici, was appointed his successor. He finally quit the Roman court after having been fifty years in its serv-

ice; and it was not without regret that he parted from his kind patron Pope Nicholas.

Poggio having left Florence, and having the archives of Florence, he under-
took a history of that republic, Historia Florentina, lib. viii., which embraces the period from 1350 to 1455. It was translated into Italian by his son Jacopo, and printed in 1476, and afterwards republished in a more correct and improved version by his other son-in-law. A second edition of this text was not published till 1715, by Recanati, who prefixed to it a biography of the author. Poggio has been charged with marked partiality for his countrymen in his history. Another author is not so particular in his characterisation of Machiavelli, who, in the preface to his own history, observes that both Poggio and Leonardo Bruni, two excellent historians, had diligently described the wars between Florence and the other states and princes, but with regard to the civil con-

sequences of a war, of which Florence was the chief victim, he thinks they had been either silent or extremely laconic in their account, either because they fancied them beneath the dignity of history, or perhaps because they were afraid of offending the relatives and descendants of persons who had suffered in the later achievements of the city. Poggio died at Florence in 1459, and was buried with great honours in the church of Santa Croce, near his friend Leonardo Bruni. A statue of him by the sculptor Dona-
tello is in the duomo or cathedral.

Poggio never lost his respect for the distinguished scholars of the epoch of the revival of literature, and one of those who contributed most to the spreading of that revival. His long life, the offices of trust which he filled, his travels, his ex-
tensive correspondence, his multifarious learning, all con-
spired to make him one of the most remarkable writers of the fifteenth century. His works, especially his Orations and his Epistles, are remarkable for their eloquence and fluency of style, though their language does not equal in classic purity that of Poliziano and some other latinitists of the following age. His Orations are written with a brilliancy and frankness; even in his addresses to the great, his language, though courteous, is free from flattery. He had an ample share of Florentine causticity of humour, and his invectives are virulent and outrageous beyond the limits of all decency and justice; this was however the fault of the generality of his contemporaries. But he could also be a staunch friend as well as a violent enemy. Even as a monitor he could divest himself of all unbecoming asperity, as he proved by his reproof to Beccatelli, on the occasion of one of his letters. At a certain time there was a pamphlet called the 'Heraphrodite, which was burnt in various towns of Italy by the public executioner. While Valla and others, which they were to be treated with as an enemy. This is the case of his book, Poggio wrote to the Panoramica, expressing his opinion of the Venetian. It is at second sight a clear example of one of capable of better things, reminding him that he was a Christian living among Christians, and not among the worshippers of the heathen gods, and exhorting him to apply himself in future to graver and more be-
coming studies.
The works of Poggio have never been properly collected. The Bassil edition, 'Poggio Opera,' 1538, wants many of them, and is also typographically incorrect. The dialogue 'De Varietate Fortunae' was published by Poggio at Lyons in 1679, had appeared before in a collection called 'Fasciculus rerum expetendarum et fugiendarum,' Cologne, 1553. The treatise 'De Varietate Fortunae' was printed first at Paris, in 1523, with fifty-seve indelible letters. But most of his other letters were first printed in a collection of different libraries. A great number of them exist in the Riccardiana at Florence, which contain many curious particulars of his life and times. The Advocate Tenilli has made good use of them for his Italian translation of Shepherd’s 'Life of Poggio.' Florence, 1829. Poggio’s funeral oration for Cardinal Zabarella, which he delivered before the council of Constance, in 1417, has been published separately. 'Oratio in funere Francisci Zabarelli, habita in Concello Constantiensi, anno 1417,' Padua, 1555. But most of his other orations remain unprinted and are preserved in MSS. in the Greek, Lucian’s 'Dialogue on the Ass,' which is printed in the Bassil edition of his works. The miscellany called 'Poggiana,' by Lenin, 1720, which professes to give an abstract of his life, opinions, &c., is full of errors. Poggio’s 'Fasti' was not intended for publication. Poggio’s son Jacopo was a man of learning, but after being in his youth the friend of the Medici, he conspired with the Pazzi against Lorenzo, and being seized after the murder of Giuliano, was publicly hanged in 1478.

BRACHELYTRA (Entomology), according to Mr. Stephens’s arrangement of insects, forms the sixth division of the order Coleoptera. M. Latreille, however, places this tribe of insects as the second family of the Pentameera, with the name of Brachytridae. The genus Brachytria (as it is now translated from the Greek called Staphylus) may be distinguished by the elongate form of the body and the shortness of the wings, which in most instances scarcely cover one-third of the length of the abdomen; their maxillae are furnished with one palpus. The apex of the abdomen is provided with two vesicles, which can be protruded at the will of the animal.

The habits of the Brachytria are very various, but the greatest number of them are perfectly herbivorous, and feed on vegetable substances, upon which they feed; some are carnivorous. The shortness of the wing-cases probably allows of a greater flexibility in the body.

BRACHCHINUS, a genus of coleopterous insects belonging to the Carabidae, are very common in the gardens, and furnished with a small tooth-like process in the middle. The Brachini possess a remarkable power of violently expelling from the anus a pungent acrid fluid, which, if the species be large, has the power of producing a discolouration of the part of the body on which it is caused to be expulsed, and it is said to be the fluid that is emitted by certain species of ants. This is a very dangerous and unpleasant process, considering the size of the insect, accompanies the expulsion of this fluid, which, being discharged, instantly evaporates.

About five species of the genus Brachinus have been found in this country, of which B. creptans is the most common; it is found under stones, and occurs plentifully in chalky districts. This species is rather less than half an inch long; the head, thorax, and legs are of a yellowish red colour; the wing-cases are greenish, or black. The antennae are reddish, with the third and fourth joints black. Many of the species of Brachinus resemble the above in colour. The species of the genus Apinus (a genus very closely allied and differing chiefly in being apterous) are generally yellowish blue, having four black spots on the elytra; the thorax is black, and the legs are more or less suffused with black; they are likewise of a larger size for the most part, and abound more particularly in warm climates.

BRACHYONUS (Muller), Zoology; a genus of minute animals, found both in stagnant fresh water and in sea water. Their organization has produced some doubt among naturalists as to their proper place in the scale of creation. Lamarrack arranged them under his Rotifera (wheel-bearing animals) being the second section of his Ciliated Polypes, and having one or two ciliated and rotatory organs at the orifice of the mouth. Cuvier placed them in the first order (Rotifer) of his Infusoria, which forms his fifth and last class of the Zoophytes—in short, the class at the extreme end of the animal kingdom. De Blainville also brings them under the Rotifera, which form the first section of his Microraia heteropoda. The following is De Blainville’s definition of the genus:

Body more or less covered by a shell (or sheath), formed of one or two pieces, and more or less prolonged posteriorly by a caudiform abdomen, two tufts of vibratory cilia at the anterior extremity.

Savigny, Schwigger, Schrank, Bory de St. Vincent, Carus, have all contributed to throw light upon these microscopic creatures. De Blainville thus writes in his Actinologie (1834):

'The impossibility under which we find ourselves of characterizing, by the particular disposition of their appendages, the genera, more or less numerous, which may be formed among the Microraia, we propose to extend to all the species, whose bodies are covered by a sort of shell of one or two pieces for a more or less considerable part of their extent, the denomination of Brachion, devised by Hille and adopted by Pallas and Lamarck. We have already observed many species of this genus belonging to the different sections of the Microraia. Brachion is very common in all stagnant fresh waters; it is very probable the Rotifera of Hill, Essay 13, p. 288, concerning which that author gives very interesting details that show it to be a true entomomastous animal. [Entomastraca.]

'The Corona of Corti belongs also, without doubt, to this section. We have also studied the Trichoda piazzia of Muller, which is certainly a Brachion. We cannot conceive how Muller could say that it creeps after the manner of the Pisania, Creataceum. It is the extremity of its tail, and it travels as if it were provided with a great number of appendages under its shell.

'Brachionus ovalis has also been often presented to our observations. It has certainly two tufts of vibratory cilia before, and behind a pair of sufficiently long appendages, by the aid of which it is also able to fix itself. Its shell appeared to us to be bivalve; but of this we are not certain.

'Brachionus patella have we seen once, and observed sufficiently long appendages, by the aid of which it is also able to fix itself. Its shell appeared to us to be bivalve; but of this we are not certain.

'Brachionus pinnatus we have seen once, and observed sufficiently long appendages, by the aid of which it is also able to fix itself. Its shell appeared to us to be bivalve; but of this we are not certain.

'Brachionus pinnatus we have seen once, and observed sufficiently long appendages, by the aid of which it is also able to fix itself. Its shell appeared to us to be bivalve; but of this we are not certain.'
De Blainville divides the genus into the following sections:

Species whose univalve shell is oval, much shorter than the body, prolonged posteriorly into a very long caudiform abdomen, which is provided at its termination with a pair of very short appendages.

Example. Brachionus veneris. (Müller.)

Species whose oval, elongated bivalve shell almost entirely covers the body, and is terminated by a short caudiform abdomen, provided with a pair of appendages which are, in general, of some length.

Genus Mytilina of Bory de St. Vincent.
Example. Brachionus ovatus. (Müller.)

Species whose body is entirely covered by an oval shield, which is nearly round, univalve, and terminated by a caudiform abdomen, without terminal appendages.

Genus Prooboscida of Bory de St. Vincent.
Example. Brachionus patina. (Müller.)

Species whose body, entirely covered by a nearly circular shell, is terminated behind by a pair of very long and setaceous appendages.

Genus Squamilla of Bory de St. Vincent.
Example. Brachionus bractea. (Müller.)

BRACHIOPODA, or BRACHIOPODOUS MOLLUSCA (Zoology). Cuvier's fifth class of Mollusks, the Paliobranchiata (Paliobranchiata) of De Blainville, being the second order of the latter's third class of Mollusks (Deepshelphora).

This class, though comparatively low in the scale of creation, is interesting to the physiologist, and of considerable value to the geologist, who finds in the fossil forms so small portion of those natural marvels which indicate the history and the stratification of our globe. We have, therefore, entered more largely into the natural history of the Brachiopoda than their consequences as organized beings would otherwise warrant in a work of this description.

The family of Lingula antarctica, in the Annales du Musée, first made known that organization, by which the mantle, in addition to its office of secreting the shell, defends the valves, has been submerged to the circulating system. Instead of the branchie of the ordinary bivalve, where the gills are arranged in the usual manner, in the Lingula the gills are united together in two fringed and splayed discs, and that the branchie presented themselves on the internal surface of both lobes of the mantle in oblique parallel lines. He further found that these lobes were traversed by vessels of connection, which he named the branchial veins, which are connected together in two symmetrical systemic hearts. Here was a new type of circulation, and to the mollusks which presented these interesting and important modifications he gave the name at the head of our article, significant of the fringed arms which in this class took the place of the foot or organ of progression in the cockle, &c.

Lamarck and Walsh had previously taken the analogous parts of Terebratula for branchie, and Pallas, who is not quoted by Cuvier, describes the arms of Terebratula with minute accuracy and beauty, but considers them as branchie, and compares them to those of a fish.

De Blainville, in the 'Dictionnaire des Sciences Naturelles,' gives an account of the organization of Terebratula. But both Cuvier and Blainville were led into error in their attempts to trace out some parts of the organization of Terebratula; and it was reserved for Mr. Owen, in his accurate, interesting paper, 'On the Anatomy of Terebratula,' and the especially, the Genera Terebratula and Orbicula,' published in the Transactions of the Zoological Society of London,* and derived from the dissection of specimens brought by Dr. Meek and Captain James Ross, R.N., fully to investigate the subject as to leave little or nothing to be desired upon the subject of the anatomy of Lingula and of the two genera last named. Our limits will not permit us to follow the learned author through his memoir, the whole of which, together with the beautiful illustrations that accompany it, is worthy of the most attentive perusal by

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ticy. With respect, however, to the respiratory organs, the modifications which these have presented in Orbicula and Terebratula show the Brachiopods to be still more inferior in the structure of the branchiae in Lingula; and notwithstanding the division of the systemic heart, I consider that there is also an inferiority in the vascular system. Each heart, for example, in the Brachiopoda is as simple as in Ascidia, composed of a single arch, and not composed of a distinct auricle and ventricle, as in the ordinary bivalves; for in these, even when, as in the genus Arca, the ventricles are double, the auricles are also distinctly two in number; and in the other genera, where the ventricle is single, it is mostly supplied by a double auricle.

The two hearts of the Brachiopoda, which in structure resemble the two auricles in the above bivalves, form therefore a complexity or superiority of organization more apparent than rare. Having been thus led to consider the circulating as well as respiratory systems as constructed on an inferior plan to that which pervades the same important systems in the Lamellibranchiate bivalves, I infer that the position of the Brachiopoda in the natural system is inferior to that of Ascidia.

Among the relations of the Brachiopoda to the Tunicated Ascidia, and more especially to the Ascidia, we may first notice an almost similar position of the extended respiratory membranes in relation to the mouth, so that the currents containing the nutrient molecules must first traverse the ventricles and auricles of the heart before reaching the mouth; the simple condition, also, to which the branchiae are reduced in Orbicula and Terebratula indicates their close affinity to the Ascidia. But in consequence of the form of the respiratory membranes in the Brachiopoda, whose substance is that of the thick outer boundary of the Ascidia, the digestive system derives no assistance from that part as a receptacle for the food, and the superaddition of prehensile organs about the mouth became a necessary consequence. The Brachiopoda again are stationary, like the Ascidia, and resemble the latter in the pedunculated mode of their attachment to foreign bodies.

With the Cirripedia their relation is one of very remote analogy; their generative, nervous, and respiratory organs being constructed on a different type, and their brachiocardiac system of that of their Ascidian brethren. In the essential points the Brachiopoda closely correspond with the Acephalous Mollusca, and we consider them as being intermediate to the Lamellibranchiate and Tunicate orders; not however in the same degree, so far as they are at present known, distinctive characters of the former group, not being regarded as a distinct class of Mollusks, but forming a separate group of equal value with the Lamellibranchiate.

The following is De Blainville's arrangement, slightly modified:

* Shell Symmetrical.

Genus Terebratula (Bruguères).

Animal depressed, circular or oval, more or less elongated. Shell delicate, equilateral, subterminal, inquivalve, one of the valves larger and more rounded (bombe) than the other, prolonged backwards into a sort of heel, which is sometimes recurved into a kind of hook-like process and pierced at its extremity by a round hole, but more frequently divided into a fissure more or less large and of variable form. The opposite valve generally smaller, flatter, and sometimes oculiforous. Of a complicated loop or internal support to which the arms are attached we shall presently speak at large.

Hinges on the border, condylid, placed on a straight line, and formed by the two oblique articulating surfaces of the one valve placed between the corresponding projections of the other. A sort of ligament comes forth from the hole or fissure above described, by which the animal fixes itself to submarine bodies.

The following is Mr. Owen's description of the peculiar, complex, and extremely delicate testaceous apparatus, sometimes called 'the arm', and sometimes by Mr. Proctor, attached to the internal surface of the imperforate valve:

The principal part of this internal skeleton, as it may be termed, consists of a slender, flattened, calccreous loop, the extremities of which are attached to the lateral elevated ridges of the hinge; the crus of the loop diverge, but again approximate to each other as they advance for a greater or less distance towards the opposite margin of the valve; the loop then suddenly turns towards the perforate valve, and is bent back upon itself for a greater or less extent in different species. With the loop very subobsolete, in the Terebratula, Brug., there is but a small tendency towards a reflected portion; but where the loop is of great length and width, as in Ter. Chilensis, Brod., Ter. dorata, Lam., and Ter. Sonorensis, King, the reflected portion is considerable. The loop, being supported by its origins or crura, is commonly attached to two processes going off at right angles from the sides, or formed by a bifurcation of the extremity, of a central process, which is continued forwards to a greater or less extent from the hinge; but it is sometimes entirely free, except at its origins, e.g., in Ter. vitrea. This reflected loop, forming two arches on either side the mesial plane, towards which their concavities are directed, I have figured as it exists in Ter. Chilensis and Ter. Sonorensis. It is represented of a similarly perfect form in Ter. dentata, by M. de Blainville in his 'Animal coloris'; and the same apparatus in Ter. dorata is very well figured by Cenmmis; by Sowerby, and more recently by G. Fischer de Waldheim. A similar form is also figured in another species of Terebratula by Poli.

The arms of the loop are so slender, that, notwithstanding their calcarious nature, they possess a slight degree of elasticity and yield a little to pressure; but, for the same reason, they readily break if the experiment be not made with due caution. The interspace between the two folds of the calcarous loop is filled up by a highly fringed membrane, which binds them together, and forms a protecting wall to the viscera: the space between the bifurcated process in Ter. Chilensis is also similarly occupied by a strong aponeurosis. In this species the muscular stem of each arm is attached to the outer sides of the loop and the intervening membrane. They commence at the pointed processes at the origins of the loop, advance along the lower portion, turn round upon the upper one, and are continued along it till they reach the transverse connecting bar, where they advance again forwards and terminate by making a half spiral twist in front of the mouth. It is these free extremities which form the third arm mentioned by Cuvier. These arms are ciliated on their outer side for their entire length, but are cilia longer and much finer than the brachial fringes of Lingula; and except at the extreme ends, which have a slight incrustation, they are uniformly straight. There is thus an important difference between Lingula and those species of Terebratula which resemble Ter. Chilensis in the powers of motion with which the arms are endowed; since from their attachment to the calcarous loop they are fixed, and cannot be unfolded onwards as in Lingula. Owing to this mode of connexion, and their ciliated structure, their true nature was much more liable to be misconceived by the early naturalists than is now perceived not to have escaped the discrimination of Linneus, who, as Cuvier has observed, founded his character of the animal of Anomia on the organization of one of the Terebratula which he included in that genus.

The recent species are numerous and widely diffused, and the genus appears to be capable of flourishing in extremely warm and extremely cold regions, as well as in more temperate climates. Thus some of the species have been found in the Indian seas and at Java (Ter. ravescens, Lam., for example), and Ter. peticularis, brought home from the late expedition by Captain James Ross, R.N., was fished up from a depth of twenty-two fathoms near Felix Harbour, in lat. 70° N. E. side of Boothia. The average depth at which Terebratula has been found ranges from ten to forty fathoms. De Blainville has thus subdivided the species:

A. Summit of the larger valve pierced with a round hole, well defined.
1. Valves triangular, with a straight anterior border. Example, Terebratula digona (fossil).

3. Valves raised as it were, or hollowed on the mesial line. Examples. *Terebratula sanguinea* and *Terebratula dorsata* (recent).

4. Bilobated, the valves striated from the summit to the circumference, and deformed as it were at the junction of their border. Example. *Terebratula deformis* (fossil).

5. Trilobated, as it were, by the projection of the mesial part. Example. *Terebratula alata* (fossil).

B. The heel of the larger valve deeply notched up to the border of articulation; notch or fissure rounded. 1. Valves rounded at their anterior border. Example. *Terebratula rubra* (recent).

2. Valves sub-bilobated by the depression or expansion, which is apparent at the anterior border. Example. *Terebratula Copul Spermatias* (recent).


D. Opening of the heel, marginal, triangular, but much larger transversely than longitudinally. Line of articulation quite straight.

1. The small valve provided with a straight flattened support, bifurcated at its free extremity; a projection (*cloision*) in the other valve penetrating into this bifurcation. (Genus *Pentasteria*, Sowerby.—Fossil.) Example. *Strygocephalus Burtini*.

2. The lateral parts of the support formed of a very fine spiral filament, so as to produce two hollow somewhat conical masses which nearly fill the whole of the shell. (Genus *Spirifer*, Sowerby.) Example. *Spirifer trigonalis* (fossil).
The recent species have been found at depths ranging from the surface to seventeen fathoms; and specimens have been taken in hard coarse sand from four to six inches below the surface of the sand.

*Lingula* has been found in a fossil state in the inferior oolite of Yorkshire, in the old red sandstone formation, and in other old fossiliferous beds.

Genus *Thecidium*, Defrance, Thecidium, Sowerby. De Blainville thus describes the genus.

Animal entirely unknown, but very probably differing but little from that of *Orbicula*.

Shell equilaterial, regular, very inequivalve, and sufficiently similar to the *Terebratula* of the latter sections; one valve hollowed, the heel or hook recurved, entire, without a fissure and adhering; the other flat, operculiform, and without any trace of the internal support.

Hinge longitudinal; articulation by two distant condyles, as in the *Terebratula*, with a large mesial tooth in the flat valve fitting between the conoid teeth of the concave valve.

Example. *Thecidium radiatum*.

The recent species above mentioned is an inhabitant of the Mediterranean, and found among the common red coral of the Tuscan Seas.

The fossil species are tolerably numerous, and Sowerby says that those which he had seen appeared to belong to the chalk, and were brought from Maastricht, and from Orkney in Normandy.

Genus *Strophomena*, Rafinesque; (Fossil).

Shell regular, equilaterial, subequivalvate; one valve flat, the other slightly excavated; articulation straight, transverse, with a small projection notched or dentellated transversely. No trace of an internal support.

Example. *Strophomena rugosa*.

As Strophomena has no living representatives, at least none yet discovered, there can be no description of the animal, which is however, judging from the construction of the shell, most probably brachiopodous.

The fossil genera *Plagiostoma, Dianachora*, and *Podopes* (see these titles) are placed by De Blainville under this section. We do not however think that there is such pregnant evidence of a true and entire brachiopodous organization, as to warrant this decided position under the Brachiopoda. Indeed De Blainville himself says that some of the *Plagiostomatia* are of the family *Terebratula*, and that the others (he instances *Plagiostoma Mantellii*) are entirely different, and he allows that these last ought to form a distinct genus of the family of Subostracians. Defrance places *Podopes* among the oysters.

*••*

Shell unsymmetrical, irregular, always adherent.

Genus *Orbicula*, Lamarck.

Shell orbicular, very much compressed; inequilateral, very inequivalve; the lower valve very delicate, adhering; the upper valve patealiform, with the summit more or less inclined towards the posterior side. Fissure of adhesion in the lower valve subcentral. Hinge toothless.

Example. *Orbicula lamellata*.

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No. 311.

**THE PENNY CYCLOPEDIA.**

**Vol. V.—2 S**
tooth. *Rictus* smooth. Feet small; lateral toes unequal; the hinder toe rather shorter than the tarsus.

11. *Tarsus, Horsfield*. Bill nearly entire; bill is the head; lengthen concical. *Rictus* somewhat lengthened; the anterior scales divided. Tail even. Type *Tarsus acaparula*, Horsfield.


Mr. Swainson does not seem to have been aware that the appellation *Brachypus* had previously been conferred by Fitzinger on a sub-genus of Sauriæ, belonging to the *Turdidae*. The name, however, he adopted, and it should, therefore, be no longer used to distinguish a sub-genus of birds. The term was, however, the head of this article, which Mr. Swainson has applied to the sub-family, might be changed with advantage; for it may be liable to create confusion when unexplained by context, and leave the reader in doubt whether a sub-family of birds or reptiles is intended.

For Mr. Swainson's further account of *Brachypodium*, see Fauna Boreali-Americana, vol. ii., where the characters of the subgenera given above will be found.

BRACHYPHYX (Zoology). A genus of birds approaching to Saxicola, thus defined by Dr. Horsfield:—

Essential character. Bill with the culmen carinated between the nostrils, the sides being flattened, and rounded towards the apex with the sides convex; edges subincisivated.

Wings very short and obtuse. Quills entire, the first subspurious, from the second to the fifth gradually increasing, from the fifth to the tenth longer and nearly equal, the rest gradually shortening. Tail moderate, rounded; the feathers two.

Wings very short and obtuse. Quills entire, the first subspurious, from the second to the fifth gradually increasing, from the fifth to the tenth longer and nearly equal, the rest gradually shortening. Tail moderate, rounded; the feathers two.

Feet elongated and weak. Tarsi slender, twice as long as the middle toe. Toes compressed, very slender, the middle longest, the lateral toes nearly equal, the outer toe sub-coalescing with the middle toe at the base. Claws very much compressed and very short. Type *Brachyphteryx montana*, Horsfield. The species on which the genus is founded is thus described by the author:

Weight of the male five, and of the female six, drachmas. In the length of the two sexes scarcely any difference is perceptible. The measure is nine inches and nine lines from the tip of the bill to the end of the tail; to the extremity of the claws the length is six inches. In the male, the head, neck, and breast have a dark indigo blue tint, inclining to black, with a greyish reflection on the surface, variegated with lighter and darker shades; on the throat and the lower part of the neck this colour passes into grey; on the forehead it is more intense, inclining to black. Above the eyes is an oblong white spot. The back, the wings above the shoulders, the coverts of the tail, the vent, hypochondriac and thighs and the under parts, are dark brown, with a ferruginous reflection. The wings underneath, stern and tail, are dark brown, and underneath, are pure blackish brown; the shafts of the quill and tail feathers are black and shining. The inner vanes of the quills and the tail feathers generally have a dark deep brown. The end vanes of the tail feathers are slightly tinted with the ferruginous lustre of the upper parts. The lower parts of the breast and abdomen are whitish. The plumes on the posterior portion of the body are very thickly disposed; the vanes consist of long, delicate, silky, pellucid laminae or lamellae, forming a
Brachyteles (short-winged birds). Cuvier's name for those birds generally known by the name of 'Diver.' [Diver.]

Brachypterus [Brachypodine and Chalcides.]

Brachyteles (Zoology), a genus of quadruped, separated from the rest of the family by some of the more important (among other differences) of the very small development of the thumb.

[Atelids, species 7, 8.]

Brackley, a bor. and m. t. in the bund. of King's Sutton, Northamptonshire, 56 m. N.W. from London, and 1 m. S.W. from Northampton. Brackley is said to derive its name from the broake with which the district was once overspread. Although it has long been a poor place, it seems to have been in a very flourishing condition both before and after the Conquest, being particularly eminent for its share in the wool traffic. An act existed as a corporation in the time of Henry III., although the place was not governed by a mayor until the 7th of Edward III., at which time it was required to send up three merchant staplers to a council concerning trade held at Westminster. It never again sent representatives until the last parliament of Henry VIII., after which it continued to send two members till it was disfranchised by the Reform Bill. The market is first distinctly noticed in 1217, it is now held on Wednesday; and there are nominally five fairs, of which only that on St. Andrew's day is any importance. The pop. of the bor. amounted in 1831, to 2107 persons, of whom 1094 were females. The town, which is chiefly built with unhewn stone, extends up a gentle ascent on the N. bank of the Ouse, which is here a small stream, crossed by a bridge of two arches.

Brackley is inclosed into a parsonage, but otherwise distinct. The par. church is dedicated to St. Peter. When erected is not known; but the vie. was endowed in 1223. The living is in the deaconry of Peterborough, and is worth £59. per annum. The other church, dedicated to St. James the Great, was rebuilt and a new ch. erected in 1257: it is considered old even in Leland's time. The living is a curacy, not in charge, subject to the vicar. There was an hospital here, founded somewhere between 1146 and 1167, by Robert Boss, Earl of Leicester. The estates with which it was endowed were afterwards added to the college, Oxford, on condition of maintaining a priest there to say mass for the soul of Lord Francis Lovel; a duty which at the Reformation was exchanged for that of supporting a free school. This school still exists. It is held in a plain building erected in 1587; the master receives 15l. per annum from Magdalen College, and 12l. per annum has been left to be distributed in prizes among the free scholars. The chapel of the old hospital had fallen into decay, and was thoroughly repaired about the middle of the last century, by Mr. John Welcher, who also provided a stipend to enable divine service to be performed therein every alternate Sunday. The son of the same person left 100l. for the education of four poor boys as many as might reside in the village. The school closed in 1816, the interest has been paid over to the treasurer, in aid of voluntary contributions. There are almshouses founded by Sir Thomas Crewe in 1663; and there have been various bequests of rents and money, applicable to the repair of churches, the maintaining of bells, and the relief of the poor. There is a handsome village hall.

(Leland's Itinerary; Bridge's Hist. and Antiq. of Northamptonshire; Baker's Hist. and Antiq. of the Co. of Northampton, &c.)

Brachypodine is a genus of insects of the order Hymenoptera, and family Ichneumonidæ (of Latreille). The insects of this genus are remarkable for the hiatus which there exists between the mandibles and the clypeus. The maxillæ are prolonged inferiorly; the second cibarial cell of the wing is considerably larger than the third; the clypeus is very prominent, and at this peculiar time are less developed and appear in the form of scales, or half-formed leaves. Of these the external are bracts, the next combine with each other and become calyx, the next assume the form of petals, and so on. Therefore whatever intervenes between the true leaves and the calyx is bract.

Bracton, one of the writers who are meant when the phrase is used 'our ancient law-writers,' or 'the ancient.
text-writers of our law." These writers lived from the close of the twelfth to the middle of the fifteenth century. The oldest is Gaimhile, whose era is referred to the reign of Henry II. and Richard I. Bracton lived in the reign of Henry III. He was learned in the Jewish and Saxon laws, and was acquainted with the writings of the unknown authors of 'Fleta,' 'The Mirror of Justices,' 'The Doctor and Student,' and the 'Old Book of Tenures.'

These books all relate to the nature, principles and operation of the ancient laws and constitution of the realm, and together with a few minor treatises, the collections of Welsh, Saxon, and Norman laws, the charters and statutes, the year-books which contain notes of causes and decisions, the records of writs, inquests, surveys, and of the receipts and issues by and from the king's revenue, and the incidental information to be found in the chroniclers, form a rich study of those persons who wish to become acquainted with the history of English judicature, of the courts for the administration of justice, and generally of the various operations of the English law.

Bracton's work is entitled 'De Consuetudinibus et Legibus Anglicis.' It is divided into five books, and the following is a slight sketch of the nature and object of the work.

In the first book he treats of distinctions existing in respect both of persons and things; in the second of the modes in which property may be acquired in things; in the third of actions or remedies at law. The fourth book is divided into several sections, which treat on the assize of modern, the assize of libel, the assize of real property, and in the law of the land, and the division of the land. The fifth book is also divided into sections, in which the author treats of the writ of right, essoins, defaults, warranty and exceptions. A larger abstract of the contents of this work may be found in Reeves' 'History of the English Law,' vol. ii. p. 86, &c.

A curious mention of a biblical in its arrangements, so precise in its statements, and so abundant in its information, must have been the work of some very able person. Little however is now known of this author. The writers to whom we are indebted for collecting what could be recovered of the English law, are divided into two classes, the Pitz, of whom the former lived in the reign of Henry VIII. and supplied Pitz, who was a Catholic writer in the reign of Elizabeth and James I., with most of the information which his work, valuable as it is, contains. Their statements that Bracton was a judge of the Common Pleas, and that he was Chief Justice of England, are now regarded as questionable. There is better reason to believe that he was a Henry de Bracton who delivered law lectures in the University of Oxford towards the middle of the thirteenth century. He was in the high court of chancery and once sat in the council in the reign of Henry III. The value of the work, and the high esteem in which it was held, is manifest by the numerous copies which were made of it before the invention of printing opened so much easier and cheaper a way of preserving and communicating all valuable works which it must have required to transcribe the work, and consequently the expense of it, may be collected from the extent of the work, which fills its printed form not less than 886 folio pages. Many of these manuscripts copy exist. It is said that there were no less than eight in various libraries which compose the book-department of the British Museum. In 1569 it was printed in a folio volume, and again in quarto in 1640, the text of the old edition being collated with that of some of the manuscripts. But this collection has not been employed having been lost.

An edition founded on one of the best of the existing manuscripts, compared with the rest and with the printed copies, would be acceptable, especially as the old editions, owing to the manner in which they are printed, are uninviting if not repulsive, and as Bracton is not included in the edition of our early law writers by Mons. Howard, a French lawyer, 4to. 1776, by whom they are printed with a French translation, to illustrate the connexion between the early jurisprudence of England and that of France.

BRADDOCK, EDWARD, lost his life in Virginia, by the French and Indians, in the war in which General Wolfe afterwards fell on the heights at Quebec in Canada. The French having determined to connect their Canadian colony with the English chain of fortified military stations which interfered with the British territories, General Braddock, with an army of 2000 English, was despatched to Virginia, where he arrived in February, 1755, at Richmond. With 390 waggons of provisions, ammunition, and baggage, he reached in July the Monongahela, a branch of the river Ohio. Washington, who was then at the age of twenty-three, joined him as a volunteer, in the capacity of aide-de-camp; and from his accurate knowledge of the ground, and a spirit of personal impossibility of war, would have furnished the English commander with the information requisite for the success of his expedition, but Braddock's self-sufficiency contemptuously disregarded the advice of American officers. Having advanced on the 30th of July within six miles of Fort Du Quene, near Newburg, where he supposed the enemy awaited his approach, his columns, in passing silently through a deep forest ravine, were suddenly struck with the utmost terror by the frightful war-whoop of the Indians from the dense thickets on both sides, and the noise of the battle raged with unspeakable fury and with infallible aim killed each his man. Rushing forward they were surprised and attacked in front by the French forces, while the Indian warriors, leaping from hundreds from their ambush, fell upon them with fury in the rear. Their strange and hideous appearance, and the echo of their swarming dog-yeap, in such a gloomy wilderness of trees, so startled the English soldiers, who for the first time heard it, that the panic which seized them continued until half the army was destroyed. With the single exception of Washington, who received several rifle balls through his dress, and had two horses shot under him, no one officer escaped alive. Braddock himself, after mounting in succession five horses, was shot, and carried off on a tumbrel by the remnant of his troops, who fled precipitously forty miles to the place in which they banded the night before. The inhabitants of Virginia, the inhabitants of which feared an invasion from the French, this disastrous defeat occasioned great consternation; and to the present day it is there a subject of interesting discussion, as connected with the career of Washington. The defeat of Braddock and his troops at the Monongahela-Campaigns against his Majesty's Indian Enemies, by Thomas Mante. 4to. 1761; Gent. Mag., vol. xxv. p. 378.

BRADFORD, GREAT, a par. and m. t., in the hund. of Bradford, Wilts, 93 m. W. from London, and 28 m. N.W. from Salisbury. It is situated on the Avon, near which is the Saxon name Benadford, or the broad ford over the Avon, which divides the town into two parts, called the Old Town and the New Town. Most of the buildings are arranged in three streets, rising one above another, on the brow and slope of a hill which rises abruptly on the N. side of the river: the situation is altogether very pleasing, as the banks of the riv. below the town abound in beautiful and picturesque scenes; and the well-wooded hills rise in some places boldly from the margin of the river. There are several fine old mansions and public offices. The church is very ancient and now very decayed. The town seems to have been a place of some consequence in the time of the Saxons. It was then the site of a monastic institution founded by St. Adhelm, who was himself the abbot, until appointed Bishop of Worcester in 705. It was given to the See of Salisbury, by King Athelstan, in 935, to the priory of Elingham, by Edwy, in 956, and to the Abbots of Ely, in 996, in atonement for the murder of his halbrother by Queen Elfrida. After this we hear nothing of a religious society at Bradford. Bishop Gibson says the monastery was destroyed by the Danes. In 954 the celebrated St. Dunstan was elected Bishop of Worcester, at a synod held at Bradford. It is only by its connection with such circumstances as these that the importance of a town in these early times can be estimated, or even its existence discovered. Bradford seems to have retained its former degree of relative importance after the Danes, and the gradual permanent establishment of the towns which were privileged by Edward I. to send members to parliament. It does not appear however that this right was exercised more than once. It is unknown whether it was over a chartered bor. with separate jurisdiction; but if so, it was relinquished before 1214. The town must soon have been lost. It is still however the chief town of the hund. to which it gives name. Monday is the m. d.; and there is a fair on Trinity Monday. Two justices of the peace administer the local government. The par. of Bradford, which is a little separate, contains, besides the town pop, when the pop. amounted to 10,102 persons, of whom 5249 were females. The pop. of the town is about one-third of the whole.

The town has for many centuries been noted for its fine broad-cloths, which have at all times formed its principal manufacture. 'The town of Bradford standith by cloth-making,' Leland said three centuries ago; and this is still true. The prosperity of the place is now also much pro-
he says that the latter, though "as large as Bradford, is not so quick as it."

During the civil wars between the royalists and parliamentarians, Bradford espoused the latter cause, held a besieged garrison containing 8000 men, and twice defeated the royalists. With Sir Thomas Fairfax at their head, the town marched against Leeds, and wrested that town from the cavaliers. They were however themselves defeated a short time after by the Earl of Newcastle on Adwalton Moor, with immense slaughter.

(Scatheby's "Hist. of Morley.") Though much the overawed, the republican spirit was not extinct at Bradford, and the popularity of their cause was soon made manifest throughout the country by the successes of Fairfax, the declension of the cause of Charles, and the decisive battle of Adwalton Moor.

After these wars Bradford made little progress for a long time, and it was much depressed, in common with other manufacturing towns, during the American revolutionary war. On occasion of the revolutionary war in France, when fears of invasion were predominant throughout England, the loyalty and patriotism of the people of Bradford were very conspicuous. They raised a corps of volunteers and furnished their number of men for the navy with little difficulty.

In 1812 a spirit of insubordination was diffused through the wide and densely-populated district of which Bradford is the centre, in consequence of the introduction of certain kinds of machinery which, by lessening the demand for manual labour, seemed opposed to the interests of the operatives, and at first threw numbers out of employment. The machinery involved the employment of the old looms of the towns, and the other for women, besides sundry small benefits for the relief of the poor.

(Leland's "Itinerary; Gough's edition of Camden's Brit."

BRADFORD: W. Ridding of the co. of York, and in the Morley division of the wap. of Morley. It is one of the new boroughs under the Reform Act, and sends two members to parliament. The town comprises the t. of Bradford, Manningham, Bowling, and Horton. The land is generally level and fertile, and let at 10l. rent and upwards. The returning officer for the co. is appointed by the sheriff of the co. The pop. of the par. of Bradford is 76,996, and includes the following t.:

Bradford, 23,233; Bowling, 5,938; N. Bierley, 7,251; Eccleshill, 2,878; Manningham, 5,364; Allerton, 1,733; Clayton, 4,469; Haworth, 5,523; Heaton, 1,452; Horton, 10,769; Shipley, 1,926; Thornton, 5,968; Wilsden, 2,292.

Bradford is one of the polling-places for the W. Riding members. It is 153 m. from London in a straight line; its measured distance from York is 74 m. and 52 f. from York. The area of the par. is about 33,710 acres; its length being nearly 15 m. and its average breadth 4 m.

History.—Bradford is situated on a small brook which falls into the Aire, and is at present very contracted; in early times the floods from the neighbouring hills, may have been sufficiently wide to have deserved the name of "Broadford," from which it is supposed the present name of the town is derived. This town is mentioned in "Doomsday Book" (Bardwain's translation, p. 141). In Saxton's map of 1579, formed part of the extensive par. of Dewsbury; it was afterwards included in the rich barony of Pontefract, which was in the possession of the Lacies. The whole district was immediately dependent upon Dewsbury in an ecclesiastical, and on Pontefract in a secular point of view (Tithe Book, p. 350.)

This powerful family had a castle at Bradford, which served as a protection to their retainers and other persons who would come to settle here from a less protected district; thus gradually would rise the vil, town, church, and market. The history of the town is connected with that of its castle; the Lacies had large possessions in Lancashire, and it is supposed that Bradford was their frequent resting-place in passing from Pontefract into that co. From an inquisition taken in 1316, it appears that the town consisted of 100 houses, and the tenants at will and villeins, would make its pop. amount to about 300. A corn-mill and a fulling-mill are mentioned in the inquisition; so that the rudiments of manufacture were early established. The last of the Lacies, Alice, having a large estate, sold the Hall of Lancing, to Bradford, incorporated with the other possessions of her family, went to increase the estates of that duchy. Leland mentions Bradford as a rising town that "stoodeth much by clothing;" comparing it with Leeds,
with yarn, besides employing a great number of looms themselves. Machinery, worked by steam, has almost superseded manual labour in the stuff-manufacture, the wallops, and handiwork generally done in the district. Stuffs manufactured at Bradford are chiefly dyed at Leeds, the proprietors of the dye-houses being among the largest purchasers in the Bradford market.

The iron trade has long flourished in the neighbouring towns of Keighley and Bingley. The historian of Sheffield, consider that the iron-mines of Yorkshire were explored by its Roman inh., and he mentions the "remarkable fact, that in the midst of a mass of scoria, the refuse of some ancient bloomery near Bradford, was found a deposit of Roman coins." There is an abundant supply of iron ore and coal, both of excellent quality; and the well-known ironworks at Bowling and Low Moor are only a short distance from Bradford. At these founries some of the most ponderous works in cast-iron are executed. A vast number of workmen are employed in the different departments of the establishments—from the raising of the ore and coal, to the various marketable states of the metal. These ironworks have the reputation of being carried on with great skill; the improvements of modern times having been successfully introduced in the different branches of the manufacture.

The principal merchants and manufacturers in the trades of Bradford are wool-staplers, wool-combers, worsted-spinners and manufacturers, worsted-stuff manufacturers, and woollen-cloth manufacturers. Several of the trades which are carried on in the immediate vicinity of Bradford are combined under the name of the trade, among which are the manufacturers for combs, shutters, and machinery. The proportion of other occupations is about equal to that of similar towns.

A seaport festival is held in Bradford in honour of St. Andrew, and is attended by the inhabitants. The festival is attributed. The day is kept with great rejoicing and gaiety, and the procession is witnessed by thousands of strangers from the neighbouring towns and villages. The Leeds Mercury, for the 5th of February, 1825, contains a good account of one of these festivals.

(Home's Every Day Book, vol. i. pp. 209—212.)

As a seat of commerce Bradford possesses many facilities. By the Leeds and Liverpool can., it has an unimpeded communication with Hull and the German Ocean, and with Liverpool. The Leeds, Bingley, Keighley, Skipton, and Gargrave; it enters Lancashire near Colne, and passes through Burnley, Blackburn, Chorley, and Wigan to Liverpool. By the Aire and Calder navigable canals, and the Leeds and Liverpool, are connected with Goole and Hull. The Leeds and Selby railway also connects the inland towns of Yorkshire with the Ouse, the Humber, and the German Ocean. The main line of the Leeds and Liverpool can. does not pass through Bradford, but m. in length, the streets of Bradford can., communicates between the town and that line.

The state of morals and health of the persons employed in the factory districts has often been misrepresented. In many cases the well-being of the young persons employed is strictly attended to. In Bradford and other towns of the district, instances might be given where the masters consider it an important duty to have their young workpeople morally and religiously educated. When the benefits of factory-schools are more apparent, such schools will become more effective, it is believed that they have begun: it may be safely affirmed that the owners of factories are generally wishful to do all in their power to promote the welfare of their workmen. On the physical results of the factory system, such works as those of Dr. Ure and Mr. Baines on the Cotton Manufacture, and that of the late Mr. Thackrah of Leeds on the Effects of Arts and Trades on Health, may be consulted; from which it will appear that the evils which have been charged upon the system have resulted from the vices and follies of individuals, rather than from any inherent tendency in the employment.

Places of Worship, Education, &c.—The par. church of Bradford, dedicated to St. Peter, was erected in the reign of Henry VI., the tower being of later date; a former fabric existed, which must have been comparatively small. (WY.) It has no remarkable exterior, and is mentioned by Rickman as being principally of the perp. style of architecture. Among its monuments may be mentioned a very beautiful work by Flaxman, for a gentleman of the name of Balme, in which old age is finely personified.

Churchest is erected in 1813; its interior is commodious, but externally it is heavy and possesses no interest.

The church in the parish of Keighley is about to be taken to provide additional church accommodation, which is evidently needed, where the pop. is so large and increasing, and where the existing churches are so well and regularly filled. The other places of worship in Bradford are for Catholics, Independent, and Nonconformists, all being well conducted and attended.

The academic establishment called Airedale College, which is at Undercliffe immediately near Bradford, is, for the preparation of young men for the ministry in the Independent church, and for the last year (June, 1837), more than double the number of students than was removed since its first establishment in 1835. Its station previous to the site it now occupies was Idle; its present prosperity is greatly owing to the addition made to its permanent endowments by a benevolent lady of Bradford, who has also been the chief cause of the erection of the commodious buildings now occupied by the college. The number of students has varied from fifteen to twenty.

The Baptists have a college at Horton which was established in 1835. It has been aided by gifts of money and premises, subscriptions and bequests of money and books; its present income is about 900l. a year. Upwards of 100 students have been educated or are now pursuing their studies in this institution, ninety of whom are settled as pastors of churches in this country or abroad.

The Wesleyan Methodists have established a seminary for the education of the sons of ministers at Woodhouse Grove, near Bradford; it was founded in 1812, and is said to be admirably managed, and to have been found extensively useful. Its design is to supply the children of ministers whose fathers hold in society, it contains 100 pupils, and is well supported by the religious body to which it belongs. The expenditure for this school and the kindred establishment at Kingswood, near Bristol (also containing 100 pupils), is £4,222, a little more than 200l. for each child. Of this expenditure the ministers whose sons are educated pay one-sixth. (Report of the Schools, for 1835; and Wesleyan Methodist Magazine for October, 1835.)

The grammar-schools of Bradford were in existence in the time of Edward VI. By the charter of 1663 it is called 'The Free Grammar-School of Charles II. at Bradford.' The usual powers for its government are vested in thirteen men of the most discreet, honest, and religious men of the several parishes of the town and neighbourhood of the town. The present school is an infants' and a siperior building, unpleasantly situated near the churchyard. An act of parliament was obtained in 1818, which empowered the governors to dispose of lands for the erection of a new school-building, and for the support of the school. These buildings, which were completed in 1838, are in every respect commodious, and in addition to the school-room there is a library and a porter's lodge. All boys of the par. are admissible free of expense. This school is one of those that has the privilege of sending a candidate for Lady Elizabeth Hastings's exhibitions at Queen's College, Oxford. The Archbishop of York for the time being is the visitor of the school. The present income arises from lands and buildings issuing out of freehold estates within the par. of Bradford. These estates have become so valuable, that the annual income is £150, which is more than sufficient to establish a writing-school, in which a number of children receive a useful elementary education.

There are schools in Bradford on the national system of education, and on the British and foreign system: a school of industry for girls, an infant school, and a school well-conducted Sunday-schools in the town or in the immediate vicinity. The Established Church has two Sunday-schools, the Wesleyan Methodists four, the Baptists four, the Independents three, and the Primitive Methodists one. We have not space to detail the returns from schools of other denominations, but from those which have been obtained an opinion may be formed of their efficiency, and of the high character they sustain.

The Parish Church Sunday-School contains 448; Christchurch Sunday-School . 320 330
Baptists' Sunday-Schools . 490 510
Independents' Sunday-Schools . 448 438
Wesleyans' Sunday-schools . 1,000 500
The National and British Schools each require a small weekly payment from the children; their numbers are:

<table>
<thead>
<tr>
<th>Boys</th>
<th>Girls</th>
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<tbody>
<tr>
<td>105</td>
<td>80</td>
</tr>
<tr>
<td>240</td>
<td>180</td>
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</table>

The Institute School (including boarded scholars) 150 School of Industry (the limited number) 60

A mechanics' institute was established in 1829, which is well sustained, and has about 450 members: there is also a philosopical society. A subscription library and newsroom occupy a portion of the exchange-rooms, and other apartments in this elegant building are devoted to public meetings and to periodical concerts. A library and depository of works published by the Christian Knowledge Society is attached to one of the Church Sunday-schools, and the Bible is distributed by the other societies, which have active auxiliaries. The dispensary, established in 1826, is liberally supported and well managed. A branch society to the county institution for the deaf and dumb at Doncaster furnishes considerable funds to that establishment in annual subscriptions. Bradford has several minor charities for the sick and poor, similar to those of other towns. The gas works were established in 1822; the new market, a plain and extensive building, was opened in 1824. There are two establishments for supplying the town with water; and it may be said that every comfort and convenience is accessible to the inquirer. The savings bank has been found very beneficial to the operatives of the district; and the Temperance Society has a large number of members. It is worthy of record that English Temperance Societies were organized at BD in 1838 and 1841. The guildhall is a building of two stories, which are occupied annually at a vestry meeting, and nominated by the retiring officers; one of them is for the E. and the other for the W. end of BD. There is a court of requests for the recovery of debts under forty pounds' value. BD and the Honour of Wetherby are in the same county, and in which debts may be sued for under five pounds. The peace hall was for many years used as a court-house for the meeting of the magistrates, and for holding the quarter-sessions. A new and ornamental building has just been completed for a court-house, which is intended to be one of the most prominent as well as general aspect of BD is that of opulence and respectability; it is chiefly built of a fine light freestone; during the last ten years, whole streets of elegant buildings have risen up, chiefly consisting of warehouses, and are an evidence of the increasing commerce and wealth of the town. The country to the N. and W. is open and picturesque, and is adorned with the residences of the more opulent merchants.

The occupations of the families in the par. of BD, according to the Enumeration Abstract of Population for 1831, were as follows:

- Families employed in agriculture: 790
- Families employed in trade, manufactures, &c.: 10,913
- Families not comprised in the preceding: 3,326

15,049

The t. of BD par.—Bowling, formerly Botting, about a m. and a half S.W. of BD, was once the manor and residence of a family of that name. The hall is an ancient building, and was the head-quarters of the Earl of Newcastle in the year 1642 during the siege of BD. It was here, while in bed, after he had formed the purpose of giving up of the inhabitants of BD to military execution, that he was dissuaded from his intention by a female apothecary, who supplied him with opium which really appeared to him and mesmerized him with his san- guinary determination, or that a dream produced the effect. Bowling has been mentioned as the seat of extensive industry.

North Bailey is about two m. S.E. from BD; its inham employed in the ironworks, the mines and quarries, and the woollen trade. The hall was the residence of Dr. Richardson, a man of refined literary taste, who gave up much time to horticultural pursuits. There is a neat episcopalian church, and the manor is occupied by a gentleman of the name of Clayton.

Eccleshill, Manningham, Alkerton, Haworth, Heaton, and Clayton, are all scattered villis, at short distances from BD; their populations are chiefly employed in the stuff and cloth manufactures. At Manningham is the beautiful seat of E. C. Lister, Esq., one of the members for the br. of BD.

**Horton** is the most populous and important of the smaller t.; it possesses a free-school which was founded and endowed by Christopher Scott, in the reign of Charles I. In this school 200 children are instructed. There is also another school in which sixty children of some neighbouring hamlets are instructed free. The place of worship are a small episcopal chapel, and large chapels for the Primitive and Wes- leyan Methodists. The Baptist seminary is at BD.

**Shipley** is three m. N. from BD. A church was built here in 1823, which will contain about 1500 persons; there are large chapels for the Baptists and Wesleyan Methodists. Worsted, woollen cloth, and paper manufactures are here carried on.

**Thornton** is about four and half m. W. from BD; it has numerous manufactures of stuffs, a church, an Independent chapel, and a Methodist chapel. It has a school maintained by subscription; some of the children are instructed in the classics. This school has an endowment of about 50£. a year, derived from various benefactions. There is also a school on the national system.

**Wilden** is five and a half m. N.W. of BD; it has a beautiful new church, an Independent chapel, and two Methodist chapels; it is a flourishing t., and, like the others in the par. of BD, indicates by its appearance the prosperity and activity of its pop.

**Abraham Sharpe,** the celebrated mathematician, and musician, was born in 'Little BD, about 1631.'

Dr. Richardson was born at Bierley Hall, in 1664. He took the degree of M.D. at Oxford, but never practised. He devoted his life to literature, horticulture, and the study of antiquities. He built a hot-house, which was ever con- stantly heated in the N. of England was 100 feet long, 36 feet wide, and 65 feet high, planted with cedars of Lebanon which he planted still remains there, a splendid specimen of this beautiful tree. It was sent sent to Dr. Richardson from Sir Hans Sloane.

**John Sharp,** Archbishop of York, was born at BD in 1644; he was a man of strong principles, and of general abilities. He died in 1718, and was buried in York minster, where an elegant monument was raised to his memory.

**The: &c. ,我们要 refer to the reader to the excellent and minute account of him in the Oxford edition of his Miscellaneous Works and Correspondence,' Oxford, 1832, by professor pearce.**

His father, William Bradley, married Jane, the sister of the Rev. James Pound, known by the observations of the comet of 1680 which he supplied to Newton, together with other observations referred to in the 'Principia.' With the uncle James Pound Bradley passed much of his time, which he found in his house the means of applying himself to astro- nomical observation. As early as 1716 there is a letter of Halley to Pound mentioning Bradley as an observer; and in 1716 and 1717, we find some accounts of double stars observed by Bradley and Mr. John. Two of these have since been found by Sir J. Herschel in his determination of the orbits which each of the pairs just mentioned describes round the other ("Mem. R. Astron. Soc." vol. v. pp. 155, 202). At the same time he turned his attention to the motions of Jupiter's satellites, and detected, by comparison, the greater part of the inequalities afterwards discussed by Bailli. Tables of the satellites, from Bradley's observations, were published in Halley's collection, London, 1749, and in"Phil. Trans." xxvi.

Bradley was entered of Balliol College, Oxford, in 1710, and took the degrees of B.A. and M.A. in 1714 and 1717. In 1718 he became a fellow of the Royal Society. In 1719 he was ordained to the rectory of Bridestow, in Monmouth- shire. In 1720 he obtained another living, but in 1721 he was reappointed as a fellow of Oriel College, Oxford, and in 1722 he was appointed professor of astronomy at Oxford, with the holding of which they are incompatible. He also resided the offer of chaplain to Bishop Holdy. We find him now engaged in miscellaneous observation, particularly with the long telescope introduced by Huygens. With one of these of 912 ft. focal length, he measured the diameter of Venus in
1722. Pound died in 1724, and in the next year Bradley began the observations which led to his great discovery.

The circumstances connected with the discovery of aberration are already described. The scene of the first observations was at the house of Mr. Molynex at Kew, which afterwards became the palace of that name, lately pulled down. The phenomenon of aberration, "as understood," is supposed to consist in the observation that the change of wind was owing to the approaching or retiring from the shore. The boatmen told him that it always happened at sea, and explained it to him in the best manner they were able. The explanation struck him, and set him a musing on an astronomical phenomenon which he had been puzzled by for some years. This account differs in some material points from that of Dr. Thomson, and is not given by Dr. Robison in terms which imply that he considered himself as the authority. Perhaps further investigation will enable us to determine.

Upon this discovery, several observations must be made, relative to its importance in astronomy. It is the first positively direct and unanswerable proof of the earth's motion. In the next place, the explanation given was not purely an hypothetical one, or one which would allow of any velocity being attributed to light which would best answer to observed phenomena, but required that the velocity already measured by Römer's observations of the retardation of the eclipses of Jupiter's satellites should be the supplementary consequence of the annual motion of the flattened sphere.

A very simple geometrical analysis of the problem shows that when the angle of aberration is greatest, its sine must be the quotient of the earth's velocity divided by the velocity of light. Taking the first at 18 miles per second, depending upon the description of the great orbit, and of the length of the year, and the second at 200,000 miles per second, which depends upon a third and distinct phenomenon, namely, the observations of the time of eclipses of Jupiter's satellites at different periods of the year, we find a priori that the sine of one of the greatest angles of aberration there be, must be .00009, which is the sine of 19 seconds nearly, and has been made in round numbers. The greatest aberration from the mean place observed by Bradley was 20 seconds and two-tenths, in which the most correct modern observations, in masses of the phenomena at a time, are not shown an error of more than three-tenths of a second. This is one of the reasons why we have said that, in the union of theoretical sagacity with practical excellence, Bradley stands unrivalled. Newton, Laplace, &c. were not observers. Flamsteed, Cassini, &c. were not great philosophers. Halley, who of all the men of Bradley's time, united the largest knowledge of both, was so far from being the equal of Bradley in minuteness of observation, that he constantly declared his suspicion of the impossibility of detecting a phenomenon so small as one of the results of Kepler's laws which phenomena follow, but not in that of physical causes. In our opinion, Hipparchus is (difference of circumstances considered) the prototype of Bradley. The time of the discovery of the cause of aberration was probably 1725 or 1726. The first public announcement was in a letter to the Royal Society, No. 535, where it might be inferred that both the phenomenon and the cause were discovered in the same year), and was communicated immediately to the Royal Society (Phil. Trans. No. 406, vol. xxxv., p. 637). In 1728 Bradley published in Oxford, and communicated to the University. We pass over the various labours of which he sustained the character of the 'best astronomer in Europe,' given to him by Newton, and proceed to the year 1742, when he was appointed astronomer royal. This is also a subject of the same importance. The act of laying the foundation of the observatory, which, as Professor Newton has well observed, appears to have determined that one of the first points he would secure before his retirement was the nomination in question: he declared his intention of resigning in the House of Commons on the 2nd of February, and Bradley's appointment was dated the 3rd. From this time to 1747 he was engaged (among other things) in the career of observation which led to his second great discovery of mutation, communicated in that year (Phil. Trans. No. 465, vol. xxxiv., p. 662). The phenomenon may be thus represented: the earth's axis, instead of describing a cone, describes a flattened cone; or, the pole of the equator, instead of moving uniformly round the pole of the ecliptic in a small circle, describes a wave or undulating curve with a curved edge, if we may so speak, with about 1400 undulations in a complete revolution. The merit of
Bradley consists, firstly, in his determination of so small a quantity, since the greatest effect of nutation is only half that of aberration, and distributed through 19 years instead of one; secondly, in his discovery of the circumstance on which it depends, namely, the position of the moon's orbit with respect to the equator. This orbit shifts the position of its nodes gradually, and moves through a revolution every 184 years. This was also found to be the period in which the pole of the equator describes one of the waves above mentioned, and subsequent investigation has confirmed the period of the greater part of the nutation on the motion of the moon and Earth. ... the consequence of the non-sphericity of the earth, and of the moon's attraction on the protuberant parts. [Nutation.]

There is a third investigation of Bradley which stands out among all his other accomplishments. He approached the sagacity: we refer to his empirical formula for the law of refraction. He was assisted in the necessary computations by Maskelyne, who first appeared before the world as the pupil of Bradley. In this very delicate research, the latter had again gone beyond his contemporaries in the evaluation of minute quantities. His table is even yet very good for the first forty-five degrees of zenith distance; and his determination of the latitude of Greenwich (an investigation depending for its accuracy upon that of the tables of refraction) does not differ more than half a second from that deduced by Mr. Pond from 729 observations with both the mural circles.

In 1751 the alteration of the style took place, and Bradley appears to have had some share in drawing up the necessary tables. In 1757, Lord Kames, who had been a long time a friend, and the seconder of the measure in the House of Lords, and Mr. Pelham, then minister, with his advice on the subject. But this procured him some unpopularity, for the common people of all ranks imagined that the alteration was effected by the king and his ministers as a means of their natural lives, and called Bradley's subsequent illness and decline a judgment of heaven. This was, as we know, the last expiring manifestation of a belief in the wickedness of altering the time of religious anniversaries which is always apparent in ages of superstition and in different periods, for 1400 years. In the same year Bradley obtained a pension of 250L. from the crown. From that time he continued his observations, of which we shall presently speak, till the 1st of Sept. 1761, in the observations of which date his death. He lived for the last time to 22 years of age, and in registers. He then retired among his wife's relations at Chalford in Gloucestershire, where he died July 13, 1762, and was buried at Minchinhampton. His health had been failing for some years, though he was originally of a strong constitution, and he died of a consumption. He was buried in his grave before him in 1757, and left one daughter, but his line is now extinct.

Thus far we have obtained our materials for facts from the life by professor Rigaud, above cited. This account does not begin to unfold the phenomenon of the observations made at the observatory of Greenwich, nor does the life in Kippis's Biographia Britannica. The following is Dr. Maskelyne's account (Answer to Mudge's Narratives, &c. Lond. 1792): — Dr. Bradley's valuable observations were made in the course of twenty years from 1742 to 1762, and consist of thirteen volumes in folio. They were removed from the Royal Observatory, before I was appointed to the care of it, by the doctor's executors, who thought proper to consider them as private property; and during the last six years of his life, it was impossible to recover them, they were presented in 1776 to Lord North, now Earl of Guilford, Chancellor of the University of Oxford, and by him presented to the University, on condition of their printing and publishing them. The University put them immediately for that purpose into the hands of Dr. Hornby, Savilian professor, &c., whose bad state of health has been alleged as the cause of the delay of the publication. The account of Dr. Hornby, in the preface of the publication in question, differs from the preceding in two particular points. The above would allow us to infer that the University of Oxford accepted a donation the right to make which was under litigation, with a strong primâ facie case against it. Now Dr. Hornby mentions, 1. What is very well known, that both the predecessors of Bradley and the present, though they have not considered their own observations as their own property; that the former printed, and his executors published, his observations as private property, and that the daughter of the latter received compensation for relinquishing her right to her father's papers; 2. That a salaried office of only 100L. a year, with the duty of improving as much as possible the planetary tables, and the method of finding the longitude, by no means implied an obligation to consider the actual observations made under this provision as the property of the University.

3. That the Royal Society having first made and abandoned a claim, the government instituted its suit in 1767, and abandoned it in 1776, before the observations were presented, not to Lord North personally, but in trust for the University, for which he was an officer, under the condition that had pretended a claim to the property of the work, which, though dormant at the time, the University could not know to have been formally abandoned. And it has been suggested to us, that there is no method of abandoning a suit in the Exchequer, as a practical relinquishment of proceedings is no in law that court to their revival at any future time. The observations in question were published at Oxford in two volumes; the first in 1798, under the superintendence of Dr. Hornsby; the second in 1809, under that of Dr. Abraham Robertson. They go from 1750 to 1765, and are about 60,000 in number.

But these observations might have remained a useless mass, except for occasional reference, to this day, had it not been for the energy of a distinguished German astronomer, Dr. J. P. G. G. Schröter, who published in the Königsberg successively, and from 1807 to 1818, added to his other laborious occupations the enormous task of reducing and drawing conclusions from all Bradley's observations, published in the latter place and year under the title of Fundamenta Astronomicae. Of the deductions ex observationibus viri incomparabiles James Bradley. 'This work has always been considered one of the most valuable contributions to our astronomy. It exhibits the result of all Bradley's observations of stars, reduced on a uniform system, and is always reduced and interpreted as the representative of Bradley's observations.' (Progr. Roy. Rep. Brit. Ast. vol. i. p. 137.)

It may be said that Bradley changed the face of astronomy. The discoveries of aberration and nutation, and the improvement of the tables of refraction, are due to minute observation, and the tact with which every instrument was applied to the purposes for which it was best adapted, were so many great steps both in the art and science. Before his time every instrumental improvement was a new cause for debate and discussion. The cloud of loose baffle all attempts both at finding laws and causes. Nevertheless, the name of Bradley hardly appears in popular works, nor will so do until the state of astronomy is better understood. Let any man set up for the founder of a sect, who has given his name to one of the stars, and is beloved for the structure of attraction, or the structure of the moon; let him exalt himself in the daily papers, and he must be unfortunate indeed if in three years he is not more widely known in this country than its own Bradley, one of the first astronomers of any.

BRADSHAW, JOHN, president of the court which tried Charles I. Bradshaw was of a good family in Cheshire. His mother was a daughter and coheir of Ralf Winnington of Offerton. Noble and Chalmers state that in the plague they were allowed to consider the peers were desired to acquit, he was appointed one of the three commissioners of the great seal for six months; and in February following, by a vote of both houses, chief justice of Chester. In June, 1647, he was named by the parliament one of the council to prosecute the royalist Judge Jenkins. October 12, 1648, by order of the parliament, he received the degree of sergeant.

No. 312. [THE PENNY CYCLOPAEDIA.] Vol. V. 271
On January 1st, 1648-9, was adjudged by the Commonwealth to be the head of the land; it is true, in the king of England for the time being to determine peace or war against the parliament and kingdom. On the 4th an ordinance was passed for erecting a high court of justice for trial of the king. The commissioners for the trial of the king elected a hotel of six. Bradshaw, president. Lord Clarendon says that at first he seemed much surprised and very resolute to refuse it. The offer and the acceptance of it are strong evidence of Bradshaw's courage and the staunchness of his republicanism.

The 12th John Bradshaw, Serjeant-at-Law, who is appointed president of this court, should be called by the name, and have the title of Lord President, and that as well within as without the said court, during the commission and sitting of the said court. The deanship however was given to him himself and his posterity; and the sum of 5000L. allowed him to procure an equipage suitable to the dignity of his office. The parliament further settled 4000L. a-year upon him and his heirs, in landed property. He was also made Chancellor of the Duchy of Lancaster. He had previously been appointed Chief Justice of Wales and of Chester, besides being Lord President of the Council of State. The accumulation of so many offices in one man certainly looks something like pluralism in the Commonwealth: and unless great care be taken to account of the dignity of the work done, the remuneration must appear somewhat disproportionate to the quantity of it.

When Cromwell seized the government, Bradshaw was one of those who offered all the opposition in their power, and on the execution of Charles, was in Bradshaw, fidelity and firmness, almost equalled Ludlow's. His bold answer to Cromwell, when he came to dissolve the council, is well known. When Cromwell insisted upon every one's taking out a commission from himself, if they chose to retain their places in the government, Bradshaw refused, alleging that he had received his commission as Chief Justice of Chester, to continue quanduam se bene gesserit, and he should retain it without any other, unless he could be proved to have justly forfeited it by want of integrity; and that the commission should be tried by twelve Englishmen. He soon after set out on the circuit, without waiting further orders; nor did Oliver think it prudent to prevent or recall him, as he had said nothing but force should make him desist from his duty.

It was not to be expected that such conduct would find much favour in the eyes of Cromwell. He attempted to oppose his election for Cheshire; and though Bradshaw was returned by the sheriff, as others in the Cromwellian interest returned another, neither sat, it having been so decided by the resolution of the House. But although doubt may exist, and popularit must have been very considerable; for, notwithstanding his having been engaged in several designs against the power of Cromwell, one of which was connected with the Fifth Monarchy-men, who were to destroy and pull down the kingdom, and other kings and nations. He was fetters of iron, his highness did not dare to seize him, but continued to watch and defeat his designs with his charac-

teristic policy. Bradshaw however was deprived of his office of Chief Justice of Chester. The two former friends withdrew each other with the vigour of two crouching tigers, each waiting for the exact moment to make the decisive spring that was to destroy the other. And we may give some credit to the observation of certain of the royalist writers, that Bradshaw would have had no objection to pull down the kingdom, and all other kings and nations. He had performed for Charles, the hereditary one; and that he would not have been sorry to have had an opportunity to convince the world that he was no respecter of persons.

On the death of Oliver, and the abdication of his son Richard, Bradshaw obtained a seat in the Council of State, was elected Lord President, and appointed a Commissioner of the Great Seal; but his health, which had been some time declining, became so precarious that he was unable to perform the duties of that office.

The Commonwealth's life was consistent with the free and brave spirit which he had always shown. The army had again put a force upon the House of Commons, by seizing the Speaker, Lenthall, on his way thither, and thereby suspending all further proceedings of the existing government. The almost ebbing but unabated spirit of Bradshaw felt the insult. He repaired to the Council of State, which sat that day; and when Colonel Sydenham, one of the members of the council, endeavoured to justify the army in what he had done, according to the cant of the day, that they were necessitated to make use of this last remedy by particular call of the Divine Providence; ' weak and extremated as he was, says Ludlow; yet animadverted by his ardent soul and strong sense, to the public employment. He survived this but a few days, dying November 22nd, 1659, of a quartan ague, which had lasted a year. 'A stout man,' says Whitelock, 'and learned in his profession: no friend to monarchy. He declared, a little before his death, when his strength was apprehended to return, he would be the first man that should do it.' He was buried with great pomp in Westminster Abbey, whence his body was dragged at the restoration, to be exposed upon a gibbet, with those of Cromwell and Ireton.

The leading feature in Bradshaw's life — that which makes his name the property of history — was his acting as presiding judge in the trial of the king; a transaction, in the words of Hume, 'the pomp and dignity, the ceremony of the court, the committing and condemning to death, the proceedings in the annals of human kind — the delegates of a great people sitting in judgment upon their supreme magistrate, and trying him for his misgovernment and breach of trust. How did he conduct himself on that occasion? What was his part in the other impeachments? What was his character, and bearing, and humanity, which befitted his high office? or, as asserted by Clarendon, 'with all the pride, impudence, and superciliousness imaginable'? Did he, in the words of Noble, behave to 'fallen majesty with a rudeness that those who sit in a criminal court never use to the lowest culprit'? What was the fact? Charles having repeatedly refused to acknowledge the authority of the court, Bradshaw addressed him thus: — Sir, this is the third time that you have publicly disowned the court, and the second time you have promised to be known by their actions; you have written your meaning in bloody characters throughout the kingdom. Ludlow says, that to Charles's repeated assertions that he was responsible only to God, Bradshaw answered, that 'seeing God had, by his providence, determined the court was determined to do so likewise.' Bradshaw, on giving sentence, resorted to precedent. He instanced the case of many kings who had been deposed and imprisoned by their subjects, particularly in Charles's native country, and asked, why not a king of England? He adduced examples of either being dethroned, or proceeded against for mis-government; and even the prisoner's own grandmother removed, and his father, while an infant, crowned in her stead. (Rushworth, vi. p. 1396. ; Whitelock, p. 376. ; Ludlow, Hutchinson, Clarendon.)

His will, which is dated March 22, 1653, contains several remarkable facts. He directs his brother Henry to expend 700L. in purchasing an annuity for maintaining a free school at Marple, 500L. for increasing the wages of the master of Bunbury school, and 500L. to increase the wages of the master and usher of Middleton school. There are two codicils to the will; and by one dated September 10th, 1655, he gives 10L. to John Milton. The will was proved December 16, 1659. (Ormerod's Cheshire, vol. iii. p. 409. ; and the charter of John Milton, in the Defensor Secundae pro Populo Anglicum.)

BRADY, NICOLAS, a divine whose name is known chiefly in connection with that of Nathan Tate, his versifying collaborator, in producing the new version of the Psalms of David, which has since become generally used in the Church of England, in the place of the obsolete version made in the reign of Edward VI. by Sternhold and Hopkins. Brady was the son of an officer in the royalist army during the civil war in 1641, and was born November 3rd, 1601, at Bandon, a town in the county of Cork. At the age of twelve he was sent to Westminster school, whence he proceeded to the college

* Supreme magistrate is a contradiction in terms; supreme being applicable only to the sovereign, and magistrate a name for a subject. Hume, though he professed to write on government, never seems to have understood the meaning of sovereignty, though Hobbes had made it sufficiently clear.
* Lives of the Regicides, i. 66.
of Christ-Church, Oxford. He subsequently graduated at Trinity College, Dublin; which, in testimony of his zeal and merit, was presented to him by the Mayor and Corporation. He was also gratuitously, during his absence in England, the degree of D.D. He was appointed chaplain to Bishop Wettenhall, by whose patronage he obtained a prebend in the cathedral of Cork. At the time of the Revolution he made himself conspicuous for his attachment to the English parliament, on occasion of the petition for redress of the grievances which they had suffered under James; and remaining in London, he became minister of the church of St. Catherine Cree, and lecturer of St. Michael's in Wood-street. He was afterwards appointed to the chaplaincy of the Queen of Roses, and then chaplain to King William and Queen Mary. He held also the office of minister at Richmond in Surrey, and at Stratford-on-Avon in Warwickshire. From his several appointments alone he derived at least 600l. a year; but being a bad economist, he was obliged, for the purpose of increasing his income, to undertake the keeping of a school at Richmond. He died at the age of sixty-six, on the 20th of May, 1726: the same year in which he published by subscription his 'Translation of the 'Heads of Virgil,' in 4 vols., 8vo, which is still in great vogue in this country. The smaller productions are a tragedy, entitled 'The Raep, or, The Innocent Impostors.' He published at different times three volumes of his sermons, of which three additional volumes were published after his death by his son; but the reputation derived from these has never equalled that attached to his metrical version of the Psalms; of the merits of which every one who possesses a Prayer Book may judge for himself.

BRADY [At and S IoR.] BRAGA, a comarca of Portugal, situated almost in the centre of the kingdom, on the banks of the Minho, and surrounded by the districts of Barcelos, Viana, Valença, Amarante, and Guimarães. The territory, though very mountainous, contains some fertile valleys, which being sheltered from the northern winds, enjoy a high degree of temperature. It is watered by the Minho, a river which forms a part of the boundary between Portugal and Spain. The farm of one of these formers rises in the Serra de Gerez, N.E. of the capital of the comarca, and flowing S.W. empties itself into the sea near Esposende; the latter has its source E. of the same capital, and flowing in a direction nearly parallel to the former, enters the ocean near Vila-do-Conde. The productions of the soil are the same as in the rest of the prov. The whole district comprises one city, one town, and 101 par., containing a pop. of 49,838 in. The chief occupations of the people are agriculture and the manufacture of hemp. Braga, the Braccara Augusta of the Romans, the capital of the comarca, is one of the most ancient cities in Portugal, and was the capital of the kingdom when the Suevians were masters of it. It is now the seat of an archbishop, who is the primate of Portugal. Until recently ruins of a Roman amphitheatre and an aqueduct existed; but at present no remains of its ancient grandeur are found, except some coins, and five milestones belonging to the five Roman roads leading into Braga, which one of the archbishops removed to Rome. The town is situated on an eminence in a fertile valley watered by the riv. Deste on the S. and by the Cavado on the N., and is about 15 m. from the sea. This valley is covered with quinias or country-houses, and planted with oak, willow and hazel. The oranges and lemons of Braga are the best in Portugal. About 3 m. E. of the city stands a lofty hill, commanding a delightful view of all the plain, on the summit of which is built the renowned sanctuary of Senhor de Mosal: Monte. The city itself contains nothing remarkable. The streets are very narrow and irregularly laid out. There are two squares, and a great number of fountains. The principal building is the cathedral, a stately fabric of the old perpen- dicular style, which was erected at the time of Henriques, the first of Portugal. The pop. of Braga is reckoned at 27,097. 41° 39' N., lat., 8° 23' W. long.

BRAGA, a comarca of Portugal, in the prov. of Tras-os-Montes, and in its northern extremity. It is sur- rounded by the Spanish provinces of Leon and Galicia, and by the Portuguese comarcas of Charaz, Mirandela, and Moncorvo. The territory is very mountainous, being crossed in every direction by the ramifications of the serras and mountains, and is divided into many valleys, in which rich crops of grain and fruit are raised. The district is irrigated by a number of large streams, all of which flow generally from N. to S., and are affluent of the Duero. The district contains 988,600 acres, and has 1 city, 10 towns, and 34 parishes.

BRAGANÇA. Bragantino, the capital of the district, is situated in a very agreeable and fertile plain on the Tormena, an affluent of the Sabor; it was erected into a duky by Alonso v. in 1444, the eighth possessor of which, claiming only to the titles of Count and Earl, was raised to the throne of Portugal in 1460, under the title of John IV. From that king the present royal family of Portugal is descended. The town was formerly a fortified place, and now contains a castle almost in ruins. It has nothing remarkable except one large square with four gates and towers, and is the residence of the nobility and gentry of the place hold their races and other amusements of chivalrous origin. Pop. 3373; 41° 51' N., lat.; 8° 40' W. long.

BRAGANÇA, house of, is the original title of the reigning dynasty of the kingdom of Portugal. The origin of the Bragança family dates from the beginning of the fifteenth century, when Afonso, a natural son of King João, or John I., was created by his father duke of Bragança and lord of Guimarães. Afonso married Beatriz, the daughter and heiress of Lizandro, lord of Bragança and Ourem. From this marriage the line of the dukes of Bragança, marquises of Villavicousa, &c., has sprung. By the fundamental laws of the Portuguese monarchy, passed in the Cortes of Lamego in 1389, all foreign princes are excluded from the crown of Portugal, and the right of succession is by nature by male issue, Antonio Prior of Crato, and natural son of the Infante Dom Luis, Henriques's brother, claimed the succession, but Philip II. of Spain, whose mother was a Portuguese prin- cess, urged his own pretensions to the crown of Portugal in view of the marriage of his sister Maria to Philip II., who resided among the means of an army commanded by the duke of Alba. [Anto- nio: Alba.] The Portuguese submitted, Antonio died an exile, and Philip and his successors on the throne of Spain continued to hold the crown of Portugal also till 1840, when the Portuguese, weary of the Spanish yoke, revolted and proclaimed Dom João, the then duke of Bragança, their king, he being the next remaining heir to the crown. He assumed the title of João IV., and was styled 'the fortunate.' The crown of Portugal has continued in his line ever since, João IV. was dethroned by Charlemaign in 1787, and his son being dethroned in 1688 for his misconduct, his brother Pedro assumed the crown. Pedro was succeeded in 1706 by his son João V., who, dying in 1750, the crown devolved upon his son Joseph I. Joseph was succeeded in 1777 by his daughter Dona Maria I., who after her death in 1805, was succeeded by her son Dom João VI., who was succeeded in 1826 by his son Dom Pedro IV., who was succeeded in turn by his son Dom Carlos I., who after his death in 1853, was succeeded by his daughter Dona Maria II., who, on the death of her husband Don Pedro V., was succeeded in 1861 by her brother Dom Pedro VI., who renounced the crown in 1862 and left it to his nephew Dom Pedro II., who was deposed in 1822 by the French army and fled to Brazil, where he was assassinated in 1832. His son Dom Pedro II. was proclaimed emperor of Brazil, which became thereby independent of Portugal. In 1826 King John VI. died at Lisbon, and his son Dom Pedro being considered as a foreign sovereign, Dom Pedro's son, Dom Maria II., was proclaimed queen of Portugal. Dom Pedro was deposed in 1834 and fled to France, and died in September, 1834, at Lisbon. His son Pedro II. is now (1835) emperor of Brazil.

BRAHE, TYCHO. The influence which the labours of this greatest navigator was exercised upon the science of his own and succeeding ages would, more minute detail of his life than we can here give. It will be convenient to place all references to this article at the beginning of this article, which we shall accordingly do. (See also his innumerable references in Astron. And Cat.)

The life of Tycho Brahe was written by Gassendi; first edition, Paris, 1654, with copperplate crown in the title-page; second edition with two title-pages, both 'Hage Comitum,' the first, 1655, marked 'Editio secunda accuratior et correctior,' the second, 1664, without any mark of second edition, and with an empty space for the crown. The two editions do
not appear different in matter. Both contain the "Oratio Funebris," Sec. of John Jesenius. See also Teisser, "Elogies des Philosophes," 1783; Brieni of Johannem Kepler, Sec., 1718; Riccioli, "Chronicon in Almageste Novo," v. i. p. 46. For modern accounts of his astronomy see Delambre "Ast. Mod.;" and in English the chapter on Tycho Brahe and Kepler in Nunneren's "Astronomy," 1833. The life in the "Biot. Univ." is by Malte-Brunn. The writings of Tycho Brahe are as follows. The capitols serve to separate different works.

(A) "De Novo Stellaris," anno 1572, Sec., "Hafniar," "Copenhagen." Extraites, sources, afterwards inserted in the "Progymnasmata," English translation, 1582 (copy in the Bodleian, Hyde, cited by Lalande). (B) "De Mundi Aetherii recenterorum Phenomena liber secundus," cuius est de illustri Stellaris Cantald anno 1577, conspecta 1589. Is Lalande reasonerit anno 1600. (C) "Oratio Funebris," respect to his description, but with title marked Prague, 1603; we cannot find it at the end, as he says. The statement in the preface is not the same as he gives, but the point is of little importance. (C) "Apologiae Responsoria," etc., the paralax of comets. (D) "Epistolarum astronomicarum," Lurinburg, 1596; some have on the title-page of the Frankfort, 1618, others Nuremberg, 1601. (E) "Astronomiae Instauratae Mechanica," Waningsburg, 1598, reduced to the New System, Nuremberg, 1600, 1609. (F) "Astronomiae Instauratae Progymnasmata," begun at Uraniborg, finished at Prague, 1601 (in the title-page) published posthumously; the executor's preface is dated 1602, and the posthumous work has the great advantage of Tycho's notes and results of observation, though headed from beginning to end "De Novi Stellaris, anno 1572." The treatise (B) with title-page, Prague, 1603, is always called and sold as the second volume of these "Progymnasmata," and though it treats of various other matters, is headed throughout as "De Cometa," anno 1577. And (D) is very often a made third a volume. The same works (all three), with alteration of title-page only, Frankfort, 1610. (G) In the "Culi et Silvester, Sec. Obse-ervations," etc., Leyden, 1818, are two years' Bohemian Observations, 1576-1577. (H) "Oratio Funebris," etc., of the "Cometis Oratio in qua Astrolapiae defenditur," an academical lecture of 1574, printed, not by Tycho, but by Curtius, Hamburg, 1621. (I) "Geistreiches Weissagung," Sec., 1632; translation of (A) with the astrological part, omitted in (F), date 1632, no place mentioned by Lalande, 1607. (K) "Sacrae Omnia," Frankfort, 1648, reprint of the two first in (F).

(L) Lucius Barretti "Sylloge Ferdinanda," Vienna, 1637, contains Tycho's observations, 1582-1601. (M) "Historia Coniunction," Augsburg, 1666, by this same Barreti, contains Tycho's "Instauratae Mechanica" and "Oratio Funebris," Vienna, 1666. Ratisb., Dilling., 1670. Errors pointed out in Barbolinius, "Specimen recognitionis," Sec., Copen., 1658. (N) Kepler, "Tabulae Rudolphinae," Ulm, 1627. These are the final tabulae deduced from all Tycho's observa- tions, put in Kepler's tabulae as "Orbi" of, or a reformulation of Gassendi, in Danish, translated into German by Weistrias, Leipzig, 1756. Tycho Brahe printed his works at his own press of Uraniborg, so long as he remained there, and probably distributed them principally in presents. When they were dispersed, the booksellers varied the title-pages, and hence all the confusion of the preceding list. We sup- pose those marked (F) were put together after the Frankfort reprint (K), to look like them, if indeed that be a reprint.

The family of Brahe was originally Swedish, but Tycho, the eldest son of the family, was born at Hvalsongs in Denmark in 1546. His father had ten children, of whom the last, Sophia Brahe, was known in her day as a Latin poetess, and was also a mathematician and astronomer. This family was as noble and as ignorant as sixteen undisputed quarters could make them; but Steno, the maternal uncle of Tycho, volunteered to take charge of him. Perceiving that he had talent, his uncle employed masters to teach him Latin, much against the will of his father, who intended him to do nothing but bear arms. In 1569 Tycho was sent to the University of Copenhagen, but continuation of his astronomical work continued the pretensions of the astronomers, and by the total eclipse of the sun, August 21, 1569. He began to study the doctrine of the sphere, and the epemerides of Stadius. In 1566 his uncle, who intended him for the law, sent him to Leipzig, but he returned with a fortune; he was so placed by this means as not just enough to save appearances; he disliked the study, and made a pungent epigram on it as follows:

"In quae palatia et legum sunt nominis juris sub uno,\nHinc solum quod in astrologia laetus est,\nIne."

In the meanwhile he spent his time and money on astrono- mical instruments; and, while his tutor slept, used to watch the constellations by aid of a small globe not bigger than his fist. With these slender means he was able to see that both the Alphonsine and Prutenic tables gave the places of the planets with such accuracy, and that the stars were fixed. He made a projected conjunction of Saturn and Jupiter in 1563. He took strongly into his head the correction of these tables, and his first instrument was a pair of common compasses, which he used as an instrument for observing the angles of the stars.

By this time his uncle had left him in possession of the leg of the compasses, and laying down angles upon it, he was able to find the Alphonsine tables more than a month in error, and the Prutenic several days. He procured a better instrument, and corrected the deficiencies of its graduation with great accuracy, and this instrument was the astronomicale rule, or ra- dius, in the manner of Gemma Frisius.

He was recalled in 1565, by the death of an uncle, and soon became disgusted with the contempt with which his work was received; in 1567, he returned to Copenhagen, and his uncle Steno, however, recommended him to follow his fa- vorite pursuit, and he left his country once more, and took up his residence at Wittenberg in 1566, from whence he was driven to Rostock in the autumn by the plague. While he was at Rostock he met with a Danish nobleman, a Dane of family like himself, at a public festival. The affair was decided by single combat, and Tycho lost all the front part of his nose. A contemporary, cited by Gassendi, hints that they took this method of settling which was the better mathematician of the two. Tycho always afterwards wore an artificial nose made of gold, but so well formed and coloured as to be hardly distinguishable from the one with which he began life; and he always carried a small box of ointment, with which to anoint this artificial member.

In 1567 Tycho received a letter from Augustus, then prince of Saxony, inviting him to the place, and finding astronomers there, he determined to remain. He here became, as he was, a man of science, as well as of letters, and was capable of furnishing an answer to any question put to him. He wrote on a variety of subjects; in particular, he wrote a treatise on astronomy—what correctness we have seen. Returning from his laboratory on the evening of November 11, 1572, he cast his eyes on the constellation Cassiopeia, and was thunderstruck by there perceiving not only a new star but one of greater splendour than any in that constel- lation. The country people also saw it, and he imme- diately set himself to determine its place and motion, if any. Happening to visit Copenhagen early in the year 1573, he carried with him his journal, and found that the servants of the university were not yet struck with the phenomenon. He excited great derision at a convivial party by mention- ing his discovery, which however was changed into astonish- ment on his actually showing them the star. They there- after became so urgent that he should publish his notes, which he refused, being, as he afterwards confessed, under the prejudice that it was unbecoming for a nobleman to publish anything; but afterwards, seeing how many and worthless were the writings on the same subject, and biding his time by his friend at Copenhagen, he sent his account, with additions, to one of them for publication. The star itself continued visible, though gradually diminishing in brightness, till March, 1574. It was at one time as bright as Venus. Cassiopeia.

As soon as this star had conquered his aristocratic aversion to being useful, he committed a much more serious offence against his order by marrying, in 1573, a peasant, or at
least a plebeian, girl of Knudstorp, named Christiana; some say she was the daughter of a clergyman. By the interposition of the king the fury of his family at this step was cooled. Never was man's prejudices subjected to a more salutary course of discipline than those of Tycho Brahe. In two short years the proud noble became an author, a lecturer, and the husband of a woman of inferior rank. The students of the university desired to profit by his knowledge, and on his positive refusal, the king, to whom he felt his obligations, made it his own earnest request. No choice was therefore left to the unfortunate recusant; and he accordingly delivered the public lecture marked (E) in our preceding list, which, putting aside the astrology, is a sensible discourse; and, excepting a hint at the beginning that nothing but the request of the king and of the audience (for politeness' sake) had made him undertake an office for which he was so unfit by station and mediocrity of talent (for modesty's sake), does not contain any allusion to the bands of degradation. He informs his audience at the end that he intends to lecture on the Ptolemaic tables, and he did so accordingly. This lecture was first published in 1610 by Conrad Aslaus (we cannot unlistine Gassendi's name), who got it from Tycho himself.

Tycho Brahe had all this time intended to travel again. He set out in 1575, leaving his wife and infant daughter at home, and proceeded to the court of the Landgrave William of Hesse-Cassel, who was himself a persevering observer; so much so, that when, during an observation of the new star of 1572, servants ran to tell him the house was on fire, he would not stir till he had finished. On leaving his court, Tycho wandered through Switzerland and Germany, apparently seeking where he might best set up his observatory, and he had fixed his thoughts upon Basle. But in the meanwhile ambassadors had been sent from Denmark to the Landgrave of Hesse-Cassel, and that prince took occasion warmly to recommend Tycho Brahe and his studies to the notice of his own sovereign. The latter (Frederic II.) accordingly sent for Tycho after his return to Knudstorp in 1576, and offered him possession for life of the island of Hven or Holme, taking upon himself all the expenses of his settlement. The offer was gladly accepted, and the first stone of the astronomical castle called Uraniborg or Gravensborg (the city of the heavens) was laid August 13, 1576. There is a full description of it in Gassendi, as also in (D) and (E). The following drawing is extracted from the former. It is necessary to warn our readers that the clumsiness of the old wood cut is purposely imitated, owing to some critical remarks we have heard on the figures in Astrolabe (which see for the character of the instruments employed).

Besides this, there was an observatory sunk in the ground, and named Stellberg (city of the stars). These two buildings contained 28 instruments, all extrameridional, but distinguished, as appears in (E), by many new contrivances for avoiding error, and by a size and solidity which can hardly be attainable; though it may be doubted whether the instruments themselves were calculated to give so small a quantity (for that time) with certainty. Tycho's instruments are vaguely said to have cost 200,000 crowns; the king allowed 2400 dollars a year; besides a fief in Norway and a canonry in the church of Roskilde.

In 1577 he began his observations, and on November 13, 1577, saw the comet which is the subject of (B). This luminary, and others of the same kind, gave occasion to his discovery that the spheres of the planets [Primum Mobile, Ptolemaic System] could not be solid, since they were cut in all directions by the orbits of comets, which must be called the first decisive blow against the received notions. And Tycho was the first who proved comets to have such a parallax as was incompatible with their being atmospheric, or even subluminary, bodies. He observed altogether seven comets, the last in 1596.

It is not our intention to follow Tycho Brahe at length through his splendid career at Uraniborg. No space here accessible would suffice to detail his results sufficiently for astronomical reference. We must therefore content ourselves with a few words on the state in which he found and left astronomy. The reader may fill up various points from the article Astronomy.

* From the time of Ptolemy it may be said that astronomy had made some advances, but these did not certainly compensate the defects which time must introduce into tables of pure observation, unaided by any such knowledge of the system as will make accurate predictions possible. If the

* In reference to that article, the reader of course must be aware that so large a number of facts and dates could not be taken from original authorities, but only from histories of reputation, and it cannot be more correct than the latter. Of the loose way of speaking with regard to dates, we have there complained; and there is an instance in Tycho Brahe where it is said he began to observe a comet in 1576, which he did not observe. He did in that year begin the regular observation of stars and planets (Mars particularly) which led to the Rudolphine tables; but he had been observing (though not with finished means or methods) from 1577.
Arabs did some good by their observations, they did nearly as much mischief by their theories; and the Alphonsine table proved that the astronomer of that time knew their heavens as well as Ptolemy did his. It was impossible for any one to make a considerable advance with such instruments as Tycho Brahe actually found in use, or without rejecting all theories of the heavenly bodies then in vogue. He therefore left all these entirely out of his book. The result of a theory is its accordance with nature; those of the time in question were so defective that their falsehood might be perceived by merely a little globe large enough to be held in one hand. Those who were engaged in the study of astronomy at the time of Tycho Brahe that he was the first who did see it. But he did more than this: he saw also the means of remedying the evil, by his mechanical knowledge in the construction of instruments, his perception of the way in which those who should use them might be guided. The result of his labours was, that he did see it. He showed himself a sound mathematician in his methods for determining refraction, in his deduction of the variation and annual equation of the moon, and in many other ways. He proved himself to be at the same time a great observer and a great astronomer; and when we consider how good fortune seems to have made a result of more importance than the discoverer had any right to presume, either from the skill or labour employed in obtaining it: but in the case of Tycho Brahe we believe we are joined by the greatest authority in thinking that he has an apparent diameter of a second. Undoubtedly, what would you have answered then, is the reply. The stars were spheres of visible magnitude, and are so still; nobody can deny it who looks at the heavens without a telescope. Tycho Brahe, in the truest sense of the word, was an instrument, and a fact which could only be known by an instrument invented after his death.

Again, the mechanical difficulties attending the earth's motion were without any answer which deserved attention except in the case of Copernicus. The problem was that of uncertainty, uncertainty, uncertainty, and the sagacity he displayed in combining his materials. Where Hipparchus and Ptolemy have left gaps in which good fortune seems to have made a result of more importance than the discoverer had any right to presume, either from the skill or labour employed in obtaining it: but in the case of Tycho Brahe we believe we are joined by the greatest authority in thinking that he has an apparent diameter of a second. Undoubtedly, what would you have answered then, is the reply. The stars were spheres of visible magnitude, and are so still; nobody can deny it who looks at the heavens without a telescope. Tycho Brahe, in the truest sense of the word, was an instrument, and a fact which could only be known by an instrument invented after his death.

Frederick II. died in 1588, and Tycho remained un molested under his son Christian IV. till 1596. Gassendi relates that the nobles were envious when they saw farewell to his exactions. They were, however, applied to the emperor with Tycho: that the medical men were displeased at his dispensing medicines gratis to the poor; and that the minister had a quarrel with Tycho about a dog. Malte-Brun relates this more distinctly, apparently from the Donzel de la Hœre of Bonhong's History of Denmark, so that it seems most probable that the destruction of the observatory at Hœre arose from a personal squabble between this minister, called Weikendorff, and a dog of Tycho, whose name has not reached us. The astronomer was gradually deprived of his different appointments, and in 1596 removed, with all his smaller apparatus, to Copenhagen. A commission, appointed by the minister, had declared his methods not worth prosecuting, and his instruments were all removed to the castle.

In the summer of 1597 he finally left his country, and removed with his wife, two sons, and four daughters, to Rostock, from whence he shortly removed to Wandbeck, near Hamburg, at the invitation of Count Rantzau. At the end of the second year of his stay in the imperial dominions, the Emperor Rudolph II., promising him every assistance if he would remove with all his apparatus to the imperial dominions. Thither Tycho arrived in the spring of 1599, having been detained during the winter at Wittenberg, by the circumstance of a contagious disorder raging in Prague. The emperor settled upon him a pension of 3000 ducats, and offered him the choice of three different residences. Thither Tycho arrived in the spring of 1599, having been detained during the winter at Wittenberg, by the circumstance of a contagious disorder raging in Prague. The emperor settled upon him a pension of 3000 ducats, and offered him the choice of three different residences. Thither Tycho arrived in the spring of 1599, having been detained during the winter at Wittenberg, by the circumstance of a contagious disorder raging in Prague. The emperor settled upon him a pension of 3000 ducats, and offered him the choice of three different residences. Thither Tycho arrived in the spring of 1599, having been detained during the winter at Wittenberg, by the circumstance of a contagious disorder raging in Prague. The emperor settled upon him a pension of 3000 ducats, and offered him the choice of three different residences. Thither Tycho arrived in the spring of 1599, having been detained during the winter at Wittenberg, by the circumstance of a contagious disorder raging in Prague. The emperor settled upon him a pension of 3000 ducats, and offered him the choice of three different residences. Thither Tycho arrived in the spring of 1599, having been detained during the winter at Wittenberg, by the circumstance of a contagious disorder raging in Prague. The emperor settled upon him a pension of 3000 ducats, and offered him the choice of three different residences. Thither Tycho arrived in the spring of 1599, having been detained during the winter at Wittenberg, by the circumstance of a contagious disorder raging in Prague. The emperor settled upon him a pension of 3000 ducats, and offered him the choice of three different residences. Thither Tycho arrived in the spring of 1599, having been detained during the winter at Wittenberg, by the circumstance of a contagious disorder raging in Prague. The emperor settled upon him a pension of 3000 ducats, and offered him the choice of three different residences. Thither Tycho arrived in the spring of 1599, having been detaine
The celebrated Kepler joined him in February, 1600. Tycho had repeatedly written to invite him, having first entered into communication with him in 1598, when he sent Tycho a copy of his Mysterium Cosmographicum. The latter advised him to lay aside speculations, and apply himself to the deduction of causes from phenomena. It is to follow his own dictum, not to begin with the end in view, but to trace the structure of the heavens from the facts. Tycho not only furnished him with the observations necessary, but was his adviser (and never was adviser more wanted) in the way of using them. In the year 1601, they were employed together in the composition of tables from the Uraniborg observations, which tables they agreed should be called Rudolphine. But on the 13th of October, 1610, the effects of a convivial party, combined with inattention to himself, produced a mortification of the bladder. He continued for many days in pain, and died on the 24th of the month, in the 57th year of his age. He left a.note frustra visisse videor,’ which must be interpreted as something between a hope and a declaration, that he had not lived in vain. Nor will he be thought to have done so by any one who ever found his longitude at sea, or slept in quiet while a comet was in the heavens, or his view of the future fortune of the one supposed minister of God’s anger. For if the list of illustrious men be formed, to whom we owe such benefit, it will be found that his observations form the first great step of the moderns in astronomy. There was a report set abroad in Denmark that Kepler had died in his own bed, and that his last words were addressed to God, doubtless the imagination of those who had driven him from his country. He was buried at Prague, and his monument still exists there. (Malte-Brun.) He was of moderate stature, and latterly rather corpulent, of florid complexion and light blue-green eyes. He was subject to indigestion; he worked in his own study, in testimony of the skill with which the wound already mentioned was repaired; and certainly, with the exception of a very great fullness and cylindrical figure of about the lower part of the nostrils, there is nothing there to excuse Rudolphine’s assertion that he was the pupil of his own master, and latterly renounced it altogether. He has left no record of his chemical and medical studies. He was a copious writer of Latin verses. The following, which are a fair specimen, are part of those written by him upon one of his instruments which has been preserved at Copenhagen. They show how highly he admired his patron.

Quid non ingenium superum sunt mentibus olim
Incensum montibus certum, Pelion, Ossa,
Innumerique sili, sed dum pombeae Gigantes,
Corpora praevia, et motus animae inscripte
In superes penetrare domus. Illa inclyta, illa
Vibina ingenio confusa, robore mulo,
Fuisse hactenus coluntur superem Olympum,
O tanti monumenta viri! Sint lignae quasvix
In silvis nostri parvis, atque si nuncem,
Secretam semper esse signum memorem.

Some of his earlier observations are preserved at Copenhagen. For the present state of Uraniborg, see Hoëns.

It is our belief that the merits of Tycho have been underrated, both as an inventor of instruments, and as a philosopher. As an observer, his works have spoken for themselves. The discovery of the proper motion of a comet, and the development of the theory of the fixed stars, are his. The t. is defended by a strong citadel which commands the rivers below it, is the seat of a pasha of three tails as its commandant, possesses a pop. of about 30,000, has a valuable sturgeon fishery, and exports great quantities of Wallachian corn to Constantinople. S. Hall places it in 45° 15' N. lat., 27° 54' E. long.

BRAIMA, a Sanscrit word, the name of the Supreme Being in the religious system of the Hindus. The primitive meaning of the word is not quite clear; it is evidently connected with the Sanskrit bhuta, whence bhūt, ‘great’; and has been explained by some as properly implying ‘the widely expanded Being.’ The crude form of the word, or the name in its unaffected state, is Brahma, and it is of great importance well to distinguish a two-fold use of that term, according as it is deemed as a substantive of the neuter or of the masculine gender.

When inflicted as a substantive of the neuter gender, its termination in the nominative case is a short o, Brahna (sometimes written Brahme or Brah in English works on Hindu mythology), and thus declined it designates the essence of the Supreme Being in the abstract, devoid of personal individuality. When treated as a masculine word, it is long o, Brahman, and has been translated a long time. ‘Kusha’ is also a Sanscrit word, the most ancient modification, becomes the name of the first of the three gods who constitute the triad of principal Hindu deities.

Brahmā, the impersonal divine substance, is with the Hindus not an object of worship, but merely of devout contemplation. According to the Vedanta system of philosophy, which recognizes the ancient sacred writings of the Hindus as the authority of the doctrines which it advances, Brahmas is the great source from which the visible universe and all the individual deities of mythology have sprung. He is the ultimate principle of all being, and undergoes no changes, as the human soul, according to the same authority, is a portion of the supreme ruler, as a spark in the fire. The relation is not as that of master and servant, ruler and ruled, but as that of whole and part.’ It is the same as Brahma, and denotes the ultimate re-absorption in the divine essence, is variously described in divers texts of the Védas. ‘But he who has attained the true knowledge of God does not pass through the same stages of development, being associated directly with the Supreme Being, with which he is identified, as a river, at its confluence with the sea, merges therein altogether. His vital faculties and the elements of which his body consists are absorbed absolutely and completely; both name and form are lost, and he becomes one with the Supreme parts or members.’ (Passages from the Brähmadeśasân, or aphorisms on the Vedánta doctrine, by Bâddarâyana; translated by Mr. Colebrooke; Transact. of the Roy. Asiatic Soc., vol. ii. passim.)

Brahmā, as an individual deity in mythology, is the creative operator of the universe; forming, with Vishnu (the preserver or sustainer) and Siva (the destroyer), the triad of principal Hindu gods. His epithets, which have been collected by ancient Sanscrit lexicographers, are numerous; some of the most important are: ‘Mahābrahma,’ the great; Paramābhir, ‘who abides in the most exalted place;’ Pāṭamābhir, ‘the great father;’ Pājapātī, ‘the lord of the creatures;’ Lōkeśa, ‘the ruler of the world;’ Dātātī, ‘the creator.’ In the mythological poems and in sculpture he is generally represented with four arms, holding in one hand a lotus, and in the other sometimes an axe. (Transact. of the Lit. Soc. of Bombay, vol. i. pp. 228-229, &c.) Exclusive worshipers of Brahmah and temples dedicated to his name do not now seem to occur in any part of India: homage is however paid to him along with other deities. The Brahmans, in their public oratorical style, always begin a prayer addressed to Brahmas, and at noon likewise they go through certain ceremonies in his honour: on the occasion of burnt offerings, an oblation of clarified butter is made to him, but it does not appear that bloody sacrifices are ever offered to Brahmas. At the full moon of the month Magha (January-February), an earthen image of Brahmas, with that of Siva on his right hand and that of Vishnu on his left hand, is worshipped; and dances, accompanied with songs and music, are performed as at the other Hindu festivals. The Brahmans, with the Brahmās, have long been the bearers of the double life. ‘Kusha’ is also a Sanscrit word, the most ancient modification, becomes the name of the first of the three gods who constitute the triad of principal Hindu deities.
maver. That near Bham, is still an object of adoration there. On the full moon of Agharshaya (November-December), a numerously attended fair is annually held there in honour of Brahmā. (Wilson, in the Asiatic Res., vol. xvi. p. 14, 15; Ward, View of the Hindoos, &c., 2d edit., vol. ii. p. 29, 30.)

BHARMAINS. [HINDUS, CASTES OF].

BHARAMPOOTA, one of the largest rivs. of Asia, and in many respects one of the most remarkable on the globe. Sixty or seventy years ago this riv was almost unknown to Europeans; though they had information about its neighbourhood at least three centuries before the date of our recording.

The farthest branches of this riv, which has a common embouchure with the principal branch of the Ganges, rise between 97° and 98° E. long., and between 26° and 29° N. lat. Here, about 30° N. lat, stands a snow-capped mountain range, which in the present state of our geographical knowledge must be considered the most easterly portion of the Himalaya range: the Taluks, the most N. of the sources of the Brahmapoota, has its origin in these mountains. No European has yet seen its source; but Wilcox was informed that it runs to the S.S.W. in a narrow valley between high, steep, and mostly barren rocks, till it joins the Taluding, a riv. not inferior in size, which descends from the mountains of Namhio (28° N. lat.), a ridge belonging to the Botchedale District, which has divided the farthest branches of the Brahmapoota from those of the Irawaddy. After the junction of the Taluks and Taluding the river continues its course to the S.S.W. between high mountains, and about 29° south is the most E. point; or rather, the lower portions of the Brumpee mountains are covered with jungle, with now and then an intermixture of grass in spots. The riv. is full of foam, and the rocks in its bed are of such enormous size, that it is hardly possible to conceive that they have been brought down by the fire. In the rainy season, the greatest variety shows that they are not in situ. Sentic granite, in which gneisses are found 7-10ths of an inch in diameter, serpentine of a flinty hardness, and primitive limestones are most numerous.

At this place the riv. changes its direction, flowing for some miles to the N.W. between high mountains and in a narrow valley; it then turns to the S., and a few miles lower down it issues from the mountains by a narrow pass, called Prabhu Kuthar, in which the riv. is about 200 ft. wide, and runs with great violence. Near this pass, on the S. banks of the riv. is the Brumaskoond (the source of the Brahmapoota) or Deo Pani, a place of pilgrimage among the Hindus. It is nothing but a good sized pool, 70 ft. long by 30 wide, enclosed by high projecting rocks, from which two or three small rivulets flow into the river from the side; the riv. has obtained its sacred name of Brahmapoota, the 'offspring of Brahmā,' though it is commonly called by the natives Lohit, or Lohiyya (Laughiya in Sansc., the red river).

After passing the Prabhu Kuthar the Lohit enters the valley of Upper Assam or Sadiya, where the hills retire to a distance of 30 or 35 m. from each bank. But though carrying a great volume of water, the Lohit becomes navigable for large boats only at Sonpara, 12 m. above Sadiya. In this district the river does not increase in size, but the torrents descending from the hills bring down in the rainy season an immense and yearly accumulating collection of boulders and round pebbles of every size, which blocking up the river divide it into numerous channels, and produce frequent rapidin of shoals. These circumstances render its navigation extremely difficult and nearly impossible. In this tract the Lohit begins to display its character of dividing its stream and forming large longitudinal islands, a peculiarity which is frequently observed in its course through Assam. Near 26° 15' E. long., and 27° 51' 21" N. lat., the riv. divides into two branches, of which the N. and larger is called the Lohit or Buri Lohit, and the S. Sukato: these branches unite again about 10 or 12 m. farther downward. The island thus formed is about 4 m. wide.

From the Prabhu Kuthar to Sonpara the riv. runs nearly W., and in this tract its waters are only increased by small streams. But between Sonpara and Sadiya, where it passes to the S., the Lohit is joined by the N. of the Brahmapoota, a considerable riv., whose upper branches rise above a hundred miles from its mouth. The best known is the Dupsa Pani, which originates on the W. declivity of the mountains, over which the Phungun Bum pass (27° 32' N. lat.) leads to the country on the banks of the Irawaddy, and attains a height of 11,000 ft. Hence the Dupsa Pani flows between mountains in wild rapids to the E. and unites with the other branch, called the Noa Dihing or New Lohit. Neither course of the river is known, but it would appear that its source is farther from the place of junction than that of the Dupsa Pani, and on the S. declivities of the Lekang Mountains. From Lohi towards the Noa Dihing is navigable for small boats. The river Meiners, which joins the Lohit nearly midway between the Dihing and the Loht, flows in a S.W. direction, and forms numerous islands, so that hardly in any place does the whole volume of its waters run in one bed. Here it receives on the S. the Buri Dihing, a considerable riv., whose origin is near the banks of the Noa Dihing, and separated from it by such low grounds, that at certain times of the year a piece of water joins the Dihing river flows to the Buri Dihing and constitutes as it were its source, which has given rise to the opinion that the Noa Dihing at some remote period did not discharge its waters into the place where it now empties itself in the Lohit, but constituted the upper branches of the Buri Dihing. The Buri Dihing runs nearly in a due western direction, probably above 120 m., but its upper course is not known.

A few miles below this junction, the Lohit divides into two large branches, the northern of which is called Buri Lohit, and the southern Buri Dihing; as it was the continuation of the large affluent which joined it a few miles farther up. These branches include the fertile island of Majuli, which extends from 94° 30' to 95° 30' E. long., about 50 m. in length, with an average breadth of 9 m. Opposite this island the Lohit or Buri Lohit is the larger riv., the river not inferior in volume of water to any of the tributaries of the Brahmapoota, excepting the Dihing. It has not been examined to any great distance from its mouth, but the statements of English navigators suggested to Wilcox the idea that it may be the lower course of the Mon-tai, a large river of Tibet; an opinion which is very probable.

Into the southern branch of the Brahmapoota, or the Buri Dihing, falls the small river Dikho, on which the present capital of Assam, Jorhat, is situated, and lower down the river, the town of Geurar, on the banks of which rises at a great distance to the S. in the territories of the Raaj of Moonipore, in a country not yet explored by Europeans.

After the Buri Lohit and the Buri Dihing have reunited and flowed down for nearly 30 m. in one channel, divided only at a few places by small islands, the Brahmapoota divides at the town of Bishenath (29° 15' E. long.) into two large branches, of which the northern and larger is called the Noa Lohit, and the southern is called Kullung or Kolung. The upper branches of the Brahmapoota extends in length upwards of 75 m., with a width of 20 or 25 m. in the middle. As European travellers do not mention the native name of this riv., and Egermann, in his map of the island of Kullung, the Kullung branch of the Brahmapoota is a much mentioned river, the Deyong, whose sources are situated far to the S. in the kingdom of Katkar, and which breaks through the chain of the Naga Mountains, like the Dhuensi.

The Kullung branch of the Brahmapoota runs along the coast of Tibet; an opinion which is very probable.
the extensive valley of Assam may be considered as terminated; for here the offsets of the Himalaya range on the N. and the Garh Hills on the S. approach the river within a short distance, and in many places leave but a narrow tract above which the Brahmapoona runs out of its course, an undivided stream, and is hardly 1200 yards wide, which is its smallest breadth after its junction with the Dihong. Its stream is so exceedingly rapid, that in the rainy season vessels are obliged to wait for a strong westerly wind, to enable them to stem the current. In the early course of the river, near Goylpara, the Brahmapoona enters the plains of Bengal, where it is only about 120 ft. above the level of the sea.

The general direction of the Brahmapoona from the western extremity of the island of Kullung to its entry into the plains of Bengal lies E. & S.E., and the direction of Goylpara presents this direction still farther down to the town of Rangamattty. Below Goylpara it receives on the N. the Bonsaali or Manas, a considerable river which traverses the eastern portion of Botan, but whose course is nearly unknown, except so far as it runs through the plains of Bengal.

Near Rangamattty the Brahmapoona declines to the S.W., and shortly afterwards takes a due southern course to 25° N, lat., where it begins to run to the S.E. Between 26° and 23° the first communication with the Ganges commences. A small branch of the Brahmapoona running due S. falls into the Isamutty, a branch of the river, which joins the Ganges near Jaffergunge, and another water-course, which branches off from the Brahmapoona a little farther down, and is called Lombe, falls into the ancient bed of the river, which, after meandering, comes to the river of the same name. The Brahmapoona continues its south-eastern course nearly to 24° N. lat., where it is joined by the Barak or river of Sihel. This latter river has its still unknown origin in the mountains of Tipereb, and enters the kingdom of Kutch by a rapid fall. It then turns suddenly to the W. and continues in this direction through the prov. of Sihel; but E. of 92° E. long., it branches off in different channels, of which the southern and most considerable runs W.S.W., and falls into the Brahmapoona near the point of its junction with the Ganges, and is cut off from the river by morasses between Jaffergunge and Nagaon. To Pootyah and Banlesub. At present both rivers have separate embouchures, though they approach so near one another that their beds at some places are hardly two miles apart. Even after the two rivers have mingled, they are divided, that of the Ganges running to the W. of the island of Shabazmore, while the Brahmapoona sends its waters to the gulf of Bengal by the channel between the islands of Shabazmore and Hatta.

The whole course of the Brahmapoona, as here described, may be estimated at 860 m. of which 160 m. belong to its upper course E. of the mouth of the Dihong, 350 m. to its middle course to Goylpara, and the remainder to its lower course to the island of Hatta. The Ganges runs 1350 m., and the Brahmapoona 1600 m., on the S. course near Dihong, to which W nel calculated that at the main branch of the Ganges discharges only 80,000 cubic ft. This fact is a strong reason in support of the Dihong being the river which in Tibet is known by the name of Sampo; but others are of the opinion that the Sampo joins the Iravaddy.

At the time of D'Anville the Brahmapoona was hardly known further than by name. He therefore inserted it in his map of southern Asia as a small river running N. and S., nearly in the place where at present the Gadadar or Toor river runs. I believe the opinion of the Chinese geographers, that the Brahmapoona is a branch of the Ganges, and discharges only 80,000 cubic ft. To this it is said that at the mouth of the river, it does not join the Kinclie-kiang or Yantsie-kiang. He therefore conjectured that this river must join one of the large rivers of the peninsula without the Ganges, and he hit on the largest, the Iravaddy. When Rennell surveyed the lower course of the Brahmapoona in 1793, he was struck by its magnitude, and he collected some information respecting its source, which the Chinese geographers place in the Sampoo of Tibet, that it was the source of the Dihong, that the Sampoo of Tibet discharged its waters by this channel. The conjecture was confirmed by the information obtained by Turner at Tessebo Loombo. Rennell inserted this river in the first edition of his map of Hindostan, where with great ingenuity he hit near on the same place where the present the Dihong is found to break through the Himalaya mountains. This representation of the union of the Sampo and Brahmapoona was not questioned till 1824, when the British troops entered Assam, and it was discovered that the source of the river was not what was supposed, but was quite different. The difficult passage between the two rivers was performed by a passage through a narrow gully, the present state of which is shown on Rennell's map of the Sampo entering the vale of Assam. Lachlan and Julius Klaproth accordingly conjectured that the Sampo runs much farther to the E., and, encircling the mountains at the sources of the Brahmapoona, joins the Iravaddy. Klaproth, who had carefully examined the Chinese geographers, collected some passages which he thought sufficient to support his opinion. But the British officers, who remained in Assam, and especially Capt. Bedford and Lieut. Wilcox, ascertained that the Sampo was a very large river. Their attempts to ascend it were frustrated partly by the nature of the river within the mountains, where it comes down in a succession of rapids and cataracts, and partly by the mountainous. But Wilcox succeeded in passing the sources of the Sampo by a direct route from the Brahmapoona and those of the Iravaddy, and he found that in the country of the Bor Khamtia the Iravaddy is an inconsiderable river, only 80 yards wide, and the natives were not acquainted with any large river in the neighborhood. The Sampo of Tibet does not join the Iravaddy, or any other river in the adjacent countries.

On the other hand, as far as the course of the Sampo as well as of the Dihong has been fixed by astronomical observations, the Brahmapoona runs in the same river. The only point which has been determined on the banks of the Sampo, by actual observation, is Tessebo Loombo, which Turner found at 89° 7' E. long. Farther down, the position of H Lassa, which lies at no great distance from the Sampo on its northern bank, has been calculated by Gaubil to be 88° 4' E. long., of Paris, or 99° 24' of Greenwich. Below H Lassa the Sampo continues its course for a considerable distance to the E., until all information of its farther course is lost. The Dihong issues from the mountains and on the 19th of Nov. 1793 passes the point of H Lassa, and, in the same manner that the Sampo is lost, the Dihong is lost. Between H Lassa and this point there are still five degrees and six minutes for the known and unknown portion of the course of the river.

It is impossible to draw any conclusion from the difference of lat. between the two rivers, and from the description of S. In D'Anville's map De Haide's description of China the known course of the Sampo terminates at 26° 40' N. lat., and on the Chinese map of Kienlong in 27° 30', and consequently to the S. of the valley of the Brahmapoona: Klaproth accordingly, to support his opinion, has been obliged to place it at 28° 30', and Berghaus even at 29° 13' N. lat. But if we even admit the lat. of Klaproth, the distance of the termination of the known portion of the Sampo would only differ 24 minutes of lat. from the most northern point on the Dihong, to which Wilcox ascended this river (28° 6' N. lat.).

Klaproth supports his opinion of the identity of the Sampo and Iravaddy, by a few passages from Chinese geographers; but it is evident that all the countries which lie between the Himalayas and the Ganges, the Sampo and China Proper were and still are as little known to them as to us; and as they had no knowledge at all of the Lohtib and the vale of Assam, they thought it necessary to unite the Sampo with the most considerable river in the neighborhood of Tibet. To the passages of the Chinese geographer may be opposed the decided opinion of the lamas of Tibet, who told Turner that the Sampo running to the S. unites its waters with the river flowing down from the Brahmapoond.

The whole passage of the Brahmapoona is probably more remarkable than that of the Dihong; but it might have been what the Chinese geographers supposed, if it had been the continuation of the Sampoo. By adding this riv. the course of the Brahmapoona is increased by upwards of 1000 miles: this circumstance would sufficiently explain

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No. 313. [THE PENNY CYCLOPEDIA.] Vol. V. 341
why this riv. brings down a volume of water, which raises it far above the Ganges and Irawaddy, and claims for it the first place among the rivers of S. Asia. (Renell; Francis Hamilton; Klaproth’s Mémoires; Nefville and Wilcox in Asiatic Researches; Ritter, Asiam; Maps of Klaproth, Bingham.)

Brahmegupta. (Viga Ganita.)

BRAIDWOOD, THOMAS, is known as one of the earliest teachers of the deaf and dumb in this island. He began this useful career at Edinburgh in 1766. No authentic record of the methods which he pursued had been made known, unless a work published by the late Dr. Watson, formerly the head master of the London Institution for the Deaf and Dumb, may be so considered. Dr. Watson, as an assistant to Mr. Braidwood, acquired his first practical experience of the method which was founded upon the same principles; and his indefatigable industry and great success would claim from me respectful notice, even if I could forget the ties of blood and of friendship (Instruction of the Deaf and Dumb, Introduction, p. xxiii, London, 1809). A work entitled Vox Orula Subjicta, published at London in 1783, the production of an American gentleman, whose son was educated by Braidwood, professes to give ‘a particular account of the academy of Messrs. Braidwood, of Edinburgh; but it throws no light on the system of instruction used by these gentlemen. It is chiefly valuable for its copious extracts from the writings of Bulwer, Holder, Amman, Wallis, and Lord Monboddo, who had all considered the subject of speech with philosophical attention, and in relation to those peculiarities in the mind, or who had discussed the language, and who consequently labour under the deprivation of speech. There was doubtless much merit in the mechanical methods used by Braidwood and his son to produce in their pupils an artificial articulation, and in the persevering application which had been made of them. Braidwood succeeded in attracting the notice of many eminent persons. He is spoken of with praise by Arnot (Hist. of Edinburgh), Dr. Johnson (Tour to the Hebrides), Lord Monboddo (Origin and Progress of Language), Pennant (Tour to the Hebrides), and Johnson (Dictionary and Speech). In addition to these, Lord Morton, president of the Royal Society, Lord Hailes, Dr. Robertson, Sir John Pringle, Dr. Franklin, Dr. Hunter, and others attended the public examinations of his pupils, and attested their progress. After having resided some years at Edinburgh, Braidwood removed his establishment to Hackney, near London, where he continued to instruct the deaf and dumb, and to relieve impediments in the speech, till his death in 1806.

Brain, a soft and pulpy organ, which in man occupies the cavity of the cranium, and forms one of the central masses of the nervous system [Nervous System]. In man and all the higher animals the nervous system consists of four distinct parts—the white threads called nerves; known as the nervous matter; the cavity of the cranial bone called ganglia; a long cord of nervous matter filling the cavity of the vertebral or spinal column, called the spinal cord; and a large mass of nervous matter generally considered as a continuation and expansion of the spinal cord, called the brain. The spinal cord and brain constitute the two central masses of the nervous system, that is, the immediate seat of the functions peculiar to this system.

The general mass of nervous matter designated under the name of the brain, together with its membraneous coverings, vessels, and nerves, completely fills the cavity of the skull. This mass is divided into three parts, the cerebrum or brain proper, which occupies the whole of the superior part of the cavity of the cranium; the cerebellum, much smaller than the cerebrum, which lies above it, called the dura mater, which occupies the lower and back part of the cavity of the cranium; and the medulla oblongata, by much the smallest portion of the mass, situated at the basis of the cavity, between the cerebrum and cerebellum. The medulla oblongata is the cavity of the cranium filled with the vertebral canal by the foramen magnum of the occipital bone, being continuous with and forming the commencement of the spinal cord.

This general nervous mass is closely enveloped in three distinct membraneous coverings, two of which have been called dura mater, from the fanciful notion that they give rise to all the other membranes of the body. The external covering termed dura mater, from its being of a firmer texture than the other two membranes, encloses the brain with all its appendages, and lines the whole internal surface of the bones of the cranium. It is of a fibrous texture, the component fibres interlacing each other in every possible direction, and forming a firm and dense membrane, composed of the thickest and strongest membrane of the whole body. By its external surface the dura mater adheres everywhere to the inner surface of the cranium, just as the peristeum adheres to other bones. When torn from the cranium this surface appears: a mass, and irregularly spotted with bloody points, which are the laceraed orifices of vessels that pass between the membrane and the surrounding bones. These vessels are much more numerous in the young than in the adult, and are most abundant at the extremities of the cranial bones, at the angles and in the region of the temporal antrum. The inner surface of the dura mater, which is shining and smooth, is lubricated and kept in a state of moisture by a fluid seceded by its own vessels. This membrane performs a twofold office; it supplies the place of the periostracum to the inner surface of the bones of the cranium, sustaining their nutrient vessels; and it serves as a defence to the brain, and a support to the different masses into which it is divided.

The dura mater gives off several elongations or productions called processes, which descend between certain portions of the brain; the most remarkable of which is termed the superior longitudinal process, which extends from the front to the back part of the skull, between the lateral halves of the cranium. Narrow in front, it becomes gradually broader towards the back, and in its way is manufactured, by one of the genera of fibrous tissues, as it is received, some resemblance in shape to a sickle or scythe, whence the common name of it, falc cerebri.

Where the falk cerebri terminates behind, there proceeds a large lateral expansion of the same membrane, extending across the back part of the skull, and in a most beautiful manner, covering the inferior portions of the cerebrum, and forming a complete floor or vault over the cerebellum. This membraneous expansion is called tentorium, the obvious use of which is to prevent the cerebellum from pressing upon the cerebrum; while from the middle fossa passes the tentorium cerebelli, which descends between the lobes of the cerebellum and terminates insensibly at the edge of the foramen magnum, performing for the cerebellum the same office as the falx performs for the cerebrum: hence it is called falc cerebelli.

Moreover, the components of it, more especially in certain parts of its course, separate into layers, which are so disposed as to leave spaces between them, for the most part of a triangular form. These triangular spaces, which are commonly termed sinuses, are lined by a smooth membrane resembling closely the structure of the cerebral part of the brain, and form cavities between the various parts of the body, and these sinuses perform the office of veins, returning the blood from all the parts of the brain to the neck. Nothing analogous to this structure occurs in any other part of the venous system. In almost every other part of the body the venous sinuses are situated along the contour of the body, which is a most important aid to these vessels in enabling them to carry on the circulation of the blood; but in the brain, the venous tubes are guarded from pressure, the dense dura mater being for this purpose stretched so tensely over them that the weight of the surrounding parts is entirely taken off them.

One of the conditions essential to the performance of the functions of the brain, is that it be free from pressure. The brain is a soft substance, enclosed in a hard unyielding case. A preternatural accumulation of blood in its vessels would extend the brain along with its envelope, its substance cannot expand with any additional quantity of fluid that may be poured into it; consequently, such additional quantity of fluid would inevitably occasion a disturbance of function, if not organic injury.

The smooth surface of the brain which is exposed on the reflection of the dura mater, is formed by its second investiture, membrane, which is named the tunica arachnoidae, from the extreme tenderness and delicacy of its tissue, which give it a resemblance to a spider’s web. This thin and delicate membrane is thrown into a great number of convolutions over the surface of the brain, covering all the eminences termed convolutions (fig. 1, 2, 3), but not insinuating itself between any of the depressions between the convolutions (fig. 4, 5, 7). On account of its extreme tenuity and its close adhesion to the membrane beneath it, it cannot be entirely separated from the latter; but there are situations at the basis where the arachnoid membrane, as it passes between

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The text appears to be a page from a book discussing the anatomy of the brain and related structures, focusing on the dura mater and its functions. It describes the structure and properties of the dura mater, its relation to the cranial bones, and its role in protecting the brain. The text also mentions the superior longitudinal process and the tentorium cerebelli, and discusses the significance of the sinuses and their role in the circulation of blood through the brain.
opposite parts of the brain, can be seen distinct from the subjacent tunic.

The third investing membrane, the pia mater, derives its name, like the former, from the tenderness and delicacy of its tissue; but unlike the tunica arachnidea, in which not a single blood vessel has hitherto been discovered, the pia mater is exceedingly vascular. The blood vessels with which every part of this delicate membrane is covered are the nutrient arteries of the brain; before they penetrate the brain these vessels divide, subdivide, and ramify to an extreme degree of minuteness upon the external surface of this membrane, so that the blood does not enter the tenuous cerebral substance with too great force. When a portion of the pia mater is greatly raised from the brain, these blood vessels appear as exceedingly fine delicate threads, which, on account of the elasticity with which they are endowed are capable of elongation as they are drawn out of the cerebral substance. As the pia mater contains and supports the nutrient vessels of the brain, this membrane is not only spread as a general envelop over its entire surface, but it penetrates between all its convolutions and lines every cavity which is formed in it.

It has been stated that the large portion of the cerebral mass, termed the cerebrum, occupies the whole of the upper part of the cavity of the cranium. The cerebrum is divided

![Diagram of the brain](image)

FIG. 11.

[Base of the brain.]

1. anterior lobes of the cerebrum; 2. middle lobes of the cerebrum; 3. posterior lobes of the cerebrum; 4. fissure separating the anterior from the middle lobes, named the fissura Sylvii; 5. situation of the superficial excavation forming the hemisphere over the middle and the posterior lobes; 6. the two hemispheres of the cerebrum composed of flattened laminae or layers; 7. the medulla oblongata, which in this position of the brain rests upon and covers the vermis firmament; 8. corpora pyramidalia; 9. corpora olivaria; 10. tuber cinereum or pons varolii; 11. demarcation of the corpora pyramidalia; a, b, c, d, cerebral nerves.

The whole of the external convex surface of the hemispheres is divided into numerous eminences termed convolutions, which run in different directions, and are of different sizes and lengths, in different parts of the hemisphere (fig. 11). The depressions or fissures between the convolutions termed clefts, or sulci, generally penetrate the consistence of the brain to the depth of about an inch or an inch and a half (fig. iv. 7). The greater number of these pursue a zigzag course, but some run longitudinally, others obliquely; some communicate with each other, while others terminate separately in the substance of the brain (fig. 11. 7).

The nervous matter constituting the cerebrum is composed of two distinct substances, which differ from each other materially both in their colour and consistence (fig. 11). The outer substance is sometimes termed cortex, from its being of a greyish brown colour; at other times cortical, from its surrounding the inner part of the brain, as the bark the inner parts of the tree; by some it is also called glandular, and by others secretion, from the supposition that its nature is that of a gland, and that it secretes a peculiar fluid. It is of a softer consistence than the inner part, and leaves by desiccation a smaller quantity of solid residuum. It is composed almost entirely of blood vessels connected and sustained by exceedingly fine cellular membrane. Its structure is uniform throughout, presenting no appearance whatever of a fibrous texture. It gives to the entire surface of the cerebrum an external covering, generally about the tenth of an inch in thickness (fig. iv. 7).

The inner substance, termed white matter (fig. iv. 7), is firmer in consistence and larger in quantity than grey matter; and when an incision is made into it, its surface is spotted with red points, the cut orifices of its vessels, which vary in number and size according as they may be more or less distended with blood. It is now universally agreed that this part of the brain is composed of fibres. When examined in its recent and most perfect state, especially after it has been artificially hardened and condensed by the action of heat or certain chemical substances, if it be carefully scraped with a blunt instrument, these fibres become perfectly distinct and are of considerable magnitude, with furrows between them, which for the most part are placed in such a direction as to converge towards the base of the brain (fig. iv. 6, 5, 4). The fibres do not merely unite, forming what are called commissures.
sures, but they actually cross each other and pass into the opposite sides of the body. This decussation of the medullary fibres has been demonstrated in the most satisfactory manner by Drs. Gall and Spurzheim.

It is now very generally admitted that the medullary substance of the brain is the true and proper nervous matter, or the nervous substance in its most perfect state; that the grey matter is entirely subservient to it, and is indispensable, if not to its generation, at least to its nutrition and support. Drs. Gall and Spurzheim indeed maintain that the sole use of the grey is to form or secrete the medullary matter; and this opinion they ground, first, on the fact, that whenever the medullary matter is obviously to be increased, it is invariably surrounded by a mass of grey matter, which incloses it as in a bed or nucleus; and, secondly, on this further fact, that in the course of the spinal cord, wherever it sends off nerves, masses of grey matter are always accumulated. Professor Tiedemann, who disputes the correctness of the opinion of these physiologists, on the ground that in the fetus the medullary is formed before that grey substance, thinks nevertheless that the use of the grey substance is to convey the arterial blood which may be necessary to support the energy of the perfect nervous matter.

It is not intended, in this article, to pursue further the dissection of the cerebrum in the mode usually adopted by anatomists, both because the description could not be followed unless the object were before the eye, while that description, if needed, can be easily obtained in the common anatomical books; and because however convenient such a mode of examining the organ may be for the purpose of ascertaining its healthy or diseased conditions, it affords no insight into its real structure.

The cerebellum is situated at the basis of the cerebrum, towards its posterior part (fig. 11. 6, 6). Its form is elliptical, its largest diameter extending transversely from one side to the other (fig. 11. 6). Like the cerebrum, it is divided into two lateral halves or hemispheres (fig. 11. 6), which are separated by the falx cerebelli. In the centre of its upper surface there is a distinct prominence termed the vermis, or a process that may be thought of as a suture, under which a central summit of tissue is united in the form of a small circle or sulci between the convolutions. The pia mater, bearing the nutrient arteries of the cerebellum, passes between every one of these fissures; while the arachnoid membrane is simply extended over them. If a vertical section be made through either hemisphere of the cerebellum, a thick mass of white substance is seen in the centre, which, as it divides into the several strata, presents an arboreal appearance commonly denominated the arbor vitae (fig. 11. 3). These strata diverge towards the circumference of the cerebellum, and are covered externally by grey substance (fig. 11. 3).

In front of the cerebellum is placed a large mass of nervous matter, forming a very considerable eminence, commonly termed the tuber annulare, or the pons varolii (fig. 11. 10). It is divided into two lateral surfaces by a middle groove (fig. 11. 10). It is joined to the cerebrum by two thick white cords named the crura cerebri, and to the cerebellum by two similar cords named the crura cerebelli. The crura cerebri are continued backwards into the tuber, and forwards to the under and middle part of each hemisphere of the cerebrum, in which they are lost. In like manner the crura cerebelli are continued backwards into the hemispheres of the cerebellum, in which they terminate. The whole of this is covered by a much denser mass which intervenes between the tuber annulare and the foramen magnum (fig. 11. 7): beyond the foramen magnum it takes the name of spinal cord. On the anterior surface of the medulla oblongata there are four eminences continuous to each other (fig. 11. 7). The two internal are named corpora pyramidalia, or the pyramids (fig. 11. 8), and the two internal the corpora olivaria (fig. 11. 9), or the olivary bodies.

If the membranes which invest the medulla oblongata are removed, the cerebellum and pons varolii will be seen to be covered with a deep suture, under which there will be discovered four or five bands of white substance ascending obliquely from one side of the medulla to the other (fig. 11. 11). These bands on each side decussate, some of them passing above and others below those of the other side. They are united in the mid-line (fig. 11. 11). These bands are named the decussating bands of the corpora pyramidalia, and their decussation is conceived to explain the phenomenon familiar to the physician and surgeon, that when injury is done to one side of the brain, the constant disturbance of function is manifested in the opposite side of the body.

Taken as a whole, the nervous mass constituting the brain is strictly symmetrical, that is, the different parts of which it is composed are so arranged, that if the organ be supposed to be divided into two lateral halves by a plane perpendicular to the median line, the right and left halves will be alike, and if placed on each side of this plane have a perfect correspondence with each other, and form in fact reduplications of each other (fig. 11. 11). The principal parts of the cerebral mass are thus double, but they are all united on the median line with their fellows of the opposite side. This union is effected by medullary bands of various sizes, and figures which pass from one to the other, called commissures. Thus the double parts of the cerebral mass are united by means of the large mass of cerebral matter already spoken of under the name of the corpora callosa and of the hemispheres of the cerebrum. These hemispheres are united chiefly by a broad expansion of medullary matter, which extends transversely from the bottom of one hemisphere to that of the opposite side, called the corpus callosum, or the great commissure of the brain (fig. 11. 6, 6). There are other arcuate or meeting bands of smaller size, by which minor portions of the cerebral mass are placed in communication, into a description of which it is not necessary to enter here.

The cerebral parts are separated from one another at certain points by partitions or layers (fig. 11. 6), separated by fissures which are termed ventricles. Of these ventricles there are commonly enumerated four, all of which are in communication with each other. By far the largest of these are the two great cavities called the lateral ventricles, which are situated in the interior of the hemispheres of the cerebrum. Commencing in the fore part of the anterior lobes, these cavities proceed backwards in a direction parallel to each other through the middle into the posterior lobes. Their figure is indistinct, and are exceedingly irregular, and they are separated from each other by a tangle of medial matter termed the septum lucidum (fig. 11. 5). They are lined throughout by a fine transparent membrane, which secretes a fluid that keeps them moist, gives them a bright polished appearance, and prevents them from uniting. This membrane is the pia mater, which covers the external surface of the brain into these interior cavities, and some anatomists describe the arachnoid membrane as accompanying the pia mater in all its course through the ventricles.

The middle or third ventricle is a vertical fissure between
the two large convex eminences called the thalami optici (fig. 111. 4), situated in the middle and back part of the lateral ventricles. The fourth ventricle, called also ventricle of the cerebellum, is a cavity of considerable extent, situated between the cerebrum, the tuber annulare, and the medulla oblongata.

It is not necessary to enter into a more minute description of the several parts of the cerebral mass; but it is indispensable to a clear conception of the organization of the brain that something should be understood of the course of the fibres that constitute the main part of the medullary substance. For a detailed account of the course of these fibres, the reader is referred to the admirable work of Drs. Gall and Spurzheim, entitled Recherches sur le Système Nerveux en général, et sur celui du Cerveau en particulier in which the direction of the cerebral fibres is not only minutely and exactly described, but illustrated by excellent drawings as large as the objects. Some idea

that one-fifth of all the blood sent out of the left ventricle of the heart is carried to the head, yet the weight of the brain is not more than one-twentieth of the weight of that of the whole body. Even if this estimate, which is generally thought too large, be reduced to one-tenth, according to the idea of Monro, it will still leave a very great over-proportion. There is no part of the structure of the brain more curious than the various contrivances connected with the circulation through the head, which have for their object the prevention of this prodigious quantity of blood from producing any injurious effects upon the tender cerebral substance, whether by its pressure, or by its unequal distribution, or by its running away in the vessels, or of its being too violently propelled against them. Many conjectures have been formed respecting the object of furnishing this organ with such an extraordinary quantity of blood; but nothing is really known of the use to which it is applied, though the idea of the gratifying some degree of plausibility to the opinion that the brain has some analogy to a secreting organ. Without doubt, one use both of the ventricles and the convolutions is to afford a more extended surface by which the blood vessels may enter the cerebral substance at a greater number of points, and consequently in small quantity at any one point, while at the same time they are more firmly supported in their passage by the greater quantity of investing membrane with which they are supplied.

The cerebral substance, when examined by a powerful microscope, is found to be composed of a pulp containing a number of small particles or rounded globules. The pulp itself appears to consist of flocculi, likewise formed of globules, connected with each other by a matrix that would receive the ultimate globules being of a tolerably firm consistence and about eight times less than the red particles of the blood.

These observations, which were first made by Prochaska, have been confirmed in the essential points by the still more recent and elaborate examinations of a Florentine, who, by using higher magnifiers detected more clearly the constitution of the brain as composed of a series of these small globules, which were apparently of a cellular texture, and which constituted the whole solid mass of the organ. Bauer has described the fibrillae, or as they are more properly called, the fibres of the brain its fibrous appearance; that the diameter of the globules varies from 1/100 zoll to 1/100 zoll of an inch, the general size being 1/100 zoll; that they are both larger and in greater proportion in the medullary than in the cerebrum substance, and that they are connected together by a peculiar gelatinous matter.

Chemical analysis shows that the medullary matter consists of a peculiar chemical compound, unlike any other of the constituents of the body. In some respects this compound resembles a saponaceous substance, dissolving readily with water, and forming with it an emulsion which remains for a long time without being decomposed. Vauquelin has found in it two species of adipose or adiposaceous matter, soluble in alcohol, and the third the principle called osmazome, together with a quantity of albuminous matter, small quantity of phosphorus, and some saline matter, consisting principally of the phosphates of lime, soda, and ammonium.

Such is a brief outline of the nature and relation of the principal parts that enter into the composition of the brain. The functions of this organ will be considered in connexion with those of the spinal cord, and of the nerve. [Nervous System.]

*BRAND OF ANIMALS, its peculiarities and diseases.*

The most obvious distinction between the brain of the human body and that of the other mammalia is its diminished size in most of the latter. The moment the skull-cap is raised, the difference between the full rounded appearance of the former and the compressed flattened shape of the latter cannot fail to be observed. The convexity of the skull is greatly lessened, and the posterior lobe is in a manner lost in quadrupeds. If the brain is now removed from the cranial cavity, the difference in bulk between that of man and the inferior animals is strikingly displayed. The brain of the ox remains weighs a pound; the average weight of the brain of the human being is more than 2½ lbs.

In man the brain is supposed to constitute about 1-35th part of the weight of his body. In the dog, averaging the different breeds, it is 1-120th part; in the horse it is only the

As the reader may perceive some discrepancies between the two articles on the Brain, it is necessary to remark that these articles contain the respective views or opinions of two different writers.
450th part, in the sheep the 750th part, and in the ox the 800th part. Does there appear already a connexion between the relative bulk of brain and the quantity of mind? The bulk of the brain has alone been spoken of, but, in point of fact, these animals have just been ranged in the order of their relative bulk in the respective classes. The prominences and depressions which mark the surface of the brain in man, and which are supposed by phrenologists to indicate certain peculiarities of mind and disposition, are tame and inexpressive in the quadruped. They are not found in the hare, or the rabbit, or in the fish. They are not so bold or so deep in the ox as in the horse; nor so much in the horse as in the dog.

The brain is composed of two substances essentially distinct from each other, the medullary deep in the base of the organ, and the cerebral, immediately connected with the animal, and the other with the intellectual principle: the one the medium through which the impression made by surrounding objects is conveyed, and the other the substance to which that impression is referred, and where it is received, registered, and compared: the one the agent by means of which the voluntary motions of the frame are effected, and the other directing and controlling the working of the machine.

As an illustration of the greater size and development of the nerves of sense in animals, the olfactory one may be selected. In man, who has other means of judging of the qualities of his food, and of surrounding objects, than by the sense of smell, the olfactory nerve is not one-fourth of the size of that of the horse; in the ox, that is not so much disproportionate; and, as the feeling of the field is shifted for himself, it is considerably larger; it is larger still in the swine, who has to search for a portion of his food buried in the earth, or deeply immersed in refuse or filth; and it is largest of all in the dog, whose acuteness of scent renders it necessary to serve him.

The different development of the medulla oblongata in different animals may be adduced as another proof of the admirable adaptation of each to the situation which he occupies and the functions which he discharges. The medulla oblongata, moreover, and condensation of the medullary matter of the brain, and it is the origin of that portion of the spinal cord which is devoted to organic life. In the human being the breadth of it is only a seventh part of that of the brain; in the horse and the ox it is nearly a third; and in the dog it is more than a half.

In every part of the brain of the quadruped the medullary portion preponderates, and the cesticorius is deficient. In his wild state the brute has no idea beyond his food and the reproduction of his species: in his domesticated state, he is the custodian of his food and the guardian of his senses and that preponderance of animal power qualify him for this service; but were proportionate intellectual capacity added, he would speedily burst his bonds. It is, however, only in the proportions of the two substances that the brain of the biped and quadruped differs: the animal in the lower animals are found in each. It was necessary that in the servant of man some degree of intelligence should be added to animal power; that he should possess the faculties of attention, memory, and judgment, and that to these should be added not only the general, but, often, the peculiar development of courage, fidelity, gratitude, disinterestedness, and a consciousness of right and wrong.

In the smaller quadrupeds the comparative size of the brain approaches nearer to that of the human being. In that of the ox, there is a part of the brain which is larger than in the men of the order. But what is it composed of? Of the medullary matter which is necessary to form the origin of the nerves of pure sensation, and of those of the spinal cord, which are as numerous in a man as in a larger animal. This must necessarily occupy a considerable bulk; but there is little of the cesticorius matter, or that which is connected with the mind.

For several minor points of difference between the brain of the biped and the quadruped, the reader is referred to Dr. Gurney's Dissertation on the Hominidae, or comparative Anatomy, and to Dr. Gurney's On the Mammalia of Cuvier's Comparative Anatomy. The brain of the larger birds agrees with that of the mammals in the smallness of its bulk, compared with the development of the same organ in the human being. The brain of the goose is more than a two-hundred-and-sixtieth part of the weight of the bird; the brain of the goose is not more than a three-hundred-and-sixtieth part. If in some of the lesser birds, as in the chaffinch and the redbreast, it approaches to the proportionate size of that of the human being, it is, as in the smaller quadruped, on account of the quantity of medullary matter required for the origins of the nerves; and the cesticorius matter forms only a very small part of the brain. The brain of the bird has no cortical development except in the eye of the parrots, and in these genera, and does not constitute a two-thousandth part of the bulk of the fish. It scarcely half fills the cranial cavity, but is surrounded by a cellular tissue containing a transparent semifluid mass. It singularly varies in different species. It consists of at least four or five layers of cells, and the inner, which is contiguous to, and forming two parallel lines; and there is often only a very slight connexion between these lines, or the eminences of which either of them is composed. The two principal hemispheres of the brain and the optic thalami are always present. The olfactory nerves form a third pair of tuberces anterior to these and the cerebellum, and is always found posteriorly on the mesian line. The optic nerves usually cross each other without any intermingling of medullary matter. The cesticorius substance is found in an exceedingly small proportion in the brain of fishes

For as insects and worms, little needs to be said here. In the worm the brain or upper ganglion of the nervous system is placed near to, or may be said to be perforated by, the superior portion of the oesophagus, and thence proceed numerous nerves, which pass to the different parts of the digestive canal. In insects, the upper ganglion usually surrounds the oesophagus, and a ganglionic system of nerves can generally be traced proceeding from it. In the larvae of insects the brain is enclosed in a horny cavity. The animal's consciousness of pain coming from the general state of the whole of the abdomen, presenting evident ganglia at different points, from which nerves are distributed: while from the intermediate spaces are given out other nerves without ganglia; presenting a rude but satisfactory sketch of the cesticorius and medullary matter. The nervous system is covered by modern physiologists.

A sketch of the diseases of the brain in different animals can, in this place, scarcely extend beyond those that have been domesticated by man. The preponderance of the medullary matter explains the cause of the insufficiency of any affection of the brain that can be called insanities in animals. If there is so small a portion of cesticorius matter, if the intellectual principle is so slightly developed, alteration of the mind is scarcely to be expected. In a certain degree of this nature of diseases and insanities is served. It is one of the concomitants and characteristic symptoms of rables. Pure mental alienation unaccompanied by inflammatory or other disease is however, although very rarely, seen in the quadruped. The eagerness for its own amusement is in full exercise, making it, or the cat, will search out and pursue their own offspring in order to destroy them, and the evident delight with which they devour them, is not this insanity? The fury which some animals, gentle in every other respect, show at the sight of one object, and, without any previous or occasion, is not this true monomania? A mare that had not the slightest fear of any other object, was always roused to uncontrollable fury by the sight or rustling of paper; another mare would endeavours to fly upon and tear to pieces every light grey horse that came within her sight; another would rush furiously against every white object, animate or inanimate: were not these cases of monomania?

The brain of the quadruped is proportionally much smaller than that of man. Comparing bulk with bulk, the brain of the horse is not a tenth part of the brain of the ox is not a twentieth part so large as that of the human being. In a state of health, a much greater quantity of blood is determined to the brain than to any other part, in order to enable it to discharge its important functions. From some of former times the ancients supposed that the quantity of blood is sometimes determined to the brain of the human being. What is the consequence? All the vessels of that organ are overloaded—the origins of the nerves are pressed upon—no cerebral functions can be discharged—each man in his present state of things is in such a condition that the current is speedily diverted, and the overcharged vessels to a certain extent drained of their contents, he must inevitably
perish. From some exciting cause, the same determination of blood to the brain takes place in the ox: but his brain is not, proportionally, a twentieth part so large as that of the human being, and it is altogether unable to resist the impetus—its functions are suspended in a moment, and the animal drops and dies. How severe are the losses with which the soldier and sailor are afflicted? Teeth are being prepared for the market more eagerly and hastily than prudence would warrant; they have been under the influence of a stimulating and forcing system, and are covered with fat and full of blood. If they are inadvertently put, as a still more stimulating reed—men; they are turned into more luxurious pasture, or they are driven to the turnip-field. They have not been there many hours before one and another begins to heave violently at the flanks—the head is extended, the eyes are protruding, the ears are flapping, and the tail is three or thirty. The tail is large and forked; pectoral fins rather long and narrow; ventral fins small: the scales extend as far as the jaws.

BRAVETE, (Essex.)
Brauma, a genus of fishes of the order Acanthopterygii and family Squamipinnidae. Generic characters: dorsal, anal, and ventral fins more or less scaly; body much compressed, somewhat ovate when viewed laterally; the head rarerously obliquely terminated; mouth, when shut, almost vertical, with both maxillae united by a branchiostegous rays seven. But one species of this genus is known, Brauma Raiti. M. Cuvier mentions the Mediterranean as the chief locality for this fish; but at the same time he says that it occasionally wanders into the ocean. It appears, however, that it is not so local as M. Cuvier supposes, numerous specimens having been found on different parts of our own coasts.

Brauma Raiti measures from about one to two feet in length; it is of a deep blue colour, becoming silvery towards the belly. Tail elongated; anal, and the anal fin thirty. The tail is large and forked; pectoral fins rather long and narrow; ventral fins small: the scales extend as far as the jaws.

BRAMANTE, D'URBINO, or BRAMANTE LAZZORI, was one of the most eminent men in his profession at the time of the so-called revival of the arts in the fifteenth century; when he distinguished himself by a more accurate investigation of antique buildings than had before been adopted, whereby contributing in no small degree to keep alive the spirit of antiquity and upon the application of the Roman orations, arrogate to itself the title of 'classical,' and within a short time entirely superseded every other mode of building that had previously been obtained in Italy. Seconded by the circumstances of the times, and by the encouragement he could expect for his reputation which certainly appears quite adequate to his intrinsic merits. His name also derives some reflected lustre from being associated with those of Raphael (his relative) and Michael Angelo, not only as that of their imitator and imitator but also as that of the engraver he gave the talents of the one, and the degree of rivalry which existed between himself and the other.

According to some, Bramante was born at Castel Du- mante, in the duchy of Urbino; according to others, at Fer- rara. Amongst his other works, he is noted for the cupola of the cathedral at Florence; but this would be but a very small part of his original design; Filippo Brunelleschi (the architect of the then unruined cupola of the cathedral at Florence) died. Although in very humble circumstances, his family appears to have been respectable, and as he was by no means said to possess a natural aptitude for drawing, his father placed him under the celebrated artist Fra Bartolomeo of Urbino. The proficiency he attained in this part of his career is evinced by many pictures which he executed, and which are still to be seen at Milan; but his predilection for architecture prevailed over all other imitations, and he seems to have been expelled from the obsidian where he had already a fair prospect of success before him.

At first he travelled through Lombardy and passed some time at Milan, studying the works and constructions of the celebrated duomo in that city, which was the most extra- ordinary work of his time. In this city he proceeded to Rome, where after painting some frescoes (now destroyed) in the church of St. John Lateran, he determined to apply himself exclusively to investigating and measuring the principal antient edifices in that metropolis and its environs. He so thoroughly and completely engraven by his new pursuits, being incessantly occupied in making drawings, studies, and measurements of various works of antiquity. Among other edifices which he explored were the ruins of the papyrur on Carthage, and the ruins of the Capitoline buildings, the Villa Adriana, which, not having been thrown down by any one of the columns, marmors, and other ornaments since carried off, must have been far more instructive to the architect than at present, when its scanty remains are interesting only to the curios. Nor was the uncommon magnificence and grandeur of the buildings, upon which his admiration do not appear to have been regulated by that discretion and taste which shows that it appreciates real beauties, by rejecting all spurious alloy. Amplitude of masses and vastness of plan seem to have struck the imagination of the foreman projectors of St. Peter's quite as forcibly as that architectural tectility which is independent of extraordinary dimensions, arising rather from nobleness and greatness of manner consistently kept up throughout.

After extending his researches as far as Naples, upon his return to Rome it was commissioned by Cardinal Oli of Caraffa to erect the cloister of the convent DELla Pace; which, although not a work of any particular merit for its
design, gave such satisfaction as to bring him at once into notice, and obtain for him the patronage of Alexander VI. Under that pope however he did not execute any public works of importance, with the exception of the Cancelleria or palace of the chancery; a pile of imposing magnificence, and which contains the most spacious courts, libraries, and apartments of any of the papal palaces. Of the most splendid galleries formed by ranks of arches resting upon granite columns. Although such a combination of the column and arch constitutes in itself a mixed style, as it was here managed by Bramante it is at least free from absurdity, for he avoids both all appearance of entablature, and made his arches spring immediately from the abaci of the columns, which with the capitals may be considered as the impost surmounting circular instead of square piers: whereas blocks made to resemble pieces of an entablature not only cause the support to appear too bold, as if it appeared on the top of a column of considerable height, not call attention still more forcibly to the inconsistency of the two systems of architecture, by exhibiting the horizontal members, which columns were originally intended to support, so mutilated as to destroy all idea of connexion in a horizontal direction. We may therefore so far allow that Bramante proceeded upon rational principles, and likewise that he consulted effect no less than propriety; the mode adopted by him being more satisfactory to the eye as well as to the judgment. In the façade of the same building, where the pilasters are of the first order, in the basement, he was not so happy; and he either did not aim at the character of the antique, or else failed in his attempt. In proportion to the building the orders are too minute to assist the idea of magnitude otherwise than at the expense of regularity. There is a want of the grandeur of style in the mass, but not in the constituent features. The arrangement of the pilasters again is more unusual than agreeable, for they cannot be said to be coupled, but distributed so as to form wider and narrower intercolumniations alternately; in the former case the pilasters, in the others, are left blank—a mode which, without possessing the richness of coupled columns or pilasters, is equally, if not still more objectionable than they are. Another circumstance which does not contribute greatly to beauty is, that the windows of the pilasters are of two kinds: those of the first order, although crowned by a horizontal cornice, owing to which they have a heavy look in themselves, and also appear squat and depressed in comparison with the range above them. Nearly the same peculiarities, which may be taken as in some degree characteristic of Bramante's style in buildings of this class, prevail also in the façade of a palace begun, although not finished by him, in the street called Via Borgo Nuovo. This mansion, now called the Palazzo Giraud, has like the Cancelleria two orders of pilasters, forming narrow and wide intercolumniations; the former are of the first order, crowned by a horizontal frieze and cornice, but with these differences, that the lesser intercolumniations are narrower than in the other instance, although still of too great width to allow the pilasters to be termed 'coupled;' and the windows, instead of being there the same size, are here of two different sizes, one much larger than the other. The elevation of Julius II. to the pontificate was a fortunate circumstance for Bramante; for that pope, who was no less enterprising and resolute in civil than he was in military undertakings, was ambitious of signalizing his reign by some noble monuments of architecture and other arts. By him Bramante was commissioned to project plans for uniting the Belvedere with the buildings of the old Vatican palace, so as to render the whole, not if a coherent pile of regular building, at least an imposing mass. The architect seems to have been considerable, in order to connect those of long wings or galleries, between which should be a court. On account of the inequality of the ground, this latter was formed on two levels, with flights of steps leading up to the large niche or tribunal of the Belvedere. The design of this tribunal, which were five lesser niches containing the group of the Laocoon and other master-pieces of sculpture, may be seen (very rudely expressed) in Serlio's work on architecture; where is likewise shown part of one of the galleries or loggias—of the same that was copied by Sir Robert Vyner. In one part of the Belvedere of Julius II., which as they were then, and are now previously to the late alterations. This grand composition, which however was not completed by Bramante himself, has since his time undergone so many extensive changes, that it is impossible to judge from the place what it originally was; for the court has been divided into two by a range of buildings across it, at the junction of its two levels, which was erected by Sixtus V. for the Vatican library.

Complying with both the pope's impatience and his own, Bramante carried on the works at the Vatican with all possible dispatch, by night as well as day, in consequence of which precipitation many fissures afterwards discovered themselves. To reward the zeal and assiduity of his favourite architect, in the month of July he stipulated del Piombo, took him along with him in his military expeditions as his chief engineer, and otherwise manifested the confidence he placed in him. The credit he was in with the pope enabled him in time to patronise others, and he explored the honour of having been the first to recommend Raphael at the papal court; yet he has also been accused of availing himself of his interest with Julius for the purpose of thwarting the views of Michael Angelo. Certain it is that he persuaded the pope to abandon the idea of placing the tomb of Julius II. between the pillars of the Portico in the Lateran, and recommend Raphael to execute it. His measure of preference for Michelangelo was decided before he retired to Florence. Bramante accordingly commenced his new tomb, in the Via dell' Arco del Sepolcro, the fabrica di San Pietro. Giuliano di Sangallo was employed to make designs as well as Bramante, but those of the latter obtained the preference, and Sangallo felt so indignant that he retired to Florence. Bramante accordingly commenced the work, and in the expedition with which he proceeded, that the four great piers and their arches were completed before his death in the following year. On this occasion he had recourse to a new mode of executing the ornaments of the arches, by means of moulds fixed in the stones of which the arch was executed, and the stucco and brickwork before the arches themselves were turned,—a mode supposed to have been practised by the ancients, although quite gone out of use until again applied by Bramante. As his labours extended no further, and as the subsequent mutations of the church have removed some of his innovations, perhaps one of even still greater magnitude. As the model was not completed, we can only judge of his general intentions from the plan composed according to them by Raphael, which is given by Serlio in his work, and certainly, as far as it goes, is more artistic than the model. In this case, where one actually executed, and superior in perspective effect, inasmuch as there would have been a greater number of arcades along the nave, and an uninterrupted vista in each of the side aisles to the very extremity of the building; besides which there would have been a spacious portico in front, the entire width of the church, formed by three ranks of insulated columns. Further it has been observed, that instead of appearing less than its actual dimensions, as is notoriously the case with the present St. Peter's, Bramante's columns were of a size more as than the present, and if we suppose what was not executed, it would have looked more spacious and extensive than it really was. The form of the dome too, as proposed by Bramante, would have been more simple and more after the character of the antique, it being much less than a hemisphere externally, with a series of gradins similar to those of the Pantheon at its base, above the peristylium of its tambour; and it may here be observed, that it was Bramante, not Michael Angelo, who first projected the idea of surrounding St. Peter's by a rotunda and dome equal to the Pantheon; and that it was Bramante, who, although upon an exceedingly small scale, is the little Temple or Oratory in the cloister of San Pietro Montorio at Rome. It is circular in plan, and surrounded externally by a peristylium of sixteen Doric columns, above which rise the walls of the cells, forming a disproportionately lofty effect, with windows and niches placed alternately; this circumstance, together with the number of doors, windows, and
niches, gives the whole a heavy and confused appearance, utterly unlike the finished simplicity observable in the best antique models. Besides all this there is a particularly uncouth balustrade above the entablature of the peristyle, whose balusters are continued the whole circumference, without any intervening pedestals. At the best it is a mere monstrosity. The colonnades, which have produced a good general effect, had the circular court with a surrounding colonnade, for the centre of which it was intended, been completed according to the architect's design.

Numerous other buildings and projects are attributed to Bramante, but to some of these later claims are rather disputable, and of the edifices known to have been erected by him many no longer exist. He died at Rome in 1514, at the age of 70, and his remains were interred with unusual solemnity.

BRABAN,T, a vil. in the isl. of Java, about three m. N.N.E. from Djocjokarta in 7° 49' S. lat., 116° 25' E. long.

Brabante contains extensive remains of Hindu temples, which occupy an area of more than seven acres. The buildings, of which these are the remains, apparently consisted of four rows of buildings, inclosing a larger structure 60 ft. high. The buildings are all constructed of hewn stone in large blocks, and are uniform in their character, each of them being of pyramid form, and highly ornamented with sculptures. The large central building is discernible in the 4th, 5th, and 6th compartments of the temple, figures of Siva. The smaller surrounding temples are each furnished with an image of Buddha. There are four distinct entrances to the group, one facing each cardinal point of the compass; each of these entrances is apparently guarded by two large guardian statues, which appear to be as large as the walls are ornamented with sculptures in alto and basso relievo; a regular design is visible throughout the whole group of buildings, which exhibit in their embellishments less of what we consider fantastic and absurd than we are accustomed to find, and in similar remains in the same epoch.

It is believed that these temples were erected towards the end of the 12th or the beginning of the 13th century. (Crawfurd's Hist. of E. I. Archipelago.)

BRAMBER, a decayed vil. in Sussex, which was formerly of sufficient importance to give name to one of the six duchies in the ancient province of the Saxons, and which has hitherto been the only place of the name.

The Rape of Bramber is bounded on the N. by the co. of Surrey, on the S. by the English Channel, and on the E. and W. respectively by the Rapes of Lewes and Arundel. Its length from N. to S. is 23 m.; from E. to W. 11 m. It contains 10 villages, having 31 par. in the upper division, and 11 in the lower, and comprehends the bor. of Bramber, Horsham, New Shoreham, and Steyning. The bor. of Bramber was included in Schedule A of the Reform Act, and was consequently disfranchised.

Various practices were disclosed, during a parliamentary investigation into the election of members for the bor. of Shoreham. It appeared that certain electors of that bor. had formed a club which they designated the Christian Society, the business of which was to sell the representation to the best bidder. The chief magistrate, who was also returning officer for the bor., was a member of the club. An act passed, disfranchising the members of the club, and extending the franchise of Shoreham to the entire Rape of Bramber, which has been permitted to continue for two members for the bor. of Shoreham being elected by the qualified inh. of the Rape of Bramber. The total number of the pop. of the Rape in 1811, was 22,777; in 1831, 36,113.

The disfranchised bor. of Bramber, which is a vil. of the market rank, was not devoid of its ancient importance than the ruined castle of Bramber or Bramtre. The castle and manor were granted in 1066 by William the Conqueror to William de Braose. They now belong to the Duke of Norfolk. (The Gentleman's Magazine.)

BRAMBLE, a wild fruit-bearing bush, belonging to the natural order Rosaceae. ([R.]w.)

BRAMHALL, JOHN, Archbishop of Armagh, in the second half of the 15th century, and at Pontefract, in Yorkshire, about the year 1493, and was descended from an ancient family. He received his early education in the place of his birth, and was then sent to Sidney College, Cambridge, where he was admitted February 21st, 1568. In 1563 the Archbishop of York made him his chaplain. He was also

prebendary of York and Ripon. In 1563 he took the degree of Doctor in Divinity. Soon after he was invited to Ireland by Lord Viscount Wentworth, deputy of that kingdom, and Sir Christopher Wandesford, Master of the Rolls. There he soon obtained the archdeaconry of Meath, the best in that kingdom. In 1564 he was promoted to the bishopric of Killaloe, and held that see until his death; by which he obtained a yearly revenue by advancing the rents and recovering lands which had been detained from his predecessors.

Bramhall appears to have applied himself with about the same zeal in Ireland that Laud was then exhibiting in England for the increase of the wealth and power of the clergy. In pursuance of several acts passed in the Irish parliament, which met July 14, 1634, he abolished fee farms that were charged on church-lands; he obtained composition for the rent instead of the small reserved sum paid by the Crown; he obtained the Crown's appropriations. By these and other means he regained to the Church, in the space of four years, thirty or forty thousand pounds a year. He likewise prevailed upon the Church of Ireland to embrace the thirty-nine Articles of Religion of the Church of England, agreed upon in the convocation held at London in the year 1562. He tried also to get the English Canons established in Ireland, but did not succeed farther than that a few of them should be introduced, and other new ones framed.

In 1569-70 his work was not impeded, together with several other of Strafford's conductors, by the Irish House of Commons. He was in consequence imprisoned, and after some time, through the King's interference, set at liberty, but without any public acclamations. Some time after, while in London, he was sent to Ireland by Strafford, and went over to England, where he remained till the battle of Marston Moor; after which, the prudent counsels, which according to his biographer he bestowed upon the Marquis of Newcastle, not being able to resist the charge of Cromwell's Ironsides, and the bishop encountering the same in the battle of Turnhampton, were in vain; and, after a short confinement, and landed at Hamburg, July 8, 1644. It was during his exile, in the company of the Marquis of Newcastle, that he had that argument with Hobbes about liberty and necessity, which gave rise to the celebrated controversy, without which his prelate's character could not have been properly considered. At the treaty of Uxbridge, Bramhall had the honour to be classed with Laud in being excepted out of the general pardon.

At the Restoration, Bramhall was made Archbishop of Armagh, Primate and Metropolitan of all Ireland. He now renewed his exertions for the aggrandizement of the Church. He died in 1668. By his wife he had four children, a son, Sir Thomas Bramhall, bart., and three daughters.

Bramhall, whatever in his day might be his reputation as a bustling churchman, is now remembered, if he be remembered at all, by posterity on account of his controversy with Hobbes. As this controversy throws considerable light not only on the character of Bramhall but on that of his age, it is of importance to give some account of it, not only because it can be done, but because it could do it in the following passages, with which Hobbes concludes the work. As the controversy is now very scarce, this extract, even though not viewed as by any means setting the question at rest, will scarcely be considered too long, expanded into a longer view of the nature and style of Hobbes. As we have already remarked, the controversy originated in a conversation at Paris in the company of the Marquis of Newcastle, while they were all living there in exile. (Biol. Brit. art. "Bramhall.")
that all external causes depend necessarily on the first eternal cause, God Almighty, who worketh in us, both to will and to do, by the mediation of second causes—that seeing neither man nor anything else can work upon itself, it is impossible that any man, in the framing of his own will, should concord with external causes, without God's concurrence; for it is impossible that there was nothing to pass by fortune as by a cause, nor anything without a cause or concurrence of causes sufficient to bring it to pass; and that every such cause, and their concurrence, do proceed from the providence, good pleasure, and working of God himself. So it is that every event contingent, and say they happen, yet because they had every thing of them their several causes, and those causes again their former causes, I say they happen necessarily; and though we perceive not what they are, yet there is a plenitude of causes, to the number of those events whose causes we perceive, or else they could not possibly be foreknown, as by them that foreknow all things.

On the contrary, the bishop maintaineth—that the will is free from necessitation, and in order thereunto the judgment of the understanding is not always praxis practicum, nor of such a nature in itself as to obligate and determine the will to one, though it be true that spontaneity and determination to one may consist together;—that the will determineth itself, and that external things, when they change the natural motion of the soul, do not change the natural motion but by moral and metaphysical motion;—that when the will is determined naturally it is not by God's general influence, whereon depend all second causes, but by special influence, God concourring and pouring something in it; and further—no natural motion nor natural thing makes the act necessary; but because it may suspend and not assent, it is not absolutely necessary;—that sinful acts proceed not from God's will, but are willed by him by a permissive will, not an operative will, and he hardeneth the hearts of all men in case of unbelief—that man will in his own power, but his motus primo pristis not in his own power, nor necessary, save only by a hypothetical necessity;—that the will to change is not always a change of will;—that all things which are produced are produced from a cause, but natural motion or natural things are so necessary to the power of the will to be present in actu primo, then there is nothing wanting to the production of the effect;—that a cause may be sufficient for the production of an effect, though it want something necessary to the production thereof, because the will may be wanting;—that a necessary cause does not always necessarily produce its effect, but only then when the effect is necessarily produced.

He proveth also that the will is free, by that universal notion which the world hath of election; for when of the six electors the votes are divided, the way of reasoning is such:—that man will in his own power, but his motus primo pristis not in his own power, nor necessary, save only by a hypothetical necessity;—that the will to change is not always a change of will;—that all things which are produced are produced from a cause, but natural motion or natural things are so necessary to the power of the will to be present in actu primo, then there is nothing wanting to the production of the effect;—that a cause may be sufficient for the production of an effect, though it want something necessary to the production thereof, because the will may be wanting;—that a necessary cause does not always necessarily produce its effect, but only then when the effect is necessarily produced.

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339

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have been the only representative of the order. Latreille proposes the following arrangement.

Section 1.

LOMFYPODA.

Feet never more than six, the articulations more or less cylindrical or conical, and never entirely lamelliform or foliaceous. The Branches are not numerous, and there is but one eye. Many have the mandibles furnished with a palpus or feeler, and though M. Strauss attributes this organ to the genera Cyclops and Strobila, which compose his order of Oestroploda, the elder Jurine and Mr. Ramdour have shown that it is also characteristic of Cyclops. The antennae are almost always four in number; and serve for locomotion. Three groups are arranged under this section.

CARCINOIDEA.

Shell more or less ovoid, not folded so as to convey the idea of a bivalve, but leaving the lower part of the body uncovered. The antenna never in the form of ramified arms. Feet ten, more or less, cylindrical or cetaceous. Females carrying their eggs in two external bags situated at the base of their tail. Some of this division have two eyes, but the genus Cyclops has but one.

Two eyes.

Shell entirely covering the thorax. Eyes large and distinct. Antennae intermediate, terminated by two bristle-like appendages.

Under this subdivision Latreille places the genera Zoa (Bose), Nebalia (Leach),* and Condylura (Latreille).* As there is no means of describing the figures of more than one genus of each, we select the first as an example. Latreille considers the genus Nicroth of Audouin and Milne Edwards to belong to the Pacilopoda (Pacilopoda), remarking at the same time that the feet, with the exception of those of Nebalia, resemble more those of Cyclops, and that the females also, like those of the Cyclops, carry their eggs in two small bags situated at the base of the tail.

Zoa (Bose) has the eyes very large, entirely exposed, and are entirely in the shape of horns upon the thorax. The following is Bose's description of Zoa pelagica which he found in the Atlantic Ocean. Body demi-transparent, four antennae inserted below the eyes, the exterior joined (coudes) and bident. A sort of long beak on each side of the eyes, and a pointed elongated elevation directed backwards upon the back. The feet very short and scarcely visible, with the exception of the two last, which are elongated or natatory. The tail as long as the thorax, curved and six-jointed, the last joint large, conchoid, and spined.

Slabber, Desmarest, Leach, and others, have contributed observations upon this genus, if indeed it may be so termed, and several species have been described. But if Mr. Thompson be correct, these animals have no right to any generic appellation or rank, being no other than larger species of Crustacea in their early state of existence. They thus become most highly interesting, as affording, according to him, positive evidence of the metamorphosis of the Crustaceus decapoda. Having taken certain Zoa in the harbor of Cape, Mr. Thompson states in the first No. of his Zoological Researches, (April, 1829), that he saw them undergoing the change, and that enough was gained to show that the distinctive characters of Zoa, and of Slabber's changed Zoa, (Zoa litoralis) were entirely lost, and

the members from being natatory and cleft become simple and adapted to crawling. To complete his proof of metamorphosis among the crustacea, he states in the same place, that he succeeded in hatching the eggs of the common crab (Cancer pagurus), the young of which were found to be similar in form to Zoa litoralis; and he concludes "The zoea undergoes this metamorphosis, being, in the first state of their existence essentially natatory, and the greater number of them becoming afterwards, in their perfect state, incapable of swimming, being then furnished with chelae (pinchers), and with feet almost perfectly reduced." But the publication of M. Rathke's elaborate researches on the formation and development of the crabs (Astacus fluviatilis*) shakes this general conclusion; for his observations prove beyond doubt that no such metamorphosis takes place in the state of the zoea; of which thing, however, to add, that Mr. Thompson, not one whit daunted by Rathke's publication, still holds his opinion, and, in a letter to the editor of the 'Zoological Journal,' dated Dec., 1836, states what he trusts will convince him, that any delusion exists, or source of error, it must rather attach to M. Rathke than to him; namely, that, in regard to the Brachyurus decapoda (crabs, &c.) he has ascertained the newly-hatched animal to be a Zoa in the following genera: Cancer, Carcinus, Poecilla, Erythrae, and Hermit. Thalasa, Panthoea, Inachus, &c., right in all; and that in the Macroura (lobsters, &c.) he has actually ascertained that the following seven genera are subject to metamorphosis: Pogorus, Porcellana, Galatheus, Crangon, Palaeon, Hymenodactylus, &c. He admits also that the lobster (Astacus marinus) undergoes a metamorphosis less in degree than any other of the above enumerated genera, and consisting in a change from a cheliferous Schizopoda to a Decapod;—in its first stage being what he would call a modified Zoëa with a frontal spine, spinate tail, and anterior sub-abdominal fins,—in short, as he says, such an animal as would never be considered what it really is, were it not obtained by hatching the spawn of the lobster. He then asks whether we are to consider the fresh-water species of Astacidae as subject to metamorphosis; and an answer to this is not reason, from the above detail, to suspect that this peculiarity must have escaped the notice of M. Rathke; adding that if it should be found otherwise, it can only be regarded as one solitary exception to the generality of metamorphosis; and rendering it peculiar, on that account, to consider those two animals for the future as the types of two distinct genera. Our limits will not permit us to go more amply into the subject, and we must therefore refer our readers to numbers 1 and 2 of Mr. Thompson's 'Zoological Researches,' for a more elaborate and illustrative account, and, if they cannot procure M. Rathke's book, to the 5th volume of the 'Zoological Journal,' now completed, where an excellent analysis of the latter will be found. We cannot, however, close this subject without earnestly exhorting those, whose localities afford the opportunity, to pursue this most interesting subject. The following figure of Zoëa clavata (Leach) taken by Mr. Cranch in the unfortunate expedition to the Congo, under Captain Tuckey in 1816, will give some idea of the general form of Zoa.

* Zoological Researches and Illustrations; or Natural History of Nonsurf or Imperfect Animals in a Series of Memoirs; illustrated by numerous figures by John V. Thompson, Esq. F. L. S. Surgeon to the Forces, &c. London, 1829, King and Youngman, p. 200. Zoological Researches, &c. &c. Five numbers published.
* A few days after publication, on the 30th of April, 1838, he took in a small mussel-towing-net, while crossing the ferry at Passage, Zoa clavata, Luberto, which was found in the Gironde. It was of the common and others, natives of the British fresh-water, and quite common. (Polyphymna Heilbronn, Cyclops, Prunea, &c.)

Since the publication of Mr. Thompson's experiments, Mr. O. Westwood, one of our most able entomologists, has given a very careful elaborate description of the development of a young of the common crab, which has carried Mr. Thompson's observations and confirmation of Rathke's. See the papers by Mr. O. Westwood and Mr. Thompson directly at variance with each other, 'Phil. Trans.' for 1838, part 2.

The report of M. Milne Edwards is also at variance with Mr. Thompson's theory.

* Zoëa clavata.
about fifteen days in the months of February or March) they acquire another pair of feet; they are then the genus *Nausithus* of the same author. After their first moult they assume the form and all the parts which characterize the adult state, except the teeth on the antennae. These teeth may be divided into two portions: their antennae and feet, for example, are comparatively short. At the end of two more molts they are fit for the reproduction of the species. The greater part of these *Entomocraea* swim upon their backs, darting about with vivacity, and possessing the power of moving either backwards or forwards. Their aliment generally consists of animal matter in preference to vegetable; but in the absence of the former they feed on substances of the latter description, and it is said that the fluid in which they live never enters their stomachs. The alimentary canal extends along the extremity of the body to the other. The heart (taking *Cyclops Castor* as the subject) is of a shape approaching to oval, and situated immediately under the second and third segment of the body. Each of the extremities of this organ gives off a vessel, the one going to the head, the other to the tail. Immediately below is another analogous organ, giving off at each end a vessel supposed to represent the branchiocardiac canals observable in the circulation of the *Decapod Crustacea*. Jurine, who on many occasions reduced the *Cyclops* to a state of complete amnesia and restored them to life, found that in the process of resuscitation the extremity of the intestinal canal and the supports gave the first signs of approaching animation, while the irritability of the heart was less energetic, and that of the antenna, especially in the males, of great activity. The outer segment of each antenna, and in the case of a portion of an antenna is cut off no change is effected at the time, but the organ is entirely restored in the succeeding moult. There are differences in the form of the antenna and body of *Cyclops Staphylus*, and in the kind of horny plate and cartilage of the parts of the antenna, but the larvae, which led Latreille to consider it as forming a distinct subdivision; and he seems to be of opinion that *Cyclops Castor* and some others, whose lower antenna and mandibular feelers are divided, beyond their base, into two branches, others, whose feelers are consolidated, may be a sub-genus, if it be true that the animal which forms the type has no inferior antenna; but he seems to doubt whether this absence was made out by Leach’s own observations, or whether the assertion is made on the authority of Müllier.

The genus *Cyclops* is an inhabitant of the fresh waters; and we select the common *Cyclops*, *Cyclops vulgaris*, *Leach*; *Monocorbus quadricornis*, *Linn.*; *Cyclops quadri- cornis*, Müllier; *Monocorbus à quatre fourches*, Geoffroy, as an example of the species belonging to their family.

The body of the common *Cyclops* has a somewhat swollen appearance and is formed of four rings, and prolonged to about one-third of its entire length. The tail consists of seven rings. The posterior antenna (antennules of *Jurine*) is the tolerable one of the four rings; the joints, the anterior antenna are three length of the posterior.

There are several varieties.

Var. *a.* Reddish; eggs brown, forming two oblique masses near the sides of the tail. Total length eighteeth of a line. This is the *Monocorbus quadricornis rubens* of Jurine.

Var. *b.* Whitish or grey, somewhat tinged with brown, rather larger than the preceding. Egg-masses greenish, forming nearly a right angle with the tail. Total length same as the preceding. This is the *Mon. quadri- tubiflus* of Jurine.

Var. *c.* Greenish, Direction of the two egg-masses intermediate between that of the egg-masses of the two former. Length nine-twelfth of a line. *Mon. quadri- striatus* of Jurine.


Var. *e.* A deeper green than Var. *c.* Eggs obscure green, passing a little into rose-colour when hatching is near, forming two masses attached to the tail, and appearing to be incorporated with it. Length the same as the preceding; *Mon. quadri- pravus* of Jurine.

According to *Jurine’s* observations, the common *Cyclops* when hatched is nearly spherical, and is furnished with four feet only and but two antennae. In this state it continues until the fifteenth day, and then a small elongation
of each upper jaw as in the nature of feet, and excludes from this number the presumed masculine appendages above mentioned, which he considers as filaments of five articulations proceeding laterally from the pouch of the matrix, and of the use of which he is ignorant. The two antennæ are terminated by a pencil of fine hairs. The case is hollow on one side and perpendicular on the other, which latter is hinged side, and nearly straight or a little sinuous or kidney-shaped on the opposite edge. A little in advance of the hinge, and upon the mesial line, is the single large blackish round eye. The antennæ, which are inserted immediately below, are shorter than the body, setaceous, composed of from seven to eight joints, of which the last are the shortest, and terminated by a pencil of twelve or fifteen fine hairs, which serve as swimming organs. The mouth is composed of a carinated labrum; of two large toothed mandibles, each furnished with the feeler of three joints, to the feeler of which a small branchial lamina of five digitations (interior lip of Ramdhör) is attached, and of two pairs of jaws; the two upper, which are much the largest, have on their internal border four moveable and silky appendages, and externally a large branchial lamina, prolonged on its anterior edge; the second are formed of two joints, with a short, nearly conical, and jointless feeler, also silky at the end. A short of compressed sternum performs the office of a lower lip (external lip of Ramdhör). The feet have five joints, the third representing the tarsus, and the last the tarsus; the two anterior ones, much stronger than the rest, are inserted below the antennæ, directed forwards with stiff hairs on long hooks collected into a bundle at the extremity of the two last joints; the four following feet are without these appendages on the body. The second pair, situated the middle of the under side of the body, are directed backwards, curved, and terminated by a long strong hook bent forwards; the two last, never showing themselves beyond the shell, are applied to the sides of the body for the purpose of sustaining the ovaries and terminated by two very small hooks. There is not a distinct joint observable in the body, which terminates posteriorly in a kind of tail, which is soft and bent upon itself downwards, with two conico-scataceous filaments fringed with three silky hair or hooks at the end, and directed backwards as backwards as backwards as backwards—backwards as backwards. The ovaries form two large vessels, simple and conical, situated upon the posterior sides of the body under the shell, and opening, one at the side of the other, at the anterior part of the abdomen, where the canal formed by the tail establishes a communication between them. The eggs are spherical.

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**Ostéodaca.** Latreille; Ostrópoda, Straus. The shell of the Ostéodaca is formed of two pieces or valves representing those of a conchiferous mollusk or bivalve shell, but horn, not testaceous. As in the bivalves, the two pieces are united by a hinge, and when the animal is inactive they close upon and but in the body and the parts. The feet are ambulatory, six in number, and are terminated by a digitated swimming organ, and accompanied by a branchial lamina. The antennæ are simple, filiform, or setaceous. There is but one eye, which is composed of sensae. The mandibles and jaws are furnished with a branchial lamina, and the eggs are situated on the back.

Of this division there are two subgenera, Cythere, Müller, (Cytherea, Lamark,) and Cypris. Of the former, which is found in salt and brackish waters, among the sea weeds, and confers, very little comparatively is known. We therefore select Cypris.

Cypris has six feet; Ramdhör indeed allows but four, and Jurine gives eight. The first considers the two last as masculine appendages, and the second looks upon the palp or feelers of the mandibles and the branchial lamina

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Cyprius ornata (magnified). Shell yellowish green, banded with green. A, side view; B, view looking upon the hinge. The bands commence behind the eye.

Cypris fusa (magnified). Straws. Valves brown, kidney-shaped, covered with fine prickly hairs. Antennae with fifteen fine bristles. In the view of the valves, the valves are supposed to be removed; the outline a showing their shape and their relative situation; b, origin of the hinge membrane; c, eye; d, anterior depository of the bristles; e, first; f, of the second; p, of the third; r, of the second pair; g, of the second pair; h, of the second pair; i, of the second pair; j, of the second pair; k, of the second pair; l, of the second pair; m, of the second pair; n, of the second pair; o, of the second pair; p, of the second pair; q, of the second pair; r, of the second pair; s, of the second pair; t, of the second pair; u, of the second pair; v, of the second pair; w, of the second pair; x, of the second pair; y, of the second pair; z, of the second pair; A, of the second pair; B, of the second pair; C, of the second pair; D, of the second pair; E, of the second pair; F, of the second pair; G, of the second pair; H, of the second pair; I, of the second pair; J, of the second pair; K, of the second pair; L, of the second pair; M, of the second pair; N, of the second pair; O, of the second pair; P, of the second pair; Q, of the second pair; R, of the second pair; S, of the second pair; T, of the second pair; U, of the second pair; V, of the second pair; W, of the second pair; X, of the second pair; Y, of the second pair; Z, of the second pair.

Fossil cypris.

Cypris Fusa, Desmarest, holds a place among the organic remains of the Wealden rocks of England. Mr. Fitch has recorded it in the Weald clay of the Isle of Wight, Swanage Bay, &c., and Mr. Mantell in the Hastings Sands. Desmarest notes the species as found in great abundance near the mountain of Gergovie, in the department of the Puy de Dôme, and at the Baume d'Allier, between Vichy-Beings and Cussac. Their great fruitfulness and the frequent mollusks noticed above may account in some measure for the quantities of their petrified exuvia. Cypris has also been found in the fresh-water limestone, beneath the Midlothian coal-field, at Burdiehouse, near Edinburgh.

Straus observes that Bennet asserts Baker to be the first author who has mentioned this crustaceous form, and that Baker has given a figure of it in the 'Microscope made Easy,' at plate 15; but Straus adds that neither in the edition of 1743, nor in that of 1744, is any account given of it, and that there is no 15th plate. There certainly is no plate 15 in the edition of 1744, nor any figure or description that will agree with Cypris, while there is, at plate 9, a very fair representation, and at p. 93, a very fair account of Cyclopa. Baker commences his account of the latter thus: 'We may find in the waters of our ditches several species both of testaceous and crustaceous animals, two of these
Ceratophthalmus, Latreille.

The Ceratophthalmus have ten pairs of feet at the least, and the maximum of those organs in this group is said to be twenty-two. There is no vesicular body at their base, and the anterior feet are never so long as the others, nor are they ramified. The body is either enclosed in a shell case, like a bivalve shell, or naked, the thoracic divisions being each furnished with a pair of feet. The eggs are sometimes sessile, small and placed very near together; sometimes, and indeed most frequently, they are mounted on the extremity of two movable pedicles. The eggs are either internal or external, and inclosed in a capsule.

Eyes sessile, immovable. Body inclosed in an oval case like a bivalve shell. Ovaries always internal.

The sub-genus Limnadia of Adolphe Bronn giart is an example of this structure. Limnadia Hermanni, Adol. Brongni. Daphnia gigas of Hermann, occurs in great numbers in the little pools of the forest of Fontainebleau, and we must refer the reader to Bronnigart's memoir in the sixth vol. of the 'Memoires du Musee d'Histoire Naturelle' for its description.

Each eye situated at the extremity of a pedicle on both sides of the head. Body naked and annulated throughout its length. No enveloping case or shell. Eggs contained in an elongated capsule situated towards the base of the tail, or at the posterior extremity of the body and thorax in which they have no tail.

With a Tail.

To this subdivision belong the Brine-shrimp or Brine-worm, Artemia, or Artemis, Leach.—Branchipus, Latreille, and Cirrophthalmus, Benedict Prevost and Jurine. We are now arrived at that development of form in the Brine-shrimp, where the numerous legs or feet become pedjdes adapted simultaneously to the purposes of locomotion and respiration.

The Brine-worm or Brine-shrimp, Cancer Saliinus of Linnaeus, Gammarus Saliinus of Fabricius, Artemis Salinus, Leach, Artemis Salinus of Lamarck, when fully grown is about half an inch in length and very transparent: it is said to have been first discovered in the salt pans at Lymeington by Dr. Maty. There these animals are found in myriads in rapid and continual motion in the saltersins, which are the open tanks or reservoirs where the brine is deposited previous to boiling. The brine attains the desired strength by evaporation from exposure to the sun and air in about a fortnight. A pint contains about a quarter of a pound of salt, and in this concentrated solution, which, as Mr. Ranwell observes, instantly destroys most other marine, and animals, the brine-shrimp reveals. It is further said that these Brine-worms are never found in the sun-pans where the brine is made by the admission of sea-water during the summer, and which are emptied every fortnight, but only in the pits or reservoirs (cleans) where it is deposited after it is taken out of the pans, and where some of the liquor constantly remains. So persuaded are the workmen of their utility in clearing the liquor, that they are accustomed to transport a few of the worms from another saltworks, if they do not appear at their own, and they increase greatly in a few days. Little however was known of the natural history of this animal till Mr. Thompson published his interesting observations in the sixth number of his 'Zoological Researches' (1834). He has there described and illustrated the gradual development of the embryo and the metamorphoses which it undergoes from its first production until it arrives at a perfect or adult state. These, he says, will be found to correspond with those of Branchipus, Cirrophthalmus and Apus, animals with which its alliance can no longer be doubtful. Apus bears a long journey very well. We have had a glass jar full of them in their native brine sent to London. They lived a considerable time and were in full life and activity, affording very satisfactory opportunities of observing their habits and of corroborating the statements of Mr. Thompson. They are constantly gliding with an even motion in the clear circumambient fluid, sometimes on their backs, sometimes on their sides, sometimes on their bellies, and seem to move with equal facility in every direction. Their transparency and the unwearying undulating

1. Branchipus stagnalis, male (magnified); a, a, composite or network eye; b, antennae; c, mandibuliform horn; d, d, proboscisform, movable tentacle, rolled spirally; e, simple rudimentary eye; f, f, feeler or parietal foot or ear; g, male organs; h, h, tail; i, i, terminal lamella; j, j, lower view of the head; k, tail of the female; l, egg-pouch; m, female organ; n, n, young Branchipus after the first moult.

Without a Tail.

The genus Eulimene, Latreille, belongs to this subsection. The body is nearly linear, and there are four short antennae almost of uniform length, of which the two smallest, which much resemble feelers, are placed at the anterior extremity of the head, which is furnished with two eyes mounted on cylindrical pedicles. The branchial paddles are eleven, and immediately behind them is a terminal disc-like gill piece in place of a tail, from whence issues a long, delicate, thread-like process, which may perhaps (according to Latreille) be an oovid. Eulimene albida, whose body is for the most part white, with its posterior extremity black (Artemia Eulimene, Leach), the only species described by Latreille, was found in the Mediterranean near Nice.

Aspidophora.

Of this last division of the Phyllopoda, Latreille says that they have sixty pair of feet, all furnished near their base with a large oval vesicle, the two anterior feet, which are much the largest, resembling antennae. A large shell or crust covers the larger portion of the upper part of the body. This shell is free, shield-shaped, not attached to the body. The eyes are sometimes sessile, others are set on pedicles, which are fixed to the head by delicate threads. Apus productus (see Boscibus, the formula of which has been reversed by the printer) is an example. Mr. Thompson figures a species, Apus Guidingsi, from the West Indies, and observes that there appear to be two European
species confounded under the specific name cancriformis, viz., Schoenher's and Dr. Leach's, which, as Flourens has shown, are not yet so degraded as Savigny, in which the elongated shield entirely covers the nataly members.

Mr. Thompson observes that there is a considerable approach between Artemis and certain Triobites (Bisphæthia, Sc.), nor can there be any doubt that the common trilobite shells contribute to the illustration of that most ancient race of crustaceans.

We have not, as yet, data sufficient to fix their proper position, but there is every reason for supposing that their organization was constructed upon the principle of having the same general form to reutilize both to locomotion and respiration.

TRILOBITES.

BRAND OR BURN. Brand, a disease in vegetables by which their leaves and tender bark are partially destroyed as if they had been burnt; hence the name of this disease, which was given by the German Farmers, of olden time, after that the leaves have been wetted by dew or gentle rains, so that drops adhere to them, and a bright sunshine has succeeded, every spot to which the water had adhered lost its natural colour, and became of a dark or yellow hue; and on closer examination it was found that the organization had been partly destroyed, and that these spots no longer possessed the power inherent in healthy leaves of exalting water and carbonising the sap which circulates through them. When this disease is extensive and attacks the young shoots and tender leaves, a general and complete death of the plant, and, at all events, enfeebles its growth, and prevents its perfect fructification.

The cause of this, like that of most diseases which are common to plants, has been vaguely ascribed to some unknowable atmospheric influences which has, for the most part, little or no foundation. That which appeared most plausible was, that the drops of water being apparently globular, collected the light of the sun into a focus, and produced a sufficient degree of concentration of the sun's energy to produce a temperature sufficient to cause the death of the plant. A little reflection will soon convince us that this will not bear examination. The drops which adhere to the leaves and the bark are not globes, but at best flattened hemispheres, and consequently cannot collect the rays of the sun upon one point, let alone in a focus to produce the death of the plant; whereas the spots are as large as the diameter of the drops, so that all the surface that has been covered with water is injured; whereas the focus of a globe, such as would actually burn the leaf, must be very small in proportion to the lens which concentrated the rays. It is much more probable that the effect of the water on the tender epidermis of the leaf or bark to which it adheres is similar to that to which it has on vegetable matter infused in it; it softens and dissolves a portion of it, especially when the temperature is somewhat raised, and destroys its vital activity, and increase the effect. It is well known that light is the great agent which produces the change in the sap circulating in the leaves, and that without light the healthy green colour of the leaves and bark, and the peculiar qualities of the decay are not produced. Little or no evaporation takes place from the leaves in the night, and the sudden excitement produced on the whole of the surface of the leaves by the rising sun in a clear morning tends to disorganize those parts to which the water adheres. We do not profess to answer the question, but it appears nearer the truth than any of those more commonly received. (De Candolle, Physiologie végétale, vol. iii. chap. iv. s. 2.)

It is a fact that the principal mischief arises from a sudden change of temperature soon after sunrise, especially when there has been a heavy dew or hoar frost in the night; and careful gardeners brush off the drops from their delicate plants before sunrise to guard against the brand. Every drop which falls on the leaves of tender plants collects the rays of the sun upon itself, and such concentrated heat produces a disease exactly similar to that which we have been describing; and although the vapour of fermenting dung has a pungent, ammoniacal smell, it will be found that the whole surface of the glass is nearly pure, and can have no peculiar corrupting effect. It acts merely as a disinfectant, and by stopping the evaporation, which is always rapid from the leaves of plants in a hotbed, produces a derangement in their functions, and ultimately disease.

BRANDENDORF, 1812 [Boys].

BRANDENBURG, a prov. of the kingdom of Prussia, derives its name from the Mark of Brandenburg, the ancient dominions of the reigning family; the Mark itself being indebted to it for its own denomination to the ancient t. that once occupied its site. Its present part is that which they were in former days; for the N.W. districts of the Electoral Mark (Kurmark) and the Alt-mark (Old-m.) have been incorporated with the prov. of Saxony; and the northern parts of the Neumark, adjacent to Pomerania, have been united with that of East Prussia, and on the former it is called Dahme bailiwicks, and other parcels of land, all of them once forming a portion of the districts of Wittemberg, Meissen, Querfurt, Sc., in the kingdom of Saxony, are now comprised in Brandenburg. With the exception of two insignificant tracts, situated on the terraced banks of the Oder and the Saal, the prov. forms a compact mass. Its boundaries are, in the N., the two grand Duchies of Mecklenburg-Schwerin and Strelitz, and the Prussian prov. of Pomerania; in the E., the provinces of Western Prussia, Posen, and Silesia; in the S., the prov. of Pomerania and Saxony; in the W., the prov. of Saxony, and the Hanoverian dominions. Brandenburg thus extends between 51° 10' and 33° 57' N. lat. and 11° 13' and 15° 12' E. long. Its area is about 15,350 sq. m., and occupies about a seventh part of the whole surface of the Prussian dominions; it ranks as the fourth prov. with reference to density of pop.

The whole of Brandenburg is an almost uninterrupted plain, slightly elevated above the surface of the Baltic. Its soil is composed of river sand, in some quarters mingled with silt and loam. The fens and marshes which cover a great a diversity in its character, that a general failure of crops is almost unknown; for a season unfavourable to one part is usually found proportionately beneficial to another. The more elevated and undulating parts of the surface, on the other hand, are clothed with forests, and the knolls and slight hills, especially on the border of the Oder and the Silesian frontier, are improperly called "mountains" by the inhabitants; among these are the Oderberge (m. of the Oder), the Nei- and Schlagdorfberge, in the vicinity of Guben, the Müggesberge on Lake Mügge, about 8 m. S. by E., the Spreewald in length, and the heights which run along the Havel. These are prominent features however in the midst of a wide and sandy flat, and intermingling with numerous lakes, many of them lying in deep hollows, form landscapes of considerable beauty and variety.

The most fertile districts are the low lands, termed the Havelland, the Brüche (or Carses) of the Oder, Warth, and Notzlay, the Spreewald (wood of the Spree), the N. and E. parts of the Ucker-mark, the Lenzerner该e on the Fries-land, and that is deminated the "Alte Land" (Old land) in Lower Lusatia. But Brandenburg contains many extensive heaths and moors, here called "Brennflächen or burning flats), which are a collection of drift sand, the cultivation of which has often baffled the utmost efforts of industry. The soil is generally sandy, so it isceedingly variable: the result of several years' observations fixes the maximum of heat at between 24° and 25° Reamur (86° and 88° of Fahrenheit); the maximum of cold is said to be —8° R. (18° below freezing of Fahrenheit), but the temperature is rarely so low as this for more than four days. It is also stated, that upon a comparison of one year with another, there are 210 clear, dry, and 153 damp and rainy days.

Brandenburg is either traversed or skirted by two of the principal railways of Germany; the Elbe, which forms its N.W. boundary for a short distance, and the Oder, which drains its E. districts. The Elbe skirts Brandenburg only from Sundau to Dömitz, and on this line of its right bank receives the Havel, Stepitz, and Eide. The number of tributaries of the river Elbe, which rises beyond its quarter, are protected from inundation by artificial dykes. The Havel, which is a channel for the efflux of the Böbitz and other small lakes in Mecklenburg-Strelitz, becomes navigable at Fürstenberg, below which point it enters the Brandenburg district, and in its further course, as far as Brandenburg and Spandau; and thence taking a W. direction through Potsdam, and the town of Brandenburg, it turns to the N.W. at Plauen, where it is joined by the canal of that name, skirts Rathenow and Havelberg, and into Berlin by two branches of the Spree and the Quitzöbel. It passes through a low tract of country, in which sand, woodlands, and pasture-grounds alternate; its width at Oranienburg is 100 ft., and at Spandau 2000, in consequence of passing through several lakes; below Brandenburg it narrows again to 500, and at its mouth increases to 500. A branch of it strikes off at Brandenburg.
and flows into lake Plauen. There is no riv. in the prov. so important for internal intercourse as the Havel. The Steppnitz rises on the Mecklenburg frontier, and flows past Meyenburg and Perleberg, until it reaches Wittenberge, where it falls into the Elbe; the wide issues from Lake Plauen, and forms the boundary line between Brandenburg and Mecklenburg, until it joins the Elbe near Dömitz in Mecklenburg. The principal tributary of the Havel is the Spree, which comes down from the Lusatian mountains and falls into the Elbe at Berlin (Weisse Elbe, or Mühlstr., or Mühlstrasse, Botbitus, Cöpenick, Berlin, and Charlottenburg, in its N.W. course, towards the Havel, into which it falls at Spandau. It is 100 ft. broad, where it is joined by the Mühlstrasse canal, and about 200 ft. Berlin, and is navigable from Cossenbät. The Spree is joined by both of which the Elbe and Mecklenburg are, are also two tributaries of the Havel, and chiefly useful to the N.W. parts of the prov. for floating rafts and timber. The E. side of Brandenburg is watered by the Oder, and enters the prov. of Pomerania. From Custrin northwards it divides into several branches, and forms a succession of islands. At the village of Gütstebière, 9 or 10 m. N.E. of the t. of Wietzen, it separates into two large arms, of which the E. is the most considerable; this arm is called the Oder, and is 200 ft. wide near Custrin, and, after a bend northwards, it winds round on the one hand to the S.W., and rejoins the western arm or Old Oder N. of Freienwalde, and on the other is conducted by a canal to a point lower down into the Old Oder, to the S. of Hohen- stemmen. Lowenfels, is, 200 ft. in breadth, and between these two arms, and nearly the whole line of the Oder below Frankfort is bounded on each bank by meadows and lowlands, which are dyked in at many points. The lowlands along the Oder are occasionally skirted by high ground in the neighborhood of Frankfort and Freienwalde. There are bridges across it at Crossen, Frankfort, Custrin, and Freienwalde. The chief tributaries of this riv. are the Bober, which descends from Silesia, enters Brandenburg at Naumburg, and flows N.W. to Crossen, where it joins the Oder. The Bober is 100 ft. wide, and is subject to inundations; the Neisse, or Lusatian Neisse, also descends from Silesia, enters the prov. to the N. of Muskau, pursues a northerly course to the towns of Forte and Guben, and falls into the Oder, opposite to a vil. called Schiedow; the Weisstrasse road is here firm, and the lands between them are subject to inundations: the Neisse, or Lusatian Neisse, also descends from Silesia, enters the prov. to the N. of Muskau, pursues a northerly course to the towns of Forte and Guben, and falls into the Oder, opposite to a vil. called Schiedow; the Weisstrasse road is here firm, and the lands between them are subject to inundations. The Weisstrasse road is here firm, and the lands between them are subject to inundations.

The Havel is united to the Elbe by the Plauen canal, which leaves the Havel at Plauen, and passing Genthin joins the Elbe, which is the nearer branch. This can. is about 21 m. in length, from 26 to 36 ft. broad, and 6 ft. deep; it has a fall of 16 ft. between the Elbe and Havel, and shortens the distance between Berlin and Magdeburg by about 55 m. The Ruppin Canal, which lies between the Rhin and Havel, unites Lake Ruppin with the Havel at Orenbaurg; it is about 29 m. long, and is very useful for the conveyance of peat. The Havel and Oder are connected by the Finow Canal: commencing at Lake Plauen, it runs E. into the Mühlstrasse canal, and thence flows in the deepened bed of the Fühne to Lake Liepe, and completes a line of rather more than 25 m. by joining the Oder near Oderberg: its breadth varies from 49 to 74 ft.; it has 15 locks, and a fall of 96 ft. The upper end of the Finow Canal is at Werbellin, which leads from the lake of that name into the Finow Canal, and as that lake is connected with Lake Grimits, establishes a navigable communication between the two rivers. In the same quarter lies the Templin Canal, which is useful for timber only: it begins from Lake Lobau to the E. of Templin, passes through several lakes, and joins the Havel above Zehdnick: its length is about 23 m. Between the Spree and Oder there is the Canal of Mühlstrasse and Trebsen, which is being derived from the celebrated Elector of Brandenburg, under whom it was constructed between the years 1662 and 1668. It leads out of the Spree from the vil. of Neunbrück below Beeskow, and pursues an E. course past Mühlstrasse and Oder-Lindow into the Oder: it is about 14 m. long, and about 56 ft. wide, but not of sufficient depth when the season is dry: the fall is about 65 ft. There are also in this prov. the Storkow Canal for floating timber, which unites Lake Dolgen with the Spree at Cöpenick, and the New Log Canal, which unites Lake Dolgen with the Mühlstrasse canal, and forms a part of the boundary between the circles of Frankfort and Potsdam, and of which we have already spoken as likewise denominated the New Oder. Brandenburg is much favoured by the water communication which exists between the Elbe, Oder, and Vistula, the Neisse, or Lusatian Neisse, and the Wartha, which falls into the Oder, by the flowing of the Netze into the Wartha, and by the connexion of the Netze and Vistula through the Bromberg Canal. There are a few mineral springs in the prov., but only two of any note, that of Freienwalde, and near Berlin.

The principal native productions of the prov. are corn of all descriptions, besides buck-wheat, vegetables, and fruit, hay and clover, &c., flax, hemp, tobacco, wine in small quantities, timber, domestic animals of the usual kind, game, fish, hay and clover, &c., flax, hemp, tobacco, wine in small quantities, timber, domestic animals of the usual kind, game, fish, hay and timber, &c.; and there are in the prov. some manufactures, chiefly of toys, musical instruments, and earthenware.

The majority of the inha. are of German descent; some are also of Wend extraction, and not a few of French. Most of the French are settled in Berlin; the Wend colonists, in number about 160,000, reside in Lusatia, the bailiwick of Schwedt, where they are divided into two societies, the Old and New Mark; and in some few parts there are Herrnhutters and Mennonites, particularly at Berlin. The progress of the pop. during the last eighteen years is shown by the following table:—

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<tr>
<td>1817</td>
<td>7,662,217</td>
<td>262,276</td>
<td>7,924,493</td>
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<tr>
<td>1825</td>
<td>7,924,493</td>
<td>262,276</td>
<td>8,186,769</td>
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<td>1825</td>
<td>8,186,769</td>
<td>262,276</td>
<td>8,449,045</td>
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<tr>
<td>1831</td>
<td>8,449,045</td>
<td>262,276</td>
<td>8,711,321</td>
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The present pop. may be estimated at 1,624,000 souls, of whom about 920,000 form the rural pop., residing in 4379 villages and hamlets, and about 620,000 live in towns and cities; the remainder are in 152 cities and towns, of which 70 are in the circle of Frankfort, and 82 in that of Potsdam.

The Brandenburg return for the year 1835 is—

| Churches Other dwelling buildings Baras. &c. &c. &c. | Other &c. or public | | ||
|---|---|---|---|
| 7,662,217 | 7,662,217 | 7,662,217 | 7,662,217 |
| 7,662,217 | 7,662,217 | 7,662,217 | 7,662,217 |
| 7,662,217 | 7,662,217 | 7,662,217 | 7,662,217 |
| 7,662,217 | 7,662,217 | 7,662,217 | 7,662,217 |

The majority of the inha. are of the Lutheran religion; but the royal family, French refugees, or their descendants (commonly called Hugonots), and a small portion of the German pop., are of the Reformed Lutherian Church. The following classification for 1831, the last year for which return was made, gives the number of communicants under four heads:—Protestants, 1,338,687; Roman Catholics, 15,431; Mennonites, 327; and 9210 Jews. In 1831 the number of births was 58,059, and deaths 58,059; the marriages amounted to 12,195.

No. 315. [THE PENNY CYCLOPEDIA.]}
As to agriculture, it appears from Krause's statement for the year 1831 that, excluding the pop. of Berlin and other towns, the average number of acres annually brought under cultivation is 16,000 per individual; whereas, if the agricultural pop. only be included, it does not amount to more than 8,8. It has been estimated that the number of acres in Brandenburg under the plough, or used for the production of tobacco or hops, is about 6,700,000. Potatoes and vegetables are very extensively grown, and the quantity of land employed as garden-ground is said to be 63,000 acres. More flax is produced than is sufficient for domestic consumption, but hemp is of limited cultivation. Under such a lat. it is not so much a matter of surprise that little wine should be produced, as that the grapes should yield a sufficient quantity to yield it; the wine is however of very indifferent quality, and is only partially made along the banks of the Neisse, Havel, and Oder, about Żułichau, and a few other spots. The crops of fruit are not adequate to supply the demand. The woods and forests are estimated to cover 3,300,000 acres; the sandy eminences and plains produce mostly flax and vines, but there are forests of oaks which yield a very superior description of ship-timber; the largest tracts of woodland lie in the districts N. of the Warthe and Netze, in the New and Ucker Masaze, and the S. and W. districts of Brandenburg. Considerable quantities of tar and potashes are manufactured.

Great attention is paid to the rearing of cattle; the most thriving branch is breeding sheep, the number of heads of which increased in 1830 to 1,425,150, 1,422,633, 1,394,899. The wool produced in the New Mark, the flocks of which constitute about one-third of the whole stock, is considered the finest in the Prussian dominions; of this stock 443,778 were, in 1831, of the most improved breed. The number ofgeois and individuals who have introduced the best English and other foreign breeds into the country, but they do not seem to have effected an increase of the stock, since it fell between the years 1828 and 1831 from 1,638,348 to 1,628,582. The greatest number of horned cattle are bred on the reclaimed grounds and in the marshes along the rivers, but the breed is indifferent and small in size, nor is the stock increased; the numbers varied between 1828 and 1832; 866,141; but in consequence of the devastations occasioned by the intervening wars, they did not amount to more than 502,981 in 1831, and have since diminished to 501,324. Swine are not reared in any considerable numbers; in 1831 they numbered 998,189 heads, and in 1832 did not exceed 187,187. Much honey and wax is produced, particularly in the six Lusatian circles, the heaths of which afford abundance of flowers for the bee. The inland consumption is amply provided with fish, especially eels and crabs, but none are exported, and foreign species are in great demand.

Brandenburg is poor in metals and minerals, nor are there any regular mines in it; small quantities of bog-iron are obtained near Ruppin and in the Uckermark. There are very considerable lime-works near Rüdersdorf; much gypsum is raised at Speenraben; and large supplies of alum are obtained from Freienwalde, Gleissen, and Kanich. Coals are dug at Zilenzig; peat is plentiful, as well as potter's clay.

Brandenburg possess considerable manufactures, though it is perhaps true to say, upon the whole, a manufacturing prov. as much as they are confined to a few towns, and the prov. itself participates very partially in their operations: spinning and weaving are the only branches in which the rural pop. take any part. The first manufactures were established by the Hugonot refugees, who received cordial assistance from the government, and were liberally seconded by it in their outset. The woollen manufactures, which are the most important, are established in most of the towns in the Old and New Mark; those for the finer sorts of goods are at Königisberg, Ruppin, Nauen, Züllichau, Kustrin, Zitzen, Zehdenick, Schirzi, and Köslin. Woollen clothes and merino cloths are made in Berlin, where woollen yarns are spun on a large scale by steam-machinery. The manufacture of linens, chiefly of the middling and coarser sorts, is extensively carried on in the Lusatian districts and the provinces of Prussia, and a part of them is confined to Berlin: the inl. have brought the manufacture of other articles of luxury to great perfection. There are large tanneries in several quarters, particularly in Köthbus and other towns in the circle of Frankfort. The number of paper-mills is upwards of 30, but they are quite inadequate to meet the demand for the Berlin trade, or indeed for the prov. in general. Besides the manufactures of this prov. there are a few other manufactories existing in most of the towns; and in the making of plate and other glass porcelain, and earthenware, no part of Germany excels this prov. Iron and steel works and cast-iron goods are principally manufactured at Berlin. The last-mentioned manufactury is not confined to the city proper, but is carried on in the suburbs. The most celebrated is the Berlin manufactury, to that city the manufacture of ladies' necklaces and bracelets of cast-iron, which are much prized. There are smelting furnaces for iron at Götow, Vieta, Pleiskau, &c. Copper is also smelted in the Mark on a more extensive scale than in any other part of Prussia, as well as at Crossen and Rosbach; and there is a large gunpowder manufactury in the neighbourhood of Berlin. Heavy duties are exacted on the introduction of foreign productions, particularly such as are likely to interfere with the interests of the domestic manufacturers.

The trade of Brandenburg is greatly favoured by the multitude of its navigable riv. and can., the last of which establish a long line of communication between the Elbe, Oder, Havel, and Spree. The main objects of this trade are through Hamburg by the Elbe, and through Stettin by the Oder; but the former is cramped by the monopoly of transport enjoyed by the guild of the Markish navigators. Berlin is the great centre of commercial enterprise, not only for this prov., but the whole of the Prussian territory; and in the wholesale trade of this prov. there is a great deal of which are still of considerable magnitude, especially with reference to the sale of Brandenburg produce and manufactures. Brandenburg, Guben, Havelberg, Küstrin, Landsberg, Potsdam, Prenzlau, Rathenau, and Žułichau are also places of considerable trade. There are banks for drawing bills and loans in some of the towns; but the principal establishments of this nature are at Berlin.

For the purpose of civil government, Brandenburg is divided into two circles of Potsdam and Frankfort, both of which are subordinate to the control of a president-in-chief (Ober-president), who is resident in Potsdam. Immediately under him are the protestant bishop, the consistory, and board of provincial schools; his authority also extends over ecclesiastical matters, all establishments for education, charity, hospitals, boards of trade, and the office of rents at Berlin, and the department of the mills. He is president also of the provincial states, which have no power to discuss or reject what the government brings to be fore them, but are a purely administrative body. They consist of one-fourth of the landholders of the prov., and the account of Solms-Baruth, 32 deputies from the aristocracy, 23 from the towns, and 12 from plebeian landowners and the peasantry. In regard to military matters, Brandenburg and Pomerania conjointly form one of the seven great military subdivisions of the empire.

The circle of Potsdam contains an area of 7833 sq. m. and 15 minor circles, viz. Berlin, East Havelland (cap. Nauen, about 3700 inh.), Prenzlau (c. Prenzlau, 11,000), Templin, Angermünde (c. same name, 3400), Upper Barnim (c. Freienwalde, 2100), Lower Barnim, Teltow-Storkower Jüterbog-Luckenwalde (c. Jüterbog, 4400), Zauch, Belzig Potsdam (c. Potsdam, 25,000), West Havelland (c. Brandenburg, 13,200), Ruppin (c. New Ruppin on lake R., 7600), East Prenzlau, and West Prenzlau (c. Potsdam, 5500).

The circle of Frankfort contains an area of 5717 sq. m. and 17 minor circles, viz. Königsberg (c. Königsberg, 4900 inh.), Soldin (c. Soldin, 4400), Arnswalde, (c. Arnswalde, 3600), Friedeburg (c. Friedeberg, 3900), Landsberg (c. Landsberg, 5800), Küstrin (c. Küstrin, 5600), Lebus (c. Frankfort, 22,960), Stettinr (c. Stettin, 5600), Züllichau (c. Züllichau, 4300), Crossen (c. Crossen, 4400), Guben (c. Guben, 8600), Lubben (c. Lubben, 3700), Luckau (c. Luckau, 3700), Kalau, Kottbus (c. Kottbus, 8100), Sorau (c. Sorau, 4700), and Spremberg (c. Spremberg, 3900).

(From Kräusel and Stein's Pr. Monarchy; Hassel's Pr. Mon.; Unge- witter; Hürschelmann; Official Returns, &c.)
of the Emperor Augustus, Drusus, his stepson, compelled the Suevi, who dwelt in what was afterwards called the Middle Mark, and the Langobardi, which peopled the districts subsequently termed the 'Old Mark,' to accept Vannius as their ruler. A few years after the birth of Christ, the Langobardi were subjugated by Maroboduus, king of the Marcomanni, at that time sovereign of Bohemia; and, a.d. 17, we find them engaged in a hostile expedition on the Danube, which was repulsed and then fell into the hands of the Vandals or Slavonians, one race of whom, the Vilzaco, settling in the Middle Mark, founded several towns, of which Brennabor or Brandenburg was one. These new settlers were subsequently subdued by the Franks, from whom the whole country derived its name, and in the beginning of the second century, and Prince Brando, who founded the new town of Brandenburg; a.d. 230. Thirty years afterwards, the Vandals having regained their sovereignty, repopulated themselves of the country, and maintained its independence. In a.d. 789 they fell under the sway of Charlemagne after a severe contest; and in 808 he appointed a count to act as his viceregent in Brandenburg. His successor also sent two princes to Saxony to fill the same office. He had likewise conquered the Lests, or Lichem, in the Havel and the Rerich in the Ucker-marke, under conditions that gave certain points to the counts of Stade. These were the first markgravies of Lower Saxony, or the Brandenburg State; they were also known as the Mark of Stade, the mark having passed into the hands of the earls of Stade. The Stadtholder continued to struggle for their independence in this quarter until the year 1144, when the emperor Lotharius conferred the north mark as well as the Saalwerder-mark on Albert the Handsome (called the Elder), the oldest son of Henry the Lion. A few years after his death, the duchy of Saxe-Saalfeld was established, and his eldest son became the first prince of the mark of Thuringia. The duchy of Saxony was established in 1153, with the title of Duke of Saxony, and was made hereditary by John George in 1571, who inherited the new mark and principality of Cöln from his uncle, and under whom Brandenburg entered upon a period of extensive development. The duchy of Prussia, founded in 1598, another equally paternal sovereign, Joachim Frederic, his son, who was bishop of Havelberg, Lusen, and Brandenburg, and incorporated the possessions of his diocese with the electorate. He founded the gymnasium at Berlin, and made it one of the best public schools in Europe. He died in 1608. Frederic Sigismund, his son and successor, inherited not only a moiety of the domains of Juliers, Cöves, and Berg, but shortly before his death, the duchy of Prussia, which was at that time a Polish fief. The latter was restored to Maximilian, who had been deposed in 1598, and came part of the electorate, and Brandenburg and Prussia then became the thenceforward rank as a single state. He embraced the Protestant reformed religion, but not without exciting some serious commotions in Berlin. In 1619 he was succeeded by George William, whose short reign was marked by the battle of Lützen and the capture of the Swedes and their camps by the imperial army. In 1620 the Swedes and Poles occupied Berlin. The next year the Swedes and Poles were defeated by the imperial army, and the city was captured by the Elector. The latter was succeeded by his brother, and the city was again captured by the Swedes in 1623. The city was taken by the imperial army in 1625, and the Swedes were driven out of the province of Brandenburg.
paigned Prussia from their presence. At the time of his death, which occurred in 1688, this illustrious prince left the electorate in a state of renovated prosperity, and greatly augmented power and extent. His son, Frederic III., assumed the regal dignity in 1701, under the style and title of Frederic I., king of Prussia. Frederic William evinced no favour to his new capital, and the town was afforded to multitudes of refugees from other parts of Germany, and to 20,000 Huguenots, whom religious persecution expatriated from the soil of France, and who introduced the silk and other manufactures into the country. He was a munificent and judicious friend to the arts and sciences. One of his objects was the ruined by the calamities of war; re-established the condition of many towns which the same calamities had impoverished, built number of villages, was a zealous promoter of agriculture and commerce, and established a post-office in his dominions. Between the years 1730 and 1734, the king founded the royal library in Berlin, and constructed the Müllrose or Frederic William's Canal between the Spree and the Oder.

[Prussia.]

BRANDENBURG, the capital of the minor circle of Westphalia in Prussia, from which the Old Mark of B. derives its name, was in former times called 'Brennabor,' or the Burgh of the Forest: it is situated upon the Havel, which divides the old from the new town, with an island, on which stand the castle, cathedral church, and equestrian college. Between the old and new town lies a swampy district, which, from its houses being built upon piles, is styled 'Venice.' Each town is surrounded by a wall, but the new town has a rampart in addition; the old town has five gates, besides a smaller outlet for foot passengers; and there are four gates in the new town; the streets in the first are narrow and crooked, but in the last-mentioned they are broad and straight. Inclusive of the cathedral church, there are eight churches; there is a column, called the 'Rolandsstuhl,' in the middle of the market-place in the new town. The number of the houses in the old town is 13,600 in 1,200 circles and 1,400 houses; a considerable increase since the year 1816, when the numbers of the old were 10,575, and of the new 1,320. It is the seat of a court of justice and a central tax-office, possesses a high school or gymnasium, a civic school, and Protestant as well as Catholic institutions for the education of the youth. The number of the inhabitants is 35,000. It is a town of great commerce. It has a large woolen manufactory and a superior academy for women, the (Töchter-schule), five elementary schools, three schools for indigent children, five hospitals and benevolent asylums, and a house of correction or poor-house (Strafanstalt or Armen-Anstalt). The manufactures consist of woolens, linens, brandy, beer, leather, stockings, &c.; ship-building, fisheries, and a considerable trade with the interior, are carried on; and some wine is made in the neighbourhood. The cathedral church, which has been renewed in modern times, is a large and beautiful edifice, and is the former ancient church of St. Catherine for its baptismal font and library. It was once the capital of the electorate of Brandenburg, and had the right of giving the first vote in the assemblies of the provincial states, a right now exercised by Berlin. The town is in 52° 2' lat. and 13° 10' E. long. (Hassel), about 34 m. W. by S. of Berlin.

BRANDENBURG, NEW, a town in the grand duchy of Mecklenburg-Strelitz, on lake Tollen, is built in a circular shape, surrounded by a substantial wall, with some remains of ramparts and ditches; and is the chief town in the circles of Stargard. The streets are broad, and at right angles to one another; it has a castle or palace, a spacious townhall, a high school, a lower school for townsmen's sons, another for girls, an elementary school, 43 brandy distilleries, manufactory of paper, pitch, and woad, three cotton-print factories, and a market for wool. It contains about 660 houses and 6000 inhab. It is about 70 m. N. of Berlin, in 53° 30' N. lat. and 13° 15' E. long. (Brauns.)

BRANDY is the alcoholic or spirituous portion of wine, separated from the aqueous part, colouring matter, &c., by the process of distillation. This word is of German origin (branntwein), meaning burnt wine, or wine which has undergone the operation of fire. Although the word brandy, when used by itself, means the spirit of wine, yet some varieties of it have been manufactured and used; such are potato-brandy, brandy from carots, pears, and other vegetable bodies containing fermentable matter: these however are so well known in flavour and brandy. In France, rum, arrack, geneva, malt-spirit, &c. are compre-

* At this period the territorial surface of the electorate was nearly 36,250 sq. m., and its pop. 1,200,000.
BRA

Burgundy
do.
Average
Hock
do.
Average
Nice
Barsac
Current wine
Sherry
do.
do.
do.
Average
Teneriffe
Colares
Lachryma Christi
Constantia (white)
do.
do.
Lisbon
Malaga
Buejuela
Red Madeira
do.
Average
Capo Muscat
Capo Madeira
do.
do.
do.
Average
Grape wine
Calabria
do.
Average
Vidoria
Alba Flora
Tent
Mr. Faraday (Quarterly Journal, vol. viii. p. 68) has given the following as the quantities of alcohol, of the strength, and at the temperature above-mentioned, contained in the wines of Bina—:

\[
\begin{array}{lcc}
\text{Wine} & \text{Per Cent.} \\
\hline
\text{Apta (red)} & 18'09 \\
\text{do. (white)} & 16'16 \\
\text{do. (Sercial)} & 19'00 \\
\text{do. (white Port)} & 18'36 \\
\text{do. (red Port)} & 20'00 \\
\end{array}
\]

It has been already stated that brandy is obtained not only from wine but also from the marc, or fermented pressed grapes; this brandy has a more ascetic flavour than that procured from wine, which has generally been attributed to an admixture of an essential oil contained in the grape-stones. M. Aubergier (Ann. de Chim. et de Phys. lxi.) has published some experiments which tend to prove that this ascetic taste is derived from an oil contained in the skin of the grape. He found that the grape-stones, distilled either with water or alcohol, yielded a liquor which had a very agreeable flavour of almonds; grapes subjected to distillation produced a weakly spirituous liquor, which had neither the smell nor taste of brandy distilled from the marc; but the skins separated from the grapes and the stones, were submitted to a similar distillation, which yielded a brandy perfectly resembling that from the marc. M. Aubergier afterwards succeeded in separating this oil from the marc-brandy, and he found it so ascid and penetrating, that a single drop was sufficient to deteriorate several gallons of good brandy.

Although brandy is imported into England from various places in France, as from Bourdeaux, Rochelle, and Nantes, yet that of Cognac, a town in the department of Charente, is preferred to all of them; and M. Aubergier states that this, as well as that from Andraye, is of superior quality because it is obtained from white wine, fermented so as not to become impregnated with the oil of the grape-skin.

Brandy, when recently distilled, like spirit obtained from other sources, is well known to be colourless; by mere distillation however it acquires a slight colour, owing probably to some change in the properties of the soluble matter contained in it. The colour is much increased by keeping in

casks; and it is made of the required intensity by the addition of colouring-matter, as burnt sugar. The spirit procured from these generally retains with great obstinacy the flavour of the substance yielding it, which circumstance renders these brands so much inferior to those brandies which are employed for table purposes.

BRANDY STATISTICS. In all wine-producing countries, a part of the produce of the vineyards is converted into brandy, and in some of those countries a part of the spirit is employed to give strength to the remaining portion of the wine. The Anjou wines of Portugal, Madeira, the Cape of Good Hope, and other countries, are thus treated.

There are no certain means of knowing what proportion of the produce is distilled in different places. The only country in which, as far as we know, the estimate of this fact has been made in France, where an idea of its amount was to be inquired concerning the duties levied upon liquors, has given an estimate of the produce of the vineyards, and the mode of its disposal. From this it appears that about 15 per cent. of the wine is made into brandy, but as the spirit which it yields varies in quantity according to the quality of the wine from which it is made, it is not possible to state its amount with precision. It has been estimated that the quantity of brandy annually made is equal to about twenty millions of English gallons, of which about one-third is exported, leaving between fifteen and sixteen millions for consumption in France.

The principal exports are made from the Charante, from Bourdeaux, and from the port of Ceté in the Mediterranean (dep. of Herault). From Charante comes the quantity of Charantes brandy imported into this country, which country three-eighths of all the shipments of French brandy are ordinarily made. About one-fourth is taken by the Americans, chiefly from Bourdeaux and Ceté, and the remainder is shipped in comparatively small quantities to the French colonies in India, and to various countries in Europe, chiefly to the north.

Until the early part of the present century, considerable purchases of Spanish brandy were made by the English government for the use of the navy; but at that time, with the view of securing our own supplies, this practice was substituted. The shipments of brandy from Spain are principally made at Barcelona, whence about 11,000 pipes (about 1,200,000 gallons) are annually exported. Of this quantity 3000 pipes are sent to Cuba, 6000 pipes to the former dominion of Spain in America, and 2000 pipes to the N. of Europe.

The consumption of brandy in England was greater half a century ago than it is at present. In the five years from 1765 to 1769, the average quantity amounted to 1,731,041 imperial gallons; whereas in the five years from 1820 to 1824 the average has been only 1,379,547 gallons; the duty in the mean time having been advanced from 6s. to 22s. 6d. per gallon.

The quantity warehoused under the king's lock is equal to about one year's supply: three-fifths of this quantity are lodged in the docks of London. The quantity in the stocks of dealers is usually about half a million of gallons.

The quantities imported and exported, and those taken for consumption in the United Kingdom, during each of the eight years from 1827 to 1834, were as follows:

\[
\begin{array}{lcc}
\text{Exported.} \\
1827 & 1,724,805 \\
1828 & 2,251,069 \\
1829 & 1,994,649 \\
1830 & 1,649,469 \\
1831 & 1,461,897 \\
1832 & 2,671,828 \\
1833 & 2,623,313 \\
1834 & 3,179,297 \\
\hline
\text{Imported.} \\
1827 & 629,526 \\
1828 & 1,050,972 \\
1829 & 661,097 \\
1830 & 466,610 \\
1831 & 594,172 \\
1832 & 691,656 \\
1833 & 793,487 \\
1834 & 912,335 \\
\end{array}
\]

The exports are chiefly made to India and to our colonies in N. America, which latter took 10s. per gallon.

The rate of duty per imperial gallon, which was 6s. in 1787, received several small additional duties in 1793, 1794, and 1795, and in 1796 it was raised to 10s. per gallon. In 1803 it was further raised to 16s. 7d.; in 1809, to 20s.; and in 1812 to 24s., and raised still further; by mere distillation however it was reduced to 22s. 6d., at which rate it has continued to the present time.

BRANDYWINE, a small river which rises in Chester county, Pennsylvania, and joins the Christians, in the upper
part of the state of Delaware, about a mile from the town of Wilmington, and about 2 m. from the Delaware river, which thus traversed it on one of its long and winding courses. It was a little town of about 300 inhabitants. A division of the American army under Washington, during the war of Independence, was defeated on the banks of the Brandywine, 11th Sept. 1777. The consequences of the battle of Brandywine was the occupation of the town by the British army. Brandywine is a town.

There are flour-mills near Wilmington that were formerly the most extensive of the kind in the U.S.; and they still enjoy a high reputation from the quality of the flour produced there. The Brandywine offers a number of favourable sites for obtaining power, which have been taken advantage of.

Brandywine is the name of a township in Chester co. Penn. (Flinn's American Geog.; Hinton's U.S.; Malte-Brun.)

BRANKA [BUCK WHEAT]

BRANTÔME, the common designation of the French writer, Jean de Bonneval, called the 4th Abbot (Abbé du Barou, ou Seigneur de l'Abbaye) of Brantôme, in Guinnes. Very little is known of the life of Brantôme, beyond the brief and general sketch given by himself in an epitaph which he left to be inscribed on his tomb. He was a younger son of an abbot and distinguished family of Perigord, where he appears to have been born about the year 1527. Having served his apprenticeship in arms under Francis of Guise, he eventually obtained two companies of foot from Charles IX. That king, with whom he was a great favorite, made him a senator in the commune of St. Michael. That of Habito de Christo was bestowed upon him by Don Sebastian of Portugal. He is supposed to have visited in the early part of his life most of the countries of Europe, either in a military capacity or as a traveller. He lived with the sisters of M. de Valois, and in the offices of his gentleman in ordinary, and a pension of 2000 livres a year. Another dignity which he held was that of chamberlain to M. de Alcôncon. After the accession of Henry III., by whom he intimated that he was not held in the same estimation as in the days of his young king, he appears to have taken his leave of the court, and retired to his estate of Richemont in his native province. It is supposed to have been after this that he wrote his various works. He is said to have been of a nature that inclined him to the 15th (the Biographie Universelle) says the 3rd of July, 1614.

By his last will he charged his heirs with the publication of his works, or memoirs, as they are often collectively called, ordering that the necessary funds should be provided from his estate, and though he has known, he adds, the booksellers pay for literature to their cost, not half so interesting or so likely to be well received by the public. They did not, however, appear till the year 1666, when they were printed in eight duodecimo volumes; according to Joly de Leyden and John Sambux, the younger; but in reality, it is said, as by Henry Steucker. The Biographie Universelle, erroneously we suspect, describes this edition as consisting of ten volumes, as dated 1666-67, and as printed by one of the Éditeurs de la rue St. Dominique. But these volumes consist of places which were sent to the press by Claude de Bourdelle, Comte de Montréal, grand-nephew of the author. Another edition appeared in 1699, and another in 1722. But the most complete edition of Brantôme is that of 1740 (not 1740-41, as stated in the Biographie Universelle), in fifteen volumes duodecimo, which bears the impress of the Hague on the title-page, but is said to have been actually printed at Rouen. No printer's or bookseller's name appears. The editor, who has appended some explanatory notes, was, according to the Biographie Universelle, a Dr. de la Freide, in the rue St. Dominique; but we believe incorrectly, attributes the edition to Prosper Marchand. A reprint of it in the same number of volumes appeared in 1779 at Maastricht (but with the impress of London); and it was once more reproduced in eight volumes, with a new edition at the same place. 'Mémoires pour servir à l'Histoire de France.'

Of the fifteen volumes, the first contains 'Les Vies des Dames Illustres Françoises et Etrangères,' the second and third, 'Les Vies des Hommes Illustres et Grands Capitaines Etrangers;' the fourth and fifth, 'Les Vies des Hommes Illustres et Grands Capitaines Françoises; ' the sixth, seventh, eighth, ninth, and tenth, 'Les Vies des Hommes Illustres et Grands Capitaines Françoises;' and the eleventh, 'Le Discours sur les Ducs.' The remaining seven volumes contain memoirs which had not been previously published. The twelfth contains a collection entitled 'Rhodamentes et Gentiles Rencontres Espagnolles,' which is stated to have been written by Brantôme in Spanish, and translated into French by Marc du Moulin. It is dedicated to Charles IX. and to the Duchess of Parma and Jurespulos Escapngolos, the other 'Sur les Belles Retraites d'Armées de diverses Nations.' The thirteenth contains the author's 'Opuscules Divers,' seventeen in number, the last being his Testament, a very curious document, and of a masonic nature. This last volume is entitled 'Maxims et Avis du Maniement de la Guerre,' by André de Bourdelles, Brantôme's elder brother. The letters of André to Charles IX., Henry III., and their mother Catherine de Medici, with their answers, form the fourteenth volume of the collection; and the fifteenth is filled with a history of the family of Bourdelles, principally taken from Dinet's 'Thétâtre de la Noblesse Française,' and brought down to the time when the edition was published. In the course of this long genealogical detail there is given a life of Brantôme, which fills about eighty pages. His portrait is prefixed to the volume.

There is no English translation either of the whole of Brantôme's works, or, as far as we are aware, of any part of them. This is no doubt to be accounted for from the comparatively late date at which they appeared; had they been published half or two-thirds of a century earlier, it is probable that the extreme freedom of expression in which they abound would not have shut out Brantôme from our literature, any more than the same objection has debarred the public from catching a glimpse of the history of the Rabelais and Montaigne. In this respect, as well as in others, his 'Mémoires' afford us undoubtedly the most living picture that has been preserved of the age in which he lived, and of the odd system of manners and of moral and personal generalities, which the Brabantniers of the time may be gathered from more formal historians can convey the vivid impression which this writer's whole style and tone of sentiment give us of the entirely different light in which licentiousness in both sexes was then viewed from what it is in our time. The character of Brantôme's head that either man or woman can be considered disconsouerred, or have forfeited a character for virtue, by the most lavish indulgence in what he calls gallantry. The most abandoned of the female worthies has a halo about her that the most illustrious ladies and good Christians. So complete is his abstinence from every expression that might denote a sense of there being any thing to blame in the indulgences which he has recorded, that he has been suspected by some of the ecclesiastics of his writing things that were not in the least like the real religion and the way of undermining the belief of his readers in the common distinctions between virtue and vice. This however is probably an unfounded hypothesis. It can hardly be said that Brantôme's moral creed on the subject of gallantry, strange it appears, was more that of the theatre than of the church generally in fashion when he wrote, and had been so for ages before. He is not more lax in his judgments upon matters of this kind, for instance, than his predecessor Rambler, or, as we have already observed, than his contemporary Montaigne. In his high, manly, and dignified manner and style, and the agreeable mixture of sightly, upright, and thoroughly Christian virtues that Brantôme writes with warm and eloquent enthusiasm.

BRASENOSNIE COLLEGE, Oxford. The precise date of the foundation of this college is not known. The plan for it was conceived in 1567-8. The Earl of William, bishop of Lincoln, and Richard Sutton, Esq., afterwards Sir R. Sutton of Prestbury, in Cheshire, a member of the privy council to King Henry VII., and in 1508 they obtained a charter from Queen Mary authorizing the building of two of the old halls of Oxford, Brasaenose Hall and Little University Hall, with their gardens and appurtenances, for the term of ninety-two years, at the annual rent of 3l.; and it was not until the expiration of the above lease that an equivalent estate was granted to University Hall, and Brasaenose College obtained the feuhold. On his death the college took its name, of warm and eloquent enthusiasm.
same name, which was unquestionably owing to the cir-
cumstance of a nose of brass affixed to the gate. As the
hall must have had a name before it got one from this cir-
cumstance, perhaps we may conclude that the name Brasno-
se was given it by the monks of Stow. It appears that a socie-
ty was formed almost as soon as the college was projected. We find a principal in the month of June, 1510. The charter of foundation granted to Bishop Smyth and Richard Sutton, Esq., is dated Jan. 15. 1510 and was confirmed 14. 1512. This charter had been a permanent corporation on the feast of St. Hugh, Nov.
17th, 1512, or perhaps a little earlier. According to the
charter, the society was to consist of a principal and sixty
scholars, to be instructed in the sciences of sophistry, logic,
and philosophy; and afterwards in divinity, and they might
possess lands, etc., to the yearly value of 300l. beyond all
burdens and repairs. The number of fellows, however, was
not completed until their revenues, by being laid out on
land, began to be certainly productive.

The estates which Bishop Smyth bestowed on the college
were chiefly two: Basset's Fee, in the environs of Oxford,
which formerly is supposed to have belonged to the Basset's
barons of Headington; and the entire property of the sup-
pressed priory of Cold Norton, with its manors and estates
in Oxfordshire and Northamptonshire. It was sold to the
Bishop Smyth, by the conveyance of St. Stephen's, Westmin-
ster, for eleven hundred and fifty marks.
The estates given by Sir Richard Sutton were, the manor of
Burgh, or Borow, or Eardborowe, in the parish of Som-
erset, Herefordshire; and the manors of Chilton, in the
same parish and neighbourhood; an estate in the parish of
St. Mary-le-Strand, London, which in 1673 was sold to the
commissioners for enlarging the streets after the great
fire, for the sum of 1700l. and with this an estate was pur-
chased in Oxfordshire, at Elmesford, near Cowley, Oxford,
which was subsequently exchanged for other lands at Stan-
ford, in the Vale of White Horse. Sir Richard Sutton gave
also the manor of Cropredy, in the county of Oxford, and
certain lands there, and an estate in North Ockingdon, or
Walton, Essex.

In the same year, by indenture with Sir Richard Sutton,
the society agreed to keep an anniversary for ever for Bishop
Smyth and Sir Richard Sutton, on the days of their re-
pective decease. Sir Richard Sutton's last benefaction to the
college, except that of St. for building a wall, was an
estate in Garsington and Cowley, in Oxfordshire, of which
he put the college in possession in July, 1592.

Bishop Smyth composed a body of statutes before the year
1513, but they are not now known to exist. In his will he
created no more benefactions than those of correcting and
amending these statutes; and accordingly a new code, signed
and sealed by four of his executors, was given to the
college, and is still preserved. In the year 1521-22 it
underwent a complete revision, and was ratified by the seal
of the society then in the hands of John, second Bishop of
Lancaster. This code, now long since superseded, is still
over a transcript only remains. In forming these statutes
considerable use was made of those of Magdalen College,
which had been borrowed from Wykeham's statutes for
New College.

In these last statutes the college is recognised as com-
monly called The King's Haule and College of Brasen-
ose, in Oxford, to consist of a principal and twelve fellows,
al, of them born within the diocese of Coventry and Lich-
field; with preference to the natives of the counties of Lan-
caster, and to the men of Brasenose and Chilton, or the
special parish of Prescot in Lancashire, and of Prescot in
Cheshire. Besides those twelve, there were to be two
fellows, masters or bachelors of arts, natives of the diocese
of Sarum, or Hereford, agreeably to the intent of a compo-
sition between Edward Audley, bishop of Salisburg, and
the College, for that purpose; but for some reason, not now
known, this benefaction never took place.

In addition to the bounty of their two founders, this
society soon obtained numerous benefactions. The first
permanent benefaction was that of Edmund Morley of
Withington, Lincoln, dated Nov. 8. 1541. Sir Richard
Sutton, at her request, had settled on the college in 1512
the manor of Pinchapel, &c., in Berkshire. John Wil-
liamson, clerk, gave 200l. in 1521, to purchase lands for
the maintenance of two fellows. John Elton, alias Beale,
canon of Salisbury, founded another fellowship in 1526.
William Porter, who had been warden of New College,
founded a fellowship in 1531. Edward Darby, archdeacon
of Stow, left 120l. to purchase lands, &c. for the main-
tenance of a fellow in 1538. In the same year Dr. William
Clyton also gave lands for the maintenance of a fellow.
Another fellowship was settled on the college by Brian
Levick, in 1529, on condition to be held in the gift of the
Archbishop of Canterbury, and of the Dean and Chapter of
Salisbury, without the city of Salisbury. This fellowship
had the patronage of the See of Sarum.

It appears that for the first time in 1654 for two scholars born in Prescot, or in the diocese of Chester or Lichfield; and in defect of such, 'any 50 persons born in the king's dominions.' John, Lord Mordaunt, in 1601, founded three scholarships. Of Alexander Nowell, the learned dean of St. Paul's, it has been observed, that he came to this college in the thirteenth year of his age, resided thirteen years, founded thirteen scholarships, and
died on the 13th day of February, 1601-2, at the advanced
age of ninety-five. Joyce Frankland, before mentioned,
James Binks, alias Stoddard, George Palyn, Dr. Samuel
Radeliffe, John Millward, John Cartwright, Esq., of Aynho,
Anne Walker, Hugh Henley, Thomas Church, Richard
Read, Sarah duchess dowager of Somerset, Dr. Thomas
Yate, William Hulme, Esq., Dr. Brunner, the provost
and others, have either founded or augmented scholarships
and exhibitions.

The scholarships founded by the Duchesses of Somerset
amount at this time to twenty in number. They are appro-
nimated to at the present time, those of the counties of Man-
chester, Marlborough, and Hereford, with a permission to
the society, in respect of four, to accept of birth in the
counties of Hereford, Lancaster, and Chester as a qualifi-
cation, in defect of candidates educated in those schools.
Mr. Hulme's foundation, by a deed of 1628, made it a
right of the society to have the benefit of it, while it had
the care of certain trustees resident in that neighbourhood,
for the support of four poor bachelors of arts, for a period
of four years from the date of that degree. Some of these
lands having been subsequently built upon, Brasenose-street (Man-
chester) stands almost as it did a year, a part of the
property greatly improved in value, the trustees, who are noblemen
and gentlemen of the counties of Lancaster and Chester,
have been incorporated by act of parliament; whereby they
have obtained a power of purchasing advozsons, and pre-
senting to the livings. They are bound however to present
such priests as are, or have been exhibitioners upon Mr.
Hulme's foundation. The nominators to the exhibitions
are the warden of Manchester and the rector of Prestwich
and Bury in Lancashire, for the time being; who again can
nominate no more but members of Brasenose College. The
part which the society take in the foundation is only to
supply objects for the founder's bounty, and to name the
lector in divinity. The advozsons which have been pur-
chased are entered in the college list, as the most conve-
nient mode of procuring the current stipends. The college
exhibitions are now fifteen, exceeding 100l. per annum
each; and the sum of 351. is annually expended in the pur-
chase of books for each exhibition.

In addition to these and various other minor benefactions,
benefactions have also been obtained, since the foundation
of the college, in philosophy and humanity, in Greek, in
Hebrew, and in mathematics.
The actual society of Brasenose College at present con-
sists of a principal and twenty fellows. There are also
three scholars of the college, not members, resident and non-
resident, upon the college books, according to the Oxford
Calendar of 1835, is 306. The Bishop of Lincoln is their
visitor.

Among the more eminent members of this college were
Laurence Nowell dean of York, Fox, the martyrologist,
Sir Henry Savile, Sir Henry Spelman, Browne the
mathematician, Humphrey Lluyd the Welsh historian, Sir
John Stradling; Eredwicke and Sir Peter Leycester the
Cheshire antiquaries, Lord Chancellor Egerton, Robert
Burton, author of the 'Anatomy of Melancholy,' Sir Wil-
lkinson, clerk, gave 200l. in 1521, to purchase lands for
the maintenance of two fellows. John Elton, alias Beale,
canon of Salisbury, founded another fellowship in 1526.
William Porter, who had been warden of New College,
founded a fellowship in 1531. Edward Darby, archdeacon
of Devon,' and Dr. Whitaker, the author of ' The
History of Manchester.'

The ecclesiastical patronage of this society consists of
thirty rectories, two chapellies, and a lectorship, producing
in all an income of about 13,439l.
The original edifice of Bishop Smyth and Sir Richard
Sutton is still visible in the large entrance quadrangle; but
a third story was constructed over a great part of it, with
dormer windows, &c., about the time of James I., for
the accommodation of additional members. The hall and tower
gateway however retain much of their former grandeur and
picturesque effect; and all the deep recesses, crenellations and
parts of the latter might be restored by Loggan's print of 1675; at
which time it appears to have been in good preservation, and
the tracery of the windows entire. At that date, and till the
year 1770, the lodgings of the principal were on each side of
the hall, one above the other, and the servants in the cellarage.
The present frontage of the college occupies nearly
the whole of the western side of the Radcliffe-square; and
the site of it, including the principal's house, extends southward
as far as the High Street.

The hall, or refectory, on the south side of the principal
quadranlare, is lofty and well proportioned. Its windows are
partly embossed with the arms of the founders and
benefactors, whose portraits also adorn the walls. Among
them are those of Sir D. D., of D., and Sir D. B., of D.,
the principal at the time it was erected, contributed 1850l.
to the building.

The contents of the Old Library, which stood at the
north-west corner of the large quadrangle opposite the
original gateway, were removed to the refectory, built
between the cloister, between the chapel and the south side of
the inner court, and finished in 1663. The design of this building
is attributed to Sir Christopher Wren; the interior was
refitted under the superintendence of Mr. Wyatt, in 1780.

The Radcliffe Library, Ashmole's bequest, is not
mentioned. But as it was selected in 1822, it is the foundation
from the superintendence of the college. (Wood's Colleges and
Halls of Oxford, by Gutch; Charterhouse the Founders of Brasenose
College, 8vo., Oct., 1890; Chalmers's Hist. of the Colleges and
Oxford University Calendar for 1835.)

BRA'SIDAS. The first mention of this eminent
Spartan occurs in the first year of the Peloponnesian war, in
which he performed a very gallant action in throwing him-
self at the head of a body of troops into Methone when
besieged by the Athenians, and for his exploit was the first
that was praised at Sparta in this war (Thucyd., ii. 25).

In the third year of the war he was associated with Cleomenes in
the battle of Pylos, where the Peloponnesian fleet was present in the
second battle in which the Lacedaemonians were defeated by
Phormion, and took probably a leading part in a well-
contrived scheme for surprizing the Athenian port of
Pylos. He is said to have taken the courage of the
thracians from the want of due exertion in execution (ii. 82—94).
The year following, in his fifth year he was associated with Alcidas in the command of the
Peloponnesian fleet. In the seventh year he commanded a ship in the armament which attacked the fort of Pylos. He was, however, somewhat fortunate while
active, distinguishing himself by superior bravery and, being severely wounded, and fainting, he dropped his shield into the sea, which was picked up and made prize of the Athenian trophy. This little incident is worth relating, because the loss of the shield was considered
a disgraceful. It does not appear that Brasidas suffered in
reputation from this accident (iv. 11, 12).

Soon after a request for help was preferred to Sparta by some from the Chalcidic peninsula, which had thrown off the yoke of the
Megarian league, Sparta, to which Athens. Brasidas was already so well known, that
the Chalcidians requested that he might be the leader of any
force which should be sent to their assistance; and the text of
Thucydides (iv. 89) seems to indicate that no one con-
tested his advantage in the command of such an
enterprise. The Lacedaemonians gave him 700 heavy-
armèd foot; the rest of his army, consisting of Pelopon-
sian mercenaries, he was collecting in the neighbourhood of
Sicyon, where he had the opportunity of protecting and
preparing for the operations of his army. The city of Megara was attacked by an Athenian army (iv. 70—74). This
campaign was in the eighth year of the war. In the same summer he led his army of 1700 heavy-armed foot (containing altogether about 4000 soldiers) to Macedonia. One chief
difficulty of the undertaking was to reach the scene
of action. The Athenians commanded the sea, and the
land route lay through Thrasyllus, a difficult and an
unfriendly country. But by the assistance of a few principal
Thessalians, who acted as his guides, and by the decision,
rapidity, and address of his general movements, he eluded the
difficulties which he had reason to apprehend, and reached the
Macedonian frontier.

We can only give an outline of this expedition, which is
but one episode in the Peloponnesian war. The thing chiefly
to be remarked is the manner in which the invasion was
paralleled with the haughtiness and severity usually manifested
by Spartan commanders towards their subject allies.
Thucydides observes that Brasidas did the Lacedaemonians
great service by his equity and moderation, which at that
time indicated many cities to be won for the cause of the
Spartans, even after the Sicilian war, 'the wisdom and virtue
of Brasidas, to some known by experience, by others belie-
ved upon report, was the principal cause which made the
Athenian confederates affect the war.' It is supposed that he
would have been the first foreign commander (i.e. first in this following list) esteemed in all points for a worthy man, he left behind him an
assured hope that the rest also were like him (iv. 81).

The first fruits of his appearance in Chalcidice were the
revolt of Acanthus and Stagirius from Athens; and
this success, before winter was completely set in, was followed
by the acquisition of Amphipolis on the Strymon. This
was the heaviest loss which could have befallen the
Athenians, inasmuch as it was the most important of their Thra-
chian possessions; it furnished them with a considerable revenue, and plenty of timber for shipbuilding, whilst the soil of Attica did not supply.

After the capture of Amphipolis, Brasidas meditated
building a fleet in the Strymon, and he requested reinforce-
ments from Sparta. When his request was denied, he
had to have sent. But these were denied, partly because the
leading men were jealous of him, partly because the govern-
ment was intent on concluding the war, and obtaining the
freedom of the Lacedaemonians made prisoners in
Sicily; and the following spring, in the ninth year of the war, a truce was concluded, which pro-
vided that each party was to retain what it then possessed.
It became a question however to which of them Scione, which had surrendered to Brasidas just about the ratific-
ation of the truce, belonged, each desiring to have it up to the Athenians. In this he was wrong, according to
Thucydides, who says (iv. 122) that Scione was in the hands of the
Athenians when the truce was signed, and two days afterwards; but he probably was ill pleased with the negoti-
ations, and the Athenians. It is said that he
had already inflamed the people of Scione to force
the truce, led to the continuance of hostilities on the
coast of Thrace. The Athenians passed a savage decree to take
Scione and put to death the inhabitants, and sent Nicias
and Nicostratus with an army to enforce it. The year passed
without any decisive occurrences; but this superior
force was not overawed by superior numbers, or
influence of the Athenians, which were about equal. But this superiority was not overawed by superior numbers, or
military weights. His military talents were useful in the
prosecution of the campaign, and the enterprise was
accomplished by the difference of talent in the generals. In short,
Nicias was puzzled; and Brasidas, who watched his
movements, was able to take advantage of a false
move, his force; he sought the battle, in which the
Athenians were completely defeated, but he himself received a mortal wound. He was buried in the public-place of
Amphipolis at the public expense, was worshipped as a hero,
and, as a still higher mark of respect, it was ordained that he
should be called Agathon the Athenian, should hence-
forward be honoured as the true founder of the city and
city.

If Brasidas had lived he probably would have become
one of the most remarkable men in the history of Sparta.
His military talents were useful as a statesman to
politics and concilia-
tory; his accomplishments considerable, at least in
Sparta, for Thucydides pitifully observes that, 'for a Laced-
aemonian, he was not unable to speak' (iv. 84). That
he was held in high respect throughout Greece may be
gathered, not only from the testimony of Thucydides above
quoted, but from the expression put into the mouth of Alci-
biades by Plato, in the 'Banquet,' that 'such as Achilles
were, they say Brasidas has been.'

BRAS. As an article of commerce, copper and
zinc, which has been known and used from the remotest ant-
iquity; it is now extensively employed both for useful and
ornamental purposes.

The direct method of forming brass is by melting together its
components; but it was manufactured long before zinc was
obtained in its metallic form. Calamine, an ore of zinc,
was mixed with copper and charcoal, and the zinc being,
by the well-known action of the carbonaceous mat-
ter, reduced to the metallic state immediately combined with
the copper, thus forming brass. In Germany brass appears
to have been made for centur-
ies before the manufacture was introduced into England:
this is stated to have been done by a German, who esta-
lished works at Esler in Surrey in the year 1649.

When the requisite furnaces have been erected, the next
step in the process is that of reducing copper to a conven-
tient form for ensuring its ready combination by extending
its surface. This is effected by pouring the melted metal
into water; by which process what is called shot copper is ob-
tained, in pieces varying in size from that of small shot to
that of a bean. The next process is to prepare the calamine, which is a
carbonate of zinc. This is first broken into small pieces, and
then heated to redness in a reverberatory furnace. In this
way the carbonic acid and the metallic zinc are obtained. One ton
of calamine is generally diminished to about twelve cwt., and
it is when cold reduced to a fine powder and washed.

The materials being thus prepared, 45 pounds of the shot
copper, 60 pounds of the powdered calamine, and a quantity of
powdered charcoal equal to it in bulk, are carefully mixed
and put into eight earthen crucibles, this being the number
placed in each furnace, made of a peculiar form. There
is also commonly mixed with these ingredients a quantity of
scrap brass. When the fires have been continued for about
seven or eight hours, the operation is finished. Supposing
40 pounds of scrap brass to have been added to the above-
mentioned quantities of the ingredients, a plate of brass is
obtained by pouring the metal into granite moulds, which is
generally about 24 ft. in length and weighs about 108 pounds.
This plate is used for rolling into thin sheets called latten. Very frequently the metal is poured into
cast-iron moulds, by which bars about eight inches in length
are obtained: these bars are employed by those who cast brass
into small goods, or who mix it by melting with additional qualities, sometimes containing different shades of colour, as tombac, pincheek, &c. Sometimes blende, or the sulphuret of zinc, is employed instead of cal-
amine; it is first roasted to dissipate the sulphur, and there
remains an oxide.

It is stated that brass is now sometimes made by the
direct union of the metals; but this process requires
great caution, for if the heat be too suddenly applied, or if
't be raised too high before the metals begin to unite, then
the zinc, on account of its great affinity for oxygen, burns,
and thus not only is loss occasioned, but the quality of the
product is injured by it, owing to the deficiency of zinc.

Brass for various purposes is made of different proportions
of the two metals, and consequently possesses different qua-
lities; its general properties are, that it has a well-known
fine yellow colour, is susceptible of receiving a high polish,
and so ductile and malleable that it may be worked at
high temperature it is brittle. The specific gravity of brass is
greater than that deducible from the specific gravities of the
two metals which constitute it, as shown by the following
statement.

Brass, containing copper 70 and zinc 30, would give a
calculated specific gravity of 8.399; but by experiment it is
found to be 8.443: when the proportions are copper 80 and
zinc 20, the specific gravity is 8.923; and when the propor-
tions are copper 90 and zinc 10, it is 8.960. On comparing the composition and density of dif-
f erent kinds of brass, it appears that the density increases
with the proportion of copper, as might indeed be expected,
and that it is sometimes even equal to that of the copper itself.

Brass is more fusible, sonorous, a worse conductor of heat,
and harder than copper. It is readily turned in a lathe,
and is consequently well adapted not only for philosophical
instruments, but those used in manufacturing processes and
for domestic purposes. In the state of wire it is most ex-
tensively employed in pin-making, and for various other
purposes; the thin leaves into which brass is made by ham-
mering are called Dutch metal or Dutch gold.

Authors differ widely as to the best proportions of copper and
zinc for making brass. It is stated, in the supplement to the
'Encyclopaedia Britannica,' that one part of copper and
two parts of zinc are the best proportions for common brass;
and that one part of each forms prince's metal of a fine yel-
low colour. Mr. Parkes, 'Essays,' p. 210, states (and we believe
he obtained his information from an accurate source) that
the most useful proportions are one part of copper and
two parts of zinc; which are not far from the equivalent of each
metal. Berthier's analysis of the brass wire of Jeunemars
confirms the probability of this statement, for he found it to
consist of

| Copper | 65'15 |
| Zinc   | 34'85 |

The small quantity of lead is of course to be regarded as an
accidental admixture. According to Dr. Thomson, also,
Bristol brass consists of

| Copper | 65'15 |
| Zinc   | 34'85 |

Some old Dutch brass, analysed by the same chemist,
which he states was much approved of by watchmakers,
yielded

| Copper | 72'55 |
| Zinc   | 34'45 |

In concluding this article, we shall give the method of
analysing brass proposed by Mr. Keates, in the 'Annals of
Philosophy,' vol. iii. p. 326.

Dissolve the brass in dilute nitric acid, add a little sulphu-
rlic acid and evaporate to dryness, redissolve in excess of
dilute sulphuric acid, dilute the solution and boil pieces of
polished iron in it, until the solution becomes nearly colour-
less, filter it while hot, wash the precipitated copper with
dilute sulphuric acid, and afterwards with boiling water:
this when dried is to be put into a crucible, covered with char-
coal powder and melted; the copper being cleansed from any
adhering charcoal, is then to be weighed.

The filtered copper, from which the copper has been
separated, is to be boiled with nitric acid to peroxidize the
iron; neutralize the acid with carbonate of soda, and precipi-
tate the iron by ammonia, using an excess of the latter so
as to redissolve the oxide of zinc at first precipitated; filter
the solution and wash the precipitate with cold water, which
is then to be dissolved in a dilute nitric acid, and the
bodilessness and heat the dry mass in a platina crucible; to drive off
the muriate of ammonia, dissolve the residuum in dilute muriatic acid,
and precipitate by carbonate of soda; the precipi-
tate, after being washed and dried, is heated to redness:
40 parts of this precipitate are equal to 32 parts of me-
talllic zinc.

Another and more simple method is the following:--
Dissolve the brass in a considerable excess of nitric acid;
pass sulphured hydrogen gas, also in excess, through the
solution. The copper is then precipitated, which is to be
treated with nitric acid, and so separated by filtering,
and the peroxide of copper precipitated by boiling with soda;
80 grains of this precipitate indicate 64 grains of copper.

The solution remaining after the separation of the sul-
phured copper is to be boiled to drive off the sul-
phured hydrogen, and then precipitated by carbonate of
soda: the precipitate, when ignited, is oxide of zinc, 40 grains
of which indicate 32 grains of metallic zinc. (Smith in
Lond. and Edin. Phil. Mag. vol. viii.)

BRASSICA, a genus of Cruciferous plants, comprehen-
ding among other species, the cabbage, cauliflower, broccoli,
borecole, rape, turnip, colza, and the like. As these are ob-
jects of horticultural or agricultural interest only, they will
be spoken of under their respective heads. We shall in
this place consider Brassica in a very wide point of view
only. It is distinguished from other Cruciferous genera
by the following characters:--Its seeds contain an embryo,
the radicle of which is embraced in the concavity of the
folded cotyledons. Its pod is long, slender, and many-

No. 316 [THE PENNY CYCLOPEDIA.] Vol. V. a 2
seeded. The seeds are spherical. The calyx is equal at the base and slightly spreading; the petals are undivided; the stamens entire. In its wild state the cabbage (Br. oleracea) is met with in abundance upon the cliffs of many parts of Europe; commonest in Italy, Spain, and Portugal. Cape Town, Cape of Good Hope, Mount Athos, on the coast of Kent near Dover, and on that of Cornwall, Wales and Yorkshire. In other places it forms a broad-leaved glaucous plant, with a somewhat woolly stem, having but slender likeess to its cultivated progeny; and it is difficult to conceive by what original discovery the species was brought under the influence of domestication so as to have been prepared for the numerous changes and improvements it had to undergo before the races of cabbages, savoys, borecoles, cauliflowers and broccolis could be developed.

Swedish turnip is supposed to be Br. campestris in a cultivated state, a plant with somewhat hispid, lyrate, glaucous leaves, found wild in the S.W. parts of Europe, and apparently also in many parts of England, by the sides of rivers, by ditches, in marshes and elsewhere. It is believed to have been the Foyylaexist (gongylis) of Theophrastus.

Rape, Br. Rapa; Colza or Colesseed, Br. Napus, are other species the native country of which is unknown. Common turnips are considered by botanists to be cultivated varieties of the former. With some it is a matter of doubt whether the whole of these supposed species are not mere varieties derived from one common stock, in consequence of their intermixing so freely with each other that it is extremely difficult to keep their races truly distinct.

The westernmost islands of the Cape Verde Islands, lies eight miles to the W.S.W. of Fogo. The island is high, and its mountains rise one above another like pyramids, though, compared with Fogo, it appears low, and its summits are generally covered by a dense atmosphere. The climate is temperate and healthy. The soil of the island is sandy, producing a large quantity of Indian corn, beans, and all sorts of refreshments, but little wood. There is also an abundance of salt, and more saltpetre is procured here than on any of these islands. Brava has several bays and roads, but none safe. The tomb of a race of men is called Fogo, and lies at the N.E. end of the island, where small vessels may lie sheltered from all winds but the S.W. Along the whole coast there is generally a heavy surf, and landing is bad. It is only frequented by small vessels from the other islands for archi, grain, and salt. The natives are few, and all blacks. They are harmless, hospitable, and generous.

To the N. of Brava, about five or six miles, are two rocky islets called Rombo, or Rames Islands, which are connected with each other by a reef, but the passage between them is not clear. The island is nearly oval, six miles long north and south, and about four miles broad. The south point lies in 14° 46' N. lat. 24° 45' W. long.

(From Plundres and Krusenstern's Voyages; Voyage of the Lenangen.)

BRAVURA, in music (Ital. courage, intrepidity), an air consisting chiefly of difficult passages,—of divisions, in which many notes are given to one syllable, therefore requiring great spirit, much bravura, in the performer. (See, under the word AIR, Air de bravura.)

Compositions of this sort have, generally, no object but the display of the singer's force, volubility, and distinctness of articulation; though some few fine air of the kind, by Handel, Hasse, Piccini, Guglielmi, Cimarosa, Mozart, &c., still remain in evidence. This style of music has thus far inferior works in the same style continue to be tolerated.

BRAUNSBERG, a minor circle of the circle of Königsberg, in the prov. of Eastern Prussia. Its area is about 374 sq. m.; it is traversed by the Passarge, a riv. of some note, whose tributaries, the Walsh and Drownitz, also irrigate it; and though it contains extensive tracts of forest, it is well adapted for the growth of grain and flax, both of which are raised in considerable quantities. Besides this source of good crops it possesses good harbours and fertile lands on the Frische Haff, produces much timber, rears cattle, and manufactures linen yarn, linens, woolens, leather, &c. It contains 4 towns, 176 vill., and 172 par., and in 1831 had 93,949 inb.; in 1826, 35,934. The seat of local government is at the town of Passarge. Within about 5 miles of its efflux into the Haff, in 64° 19' N. lat., and 19° 54' E. long.: it is divided by the riv. into the old and new towns. The bishop of Ermeland (a dist. which was formerly composed of the circles of Braunsberg and Heilsberg) has his residence here; the old castle is used in part for public offices. Braunsberg possesses a lycæum, with faculties of Roman Catholic divinity and literature. The churches are Roman Catholic, the majority of candidates for the priesthood, a normal school for educating teachers, 4 Roman Catholic churches and 1 Protestant, an asylum for 12 widows, and 3 hospitals. The number of houses is about 700, and its pop. in 1831 was 7141, showing an increase of 446, or 6·5% in 15 years. Woollens and linens, as well as leather, are manufactured; the trade of the town consists principally in yarns, grains, ship-timber, and grain. The Passarge is navigable from Braunsberg to its mouth. In this circle lies Frauenburg, on the north coast of the Dornberg, or the fort of the Dornberg on which the cathedral of Ermeland and the residences of the members of the diocesan chapter are situated. It is an open town with a church, had 2001 inb. in 1831, makes yarn, woollens, pottery, &c. The remains of Copernicus, who was a member of the chapter and died here in 1545, were deposited in the cathedral. Frauenburg is noted for a tower which once formed part of an aqueduct constructed by him. Mehlisack, another town in this circle, is situated on the Walsch, has 2 Roman Catholic churches, and had in 1831 2617 souls. It makes woollens, yarn, hats, leather, &c.

BRAUWER, or BROWN, ADRIAN, was born, according to some authors, at Oudenaren, but, according to others, at Haarlem, of poor parents. He was apprenticed to Frank of Amsterdam, where he became so incommodiously skilful, made money by his productions, that he found himself confined and almost starving at home. Brouwer excelled in painting such scenes as his irregular mode of living made him most familiar with. The singular recklessness of his conduct led his friends to fear for his future situations. It is related of him that, being in Antwerp during the wars in the Low Countries, his vagabond appearance caused him to be apprehended as a spy, and he was put in prison. So it chanced that he was imprisoned in the same cell with Rubens, and they became intimate friends, and frequently visited by Rubens. Dismissing his fellow-captive to be an artist, the duke asked Rubens to procure him materials for painting. As soon as he had them, Brouwer set to work, taking for his subject a group of soldiers playing at cards in the prison. D'Aremburg showed the picture to Rubens, who immediately recognized the work of Brouwer, and offered 600 guilders for it. The duke, however, would not part with a thing he found to be so valuable; but, keeping it for himself, presented the picture to His Highness the Elector, with a larger sum. Rubens exerted his interest, and procured the presentation of the picture to him home with him, clothed him, and maintained him for some time. But a life of quiet was not suited to Brouwer, and he quit Rubens again to plunge into excesses, which shortly after terminated his existence in an hospital, at the age of 32, in the year 1642.

His subjects are taken from low life, of the most unpleasing class; but from the extraordinary skill displayed in the execution, the excellent colouring, the correct drawing, and the life and character of the design, they fetch a high price.

BRAY. [BERKSHIRE.]

BRAY. [WICKLOW.]

BRAZIL comprehends the E. portion of S. America. Its most important point, at the source of the Rio Branco, nearly reaches 13° 15'S. and the most northern point, which divides it from French Guiana, extends nearly as far as the equator. The most southern boundary-line cuts the lake of Mirim, in 32° 30'S. lat. The most E. projection, Cape Augustinho, lies nearly 10° W. long. Brazil extends W. to the river Hyrawy or Yawary, where its boundary-line falls in unknown countries, and probably passes 70° W. long. Brazil extends from N. to S. above 2,600 m., and from E. to W. about 2,400 m.; its surface is calculated by some at 3,500,000, by others at only 2,500,000 sq. m. According to the first calculation it is about fourteen times as large as France, and probably ten times as large as France. Its vast extent brings it in contact with all the countries of South America, except Chili and Patagonia. At its S. extremity (the province of Corrientes) lies on the republic of Uruguay Oriental, or Bandu Oriental, and on the republics of Corrientes and Las Missiones, both of which are considered as part of the
federal republic of La Plata. From Paraguay it is separated partly by the Rio Parana and its tributary Ivinheims, and partly by a range of high lands which terminate on the banks of the Paraguay. The boundary-line passes that riv, and runs in a N.W. direction along the unknown river until it reaches the coast. The distance of this coast (about 13º S. lat.), by which river Brazil is separated from Bolivia as far as its confluence with the Mamoré, which latter continues to form the boundary-line up to its junction with the Beni. At this point begins the boundary-line between the two States. It is an unresolved point, and it is unknown, and is supposed to run due W. along the parallel of 11º S. lat., as far as the Hyabrady, and then to the N. along the course of this riv. to its junction with the Rio Amazonas. The boundary-line between Ecuador and Brazil extends for 65º S. lat. from the Rio Amazonas, to nearly 0º N. lat. and thence E. to the Rio Branco, a tributary of the Rio Negro. The remainder of the boundary-line runs N.E. along the mountain range which separates the upper branches of the Rio Branco from those of the Orinoco, and turns at the sources of the former to the E., extending hence along the Sierra Baracayna to the sources of the Mazaroay, where Brazil begins to border on the British settlements in Essequibo and Demerara. This boundary in all its extent is formed by a mountain-range of considerable height, called the Dutch colony of Surinam, and afterwards the French settlement of Cayenne. Where the mountain-range ceases the Rio Oyapock constitutes the boundary between Brazil and French Guiana to its mouth. On the N.E. and S. Brazil, this boundary is the Amazonas Oceanic. The coast, which is probably little short of 4000 m., presents various appearances. From Cape S. Maria in Uruguay, to the Morro de S. Marta (about 31º S. lat.), an extent of upwards of 500 m, the coast is low, sandy, and intersected by numerous branches of the river, the shores extending nearly in a straight line, in which it trends from S.W. to N.E. At the Morro de S. Marta, where it runs to the N., it begins to be rocky, but rises only to any considerable height to the N. of the island of S. Catherina. From the shore of S. Francisco it trends to the N.E. of the point of Alto, and the harbour of S. Carlos, Cape Frio, it runs nearly due E.; and thence to the bay of Espejo Santo N.E. In all this extent of nearly 1000 m. the coast is rocky, and in some parts rather high; it has a great number of indentations and excellent harbours, generally surrounded by flats of moderate extent. The most rocky and highest part is between Santos and Cape Frio. From the bay of Espejo Santo to Bahia de Todos os Santos, the shores extend nearly S. and N.; this portion of about 600 m., is in general low and level, with several branches of the river and the small river Buranhe; to the N. of the latter it commonly rises from four to six yards in height, but is generally level; towards Cape S. Antonio it sinks lower. Along this coast, in 18º S. lat. at a distance of from 25 to 30 m. extend the rocky banks of the Abrolhos; the coasting vessels commonly pass between and the shores. The coasts of the E. projection of Brazil from Cape S. Antonio nearly to the mouth of the river Parnahyba are of moderate height, rising perhaps nowhere above 30 ft., but they contain no harbours, except those formed by the mouths of the riv. This extent may be upwards of 800 m. The remainder of the shore, from the mouth of the Parnahyba to that of the Amazonas, is extremely low and marshy, a few sandy hills rising on it at great distances from one another. In this extent of about 700 m. there are few harbours. To the N. of the Rio Amazonas the coast is rather sandy and somewhat higher, though of considerable elevation. Some parts are subject to a sudden rise of the sea at spring tides, called porotoca. [Brez] This coast extends about 400 miles. The surface of Brazil is divided between upland and lowland. As the boundaries of the two regions have been ascertained only in a few places, it is not possible to give the proportions exactly; but on a rough calculation it may be assumed, that they occupy nearly equal portions, the upland extending over the E. and central part, and the lowlands principally along both sides of the Rio Amazonas, with a smaller portion on the shores, and on the S.W. border. High mountains advance nearly to the shores between the bay of Santos and Cape Frio. This range, the higher summits of which are hardly anywhere more than 20 m. from the coast, is called Serra do Mar (the sea range). The highest summits rise to about 3500 ft., and the passes of it to from 2000 to 2500 ft. This range continues to the S., but S. of the bay of Santos it recedes to about 60 or 80 m. above the sea. From here it runs down to the Rio Tocantins, where it is called the Serra de Cubatão, and runs first S.W. and then S. to a point opposite the Morro de S. Marta, where at the sources of the rio Uruguay it turns W., and advancing in that direction about 200 m., terminates on the banks of the Rio Uruguay to the N. of the junction of the Ibecuy and with it. From the S. side of this W. chain an elevated table-land extends S. between the riv. Uruguay and the shores, and continues in Uruguay Oriental, where it terminates near the vast mouth of the riv. La Plata, with the Punta Negra and Cape S. Francisco. This chain, which extends along the coast in a deep but narrow depression. At the source of the Rio Tiete, a tributary of the Parana, this range is united to the Serra do Mar by a tract of high ground. It contains the highest mountains of Brazil, which are situated where it bends more or less from the sources of the Rio Grande, the highest branch of the Parana, and the Rio Preto, a small tributary of the Parahyba. The Pico dos Ormos rises to 7786 ft., the Morro de Papagaio to 766 ft., and another summit which has not yet been distinguished by any name, to 7786 ft. The highest pass of this chain rises to upwards of 3000 ft. To the N. of Villa Rica the chain again rises and continues to the N., declining by degrees some points to the E. till it reaches the banks of the Rio S. Francisco, which breaks through the chain, where it is called Cacoeris (fall) de Santo Affonso. This chain, which had not obtained any peculiar name among the inhabitants, is now called Serra Espinhaço. It is of considerable height in its S. part, but does not attain that of the Serra Manacapuru; its highest point, the Pico de Princes, rises only to the height of the Iacutomi. In proceeding N. it sinks considerably, and hardly any summit in the prov. of Bahia rises to 4000 ft., while the passes do not exceed 1800 ft. This chain remains generally 150 m. from the coast, but its offsets in some places approach it within 20 miles. North of the great escarac of Affonso the mountains, called here Serra Arra and or dos Carybris, rise again to a considerable elevation, and form between 7º and 8º S. a table-land of considerable extent, from which several ranges of high hills are detached to the E. and N., some of which terminate at no great distance from the shore between the Rio S. Francisco and the Rio Parnaíba. The most considerable of these lateral ranges are the Serra Borborema, which extends along the coast of Rio de Janeiro, and the Serra dos Sêrâa and the Serra Ibiapiba, which constitutes the boundary between Sêrâa and Piauí. The elevation of no one point in this mountain-system, which covers the greater part of the E. projection of Brazil, has been determined by measurement, though some portion of it rises to a considerable height. From its S.W. corner a mountain-range of moderate elevation runs S.W. along the Rio S. Francisco, and then W. to the sources of the Rio Parnaíba, where it turns N., running direct to the mouth of the Tocantins, a distance of 200 m. from the Rio Tocantins, terminates with a range of low hills at about 180 m. above the mouth of that riv. Between the Serra do Pernambuco and the prov. of Piauí the passes rise to between 1200 and 1300 ft. above the sea. To the W. of the range running N. and S., and to that of the Serra Espinhaço, da Mantiqueira, and de Cubatão extends the upland of Brazil far into the interior of South America.
America, but it grows narrower as it runs W. Its N. boun-
dary is indicated by the falls in the rives, which carry their
waters to the Rio Amazonas. These waterfalls occur in the
Tocantins south of 5°, and in the Madeira south of 5° S.
latt.: a line drawn through these points separates the low-
lands of the Rio Amazonas from the upland of Brazil. It is
more difficult to determine the S. boundary-line of the up-
land; it extends from Morro de la Mesa in a W.N.W. direction
to the Salto da Vitoria, the great waterfall of the rive.
Iguassu, situated a few m. from the place where that rive.
falls into the Paraná. It then follows the course of that rive.
to the cataract, called the Sete Chutes, and so to the
sources of the Paraguay, an upper branch of a high ground
which separates the affluents of the Paraná and the
upper branches of the Tocantins and Xingui from those of
the Rio Paraguay, till it meets at the sources of the last-
mentioned rive, the Serra dos Paracis, along which it runs,
at first to the W., and afterwards to the N. W., terminating
at some distance from the confluence of the Mamoré
with the Beni. By this boundary-line the lowlands on the Par-
aguay and Guaporé are divided from the high table-lands
of the Paraná and Upper Tapajos.

The extensive space enclosed within these boundaries is
properly a table-land of considerable elevation, but an un-
even surface. It does not rise to such a height as the table-
land of Anahuac in Mexico, but it surpasses in elevation the
highest table-lands of Europe, those of Bavaria, and Switz-
erland. The central part, which is the lowest and lowest
part of the basin, is covered with a uniform plain, the
Sulina. The mountain-ranges which traverse it rise only to
a comparatively small elevation above the plain.

The highest portion of the table-land seems to lie con-
tiguous to the range of mountains which divides the upper
branch of the Tapajos and the upper branch of the Serra
dos Verdes, and which, as we have seen, separates the low-
lands of the Rio Amazonas from those which fall into the Parana
and Paraguay. This extensive range, which has lately been
named Serra dos Verdes (the watershed range), begins
about 60 m. S. of Villa Rica, at the Serra da Mantiqueira,
between the sources of the Paraguay, an upper branch of the
Rio S. Francesco and the Rio Grande, an affluent of the
Parana (about 20° 30' S. lat.) It frequently changes its
direction and makes numerous bends, but runs in general to
the N.W. and terminates at some distance from the con-
fluences of the Serra dos Verdes with the Paraguay (116 S.
latt.) in different districts it has different names. Between
the sources of the Rio Francisco and the Rio Grande it is
called Serra Cânestra and Serra Marcella, and at the sources
of the Tocantins, Serra dos Fyrinco. These, the highest
points of the Andes in Brazil, rise to 3500 m. and
upwards. The ranges farther to the W. are lower. The
Serra Seida divides the upper branches of the Araguaia, a
tributary of the Tocantins, from those of the Pardo, a con-
fluent of the Parana; and the Serra dos Paracis, the Tapajos
from the Madeira, a tributary of the N. for some miles the
latter the Tapajos from the Guaporé. The latter ranges probably
never attain 3000 ft. At the place where the Serra Paracis
turns to the N. it sends off a branch to the S.W.S. which,
after a course of about 180 m., terminates in the plains of
Chiquitos in Bolivia. This range, which is called Serra
Agoapey, divides the affluents of the Paraguay from the
Ubay, a tributary of the Guaporé, and, consequently, of
the Madeira, and seems not to rise to the height of the
Serra Paracis.

The division of Brazil which, lying to the S. of the Serra
dos Verdes, borders on the W. on the Serra Agoapey, and
on the E. on the Serra Cubatao, is divided into two por-
tions by a range of hills extending between 32° and 37° E.
long. from the Serra Seida southwards between the afflu-
ents of the Paraguay and Paraná. It enters the Paraguay
and sends a branch eastwards, which terminates at the great
waterfalls of the Paraná, called Sete Quedas. The country
to the E. of this range is the high table-land of the Paraná,
that to the W. is the table-land of the Paraguay.

The lowland of the Paraguay, with the exception of the
taper rapid descent of the enclosing mountains and a few
hills or short ranges in the interior of the plain, presents a
level country, which declines imperceptibly towards the
banks of the paraguay, where its declensions in swampy
flats many miles wide. Near the rivs. it rises gradually to high
trees, but the intervening spaces are grassy plains of
considerable extent, here and there interrupted by barren
tracts. This immense plain, which, though situated in the
centre of America, hardly attains an elevation of 1000 ft., is
extremely hot and subject to long-continued droughts, which
cause great mortality among men and cattle. The rains
commonly begin at the end of October, and continue to
April or May, and in the month of July in some parts about 4°
S. lat., are occasional, violent, and accompanied by
storms, and most abundant rains towards the end of the
season, when they cause the rivs. to overflow the adjacent
low grounds.

The principal riv, and that which is the receptacle of all
the water of the region, is the Paraguay; rising on the
top of the Serra Paracis in the Sete Lagous (seven lakes),
which are in a short distance from one another, and
communicate by narrow channels. Issuing from the last of
these lakes the riv. flows through a swampy country in a
direction with great rapidity in two channels, separated by a
rocky island of considerable length. This place, which is called
Fecho dos Morros (the barrier of rocks), terminates the
swampy and low margin of the riv. At the end of the
rainy season, when the rains are very abundant, and the
Paraguay rises, it carry them off by its narrow channels at
the Fecho dos Morros, the whole of the low ground is laid
under water, and forms a lake, nearly 700 m. in length and
from 70 to 150 m. in width, which covers a surface about as
large as Lake Superior in Canada. In September however
the Paraguay rises again, and again dries up. Then the riv.
again laid dry. This temporary lake is called Xarayes, and
indicated in some more ancient maps as a true lake. A
considerable portion of the inundated land is covered with
a kind of wild rice, on which innumerable flocks of water-
fowl, especially the Cachalote or Eagle-owl, which
passing shake off from the ears, which are always above
the water, as much as they please.

During its course through this low plain the Paraguay is
joined on the left by two considerable tributaries, the Rio de
S. Lourenço and the Tacuary. The S. Lourenço, which
rises to the E. of the upper branches of the Paraguay,
leaves Brazil and enters the republic of Paraguay.

The table-land of the Paraná, which extends on the
E. of the lowland of the Paraguay, is everywhere sur-
rounded by mountain ranges. To the W. is the chain
of mountains which, descending from the main affluents
of the Paraguay, to the N. the Serra dos Verdes, to the
E. the Serra da Mantiqueira and the Serra Cu-
batao, and to the S. a range which (about 26° S. lat.)
departs itself from the Serra Cubatao and extends W. to
the Solomon Islands, below the Salto de la Vitoria. Only in
the comparatively short space between this Salto of the
Iguassu and the Sete Quedas of the Paraná the region is open
towards the republic of Paraguay, from which it is separated
by the Paraná.
The table-land of the Paraná is very uneven along its N.E. and N. border, where the offsets of the Serra da Man- tumigueira, Serra de Canasta, Serra de Marcella, and Serra dos Pirineos extend many miles; but the remainder is a plain of great elevations and great depressions by hills of very gentle ascent and small intervening basins. The eastern and higher portion of the table-land is 2000 ft. and upwards above the level of the sea, but it is not known how much it declines on the banks of the Paraná, which runs through the least elevated portions of the table-land. Trees occur only on the declivities of the mountain ranges; and in the lower tracts along the course of the river: the forests cover probably less than one-third of the surface. The plains are overgrown by a coarse but nourishing grass, here and there intersected by large bushes and a few small isolated trees. They serve as pasture for the innumerable herds of cattle, horses and mules, which constitute the riches of this portion of Brazil. Agriculture, though in a comparatively low state, is more attended to than in many other districts of Brazil, but it is principally limited to the culture of mandiocca, maize, and different kinds of beans; rice is grown in some places and the sugar-cane on the lowlands along the rivers. Pine-apples, as well as the fruits of Europe and the vine, thrive very well. Among the fruit trees peculiar to this region is the jequitiba (C线pocarpus cal- flora, Mart.), whose fruit gives a palatable wine. In the S. district wheat and flax are grown with success. The variation in the temperature is greater than in those parts which lie near the equator; but neither the heat nor the cold is ever extreme. Wheat bread is eaten, and the interior climate of the forest is only frequent near the mountains, and never occurs in the plains. The average heat is between 60° and 70°, and even in the summer it rarely rises above 80°. During the winter the winds blow from S.W. and S.B., but in summer they are from the north and northeast. The rainy season is in October or November and lasts to April; it is most abundant in January, and then always accompanied by fog during the morning. Farther to the W. on the plains it begins later. First it rains only during night, afterwards in the day; sometimes for days and even weeks without ces- sation.

These abundant rains feed a number of large rivers, which traverse the table-land from E. to W., having most of them their sources in the ranges, which divide it from the shores: they all unite their waters with those of the Paraná. The farthest branches of that large river rise in the mountainous country, where the Serra da Mantigueira unites with the Serra de Canasta. The most distant branches of the Paraná, which rise in the ranges of the Mantigueira turns to the N., at first flows N. and then N.W. for a considerable space; afterwards it turns to the W. and continues some hundred miles in that direction, declining somewhat to the S. towards its junction with the Paranahybas. In the region of the large lakes formed by the Paranahybas tributaries, the Sapucahy, the Pardo, and the Mogi, each of which descends through the plains from the S., and runs upwards of 200 m. At the confluence with the Paranahybas the Rio Grande has already a course of upwards of 500 m, and then its name is changed into that of Paraná. The Paranahybas rises in the Serra dos Pirineos, receives in its course the Corumbá, and joins the Rio Grande after a course of upwards of 350 m. Many miles below this confluence the Paraná forms a considerable cataract, called Urubu Funge, and lower down it receives the Tebic, which traverses nearly the middle of the plains. The last-men- tioned river rises at a great distance from the shores of the Atlantic in the western declivity of the Serra de Cuibafio, and runs upwards of 400 m. Though its navigation is render- ed very difficult by numerous rapids and waterfalls, this river has till now been more navigated than any other in the interior of Brazil. Between the Pungas Urubó and the Sote Quedas the Paraná receives besides the Tiete two other large tributaries, the Pardo on the right, and the Paraguay both running a course of about 300 m. The Pardo, which rises in the Serra Caicá, was formerly much navigated in spite of its numerous rapids and falls. In this tract the Paraná forms many large islands, of which the largest are the Ilha Conpria (Long Island of the Ilhas Conpria), which is not much less than 70 m. in length and of considerable width. The Ilha Grande terminates 4 m. above the Sote Quedas (or Seven Falls). Below the S. extremity of the Ilha Grande the Paraná is nearly 4 m. wide, but at the falls the bed of the river is contracted to about 50 fathoms. The immense volume of the river is then divided into seven channels, formed by six small islands of rock, and precipitated down the ledges, with a current of indescribable fury and awful noise. This is one of the greatest cataracts of Brazil; a great cataract called Salto da Vitoria, and joins the Paraná after a course of nearly 300 m. After this junction the river still runs S., then turns to the W., and falls into the sea. It is a secondary stream of the great river, which rises in a chain of mountains, is not known, but it appears to be considerable. The riv. Uruguay, which rises in the mountains near the coast, traverses it in all its extent, flowing W.N.W. and W. till it enters the plain of the Missions.

The S. extremity of Brazil, which extends S.W. of the Campos da Vacaria, contains two plains, one lying on the N.W. along the riv. Uruguay and the other on the S.E. along the sea-shore. They are divided by a high ground of the Serra dos Tapés. The surface of the high ground extends in spacious and nearly level plains, here and there interrupted by small hills. This upper part is entirely without trees, and covered only by coarse grass and bushes; but on the river and its tributaries the vegetation is more varied. The high ground, many fine trees occur. The valleys are also the only places in which there is any agriculture, and this is nearly confined to the raising of wheat and maize.

To the N.W. of this high ground extends along the banks of the rif. Uruguay, a swampy and marshy district, which received its name from the seven missions established here by the Jesuits. This plain is very little known, but seems to be well adapted to the cultivation of different kinds of grain, as well as of cotton and of mutton or tea of Paraguay. The riv. Uruguay, which forms its north-western boundary, and divides it from the Missions de La Piata, is here navigable in all its extent, though it has some rapids. The plain along the sea-shores extends from S.W. to N.E. upwards of 200 m., with an average breadth of between 50 and 100 m., and finally converges towards the S. and imperceptibly towards the high ground on the west. Its soil towards the coast is sandy, with a substratum of clay, and produces grass, but no trees. Farther inland the soil is better, but the country still without trees. The most remarkable lakes are those of the large lakes, called Laguna de los Patos, one of the largest in South America, which took its name from a tribe of Indians. It extends 150 m. in length from S.W. to N.E., and at its greatest width, so that it there occupies about half of the plain. It has suffi- cient depth for vessels of a middling size, but some very dangerous shoals. The water is salt in the southern part. It is the recipient of almost all the currents that traverse the plain, and receives, about 12 m. from its northern ex- tremity, the Iacuhy, a winding riv., which rises on the northern extremity of the large lakes, and which is well adapted to agriculture. About 15 m. from its embouchure, the Iacuhy forms a spacious bay on its eastern margin, on which the town of Fortaleza is situated. At the S. extremity the mouth of the lake opens into the Bay of St. Goncalo, which is properly only the outlet of the lake Mirim. This riv. is about 50 m. long, wide, and navigable. The S. part of the lakes Mirim and Manguiera belongs to Uruguay, [BANDA ORIENTAL].

The lake lake Uruguay rises its waters into the sea by the Rio Grande de St. Pedro, which flows about 10 m. almost N. and S., and is nearly 3 m. in width. The mouth of this riv. is full of shoals, which are more dangerous as they are subject to be frequently changed by the tides. The climate of this region is more temperate than the ?7; enjoys a temperate climate like that of Spain or Italy; the air is pure and healthy. In the valleys and on the plain, frost very rarely occurs: on the high ground it is annually felt for one or two months; but as very little snow falls, the
cattle and pasture all the year round. From May to Oct., the rains are abundant.

The low country between the shores of the Atlantic and the first mountain range, from the Morro de St. Marta on the S. to Cape St. Antonio, near Bahia, on the N., extends in some places to within 20 m. of the sea. Along the coast, a few miles S.W. of the Rio Doce and the Bahia de Todos os Santos. In others, places the mountains approach the sea within 15 or 20 m., as between the bay of Santos and Cape Frío. North of the Rio Doce, a level country extends upwards of 60 m. inland, but to the W. of Cape Frío the hills approach so near the sea, that their lower extremity is washed by the high tides, and the traveller can only pass at low water.

Except the comparatively small tracts which have been cultivated by European settlers and their descendants, the side of this country are covered by impenetrable forests, extending even in the valleys along the banks of the rivers nearly to their sources on the high land. North of Cape Frío, the trees and plants peculiar to a tropical climate are common, but south of it they occur less frequently. The soil is in most places of great fertility, and produces sugar, coffee, cotton, and cacao, mandioces, maize, and rice in abundance.

The riv. in this tract are very numerous, but have a short course, seldom exceeding 100 m. They are generally navigable for a 60 m. franco. The banks are nearly all of them skirted by low ground, which are inundated after the rains have begun. The riv. begin to rise in Nov., and the inundation ceases in the middle or towards the end of Jan.; in some it lasts two months, in others only a month. The mouths of the rivers, formed by a soft soil, they are subject to many changes, which are produced by the variable winds and by the current prevailing on this coast. The largest of these riv. are the Paraíba, the Doce and the Rio Belmonte.

The rain on the Doce preserve their freshness for a considerable distance into the ocean, and hence it has received the name of Doce, soft or fresh.

The Rio Belmonte, in traversing a mountainous range called Serra dos Aimores, is contracted by two high steep rocky cliffs, a sudden rise of more than 120 ft. with tremendous noise into a whirlpool. Fifteen m. lower down, it has a little fall, after which it flows through a flat and wooded country to the sea, describing various windings, with a current rapid and wide but of little depth. It contains many flat islands, and receives no considerable stream after it descends the fall. About 20 m. from the sea, the Rio Belmonte is united to the Rio Patype, its nearest neighbour to the N. by a natural channel called Serrin. At this point, the Doce is joined by the Doce terceiro, and the Patype by the Serra de Minas.

This country, though mostly within the tropics, enjoys a moderate climate. In Porto Seguro the medium heat, according to Freyreia, is only 79° Fahrenheit, but at Rio Janeiro 74°, which he attributes to the neighbourhood of the rocky mountains. At the latter place, however, the thermometer sometimes rises to 90°, and in winter, to 120°. In summer (Dec., Jan., and Feb.), the average heat at noon is 86°, and in the morning 72°; and in the winter (June, July, and August), it is 72° at noon, and in the morning 59°. Another peculiarity is the great humidity, which arises probably entirely from the country being almost entirely covered with high trees and exuberant vegetation, and partly from the regular change of the land and sea winds. The sea winds come on to take its place, rarely sooner, more frequently at two o'clock, and blow till nightfall. The land winds consist of the trade winds prevailing. The effect of this great humidity of the atmosphere is that the coast of Brazil has not such a regular succession of dry and rainy seasons as other tropical countries. No part of this coast is entirely exempt from rain, though the winter is often dry and the sky cloudless; and the rains in the summer are generally very abundant, especially in January. In summer, thunder is very frequent, and always accompanied with violent storms, which, however, never cause any damage, compared with the winds and hurricanes in the West Indies. Hailstones never fall.

The Serra Espírito Santo, which bounds on the W. the country on the shore, divides them from the highest part of the table-land of Brazil. This extensive country, which extends W. of the Serra do Espírito Santo, is, as far as we know, an uneven plain, on which numerous hills, sometimes isolated, sometimes in groups, and sometimes in ranges, rise to a moderate height, commonly with a gentle ascent. Along the watercourses are depressions or valleys, but generally of small extent. The plain is at an elevation of from 2000 to 2500 ft., and the hills rise above it only a few hundred, and perhaps never more than 1000 ft. The valleys descend towards the S., where they approach the Serra de Minas, a few miles distant from the centre of the plain, but farther to the N. still more. The surface of the plain, as well as of the hills, is in some places covered with sand, and in others with bare sandstone rocks, but it is generally clothed with a coarse grass, bushes, and single standing trees. In summer these trees and bushes shed their leaves, and as the grass in most places is withered at the same time, the country has a dismal aspect. But the valleys along the watercourse have a much more fertile soil, and here the high trees and thick foliage which cover them are replaced by small trees and bushes, which are adapted to culture and for raising nearly all the products of the coast. The plains yield only pasture for cattle.

This plain is drained by four rivers of considerable extent, the S. Francisco, the Tocantins, the Xingú, and the Tapajós. The upper branches of the S. Francisco rise on the N. declivity of the Serra dos Vertentes about 3000 ft. above the sea, and between 21° and 20° S. lat. They are principally two: the Paraopeba, and that more properly called the S. Francisco, which unite after a course of 100 m. franco. The mean level of the S. Francisco is 1897 ft. above the sea. The riv. then flows in a nearly due N. direction to its junction with the Rio das Velhas (8° of 17° S. lat.); but before reaching this point, it forms the cataracts of Pirapora. At the junction with the S. Francisco, the current is so rapid that the Rio das Velhas rises in the neighbourhood of Villa Rica, on the N. declivities of the Serra Mantigueira, and runs upwards of 250 m. From this point the S. Francisco continues to flow N. with a slight declension to the E., and is known by the name of the Alto. Several falls occur on the rapid Atalaia as it descends towards the mixture of the rivers. At its junction with the Rio das Velhas, it is still 1000 ft. above the sea, so that in a space measuring in a straight line nearly 500 m., it has only a fall of about 700 ft. It has here numerous windings, and is navigable down to Vargem Redonda, near the mouth. Near the Serra de Minas, the river falls. In all this course it is not joined by any considerable tributary, and on its banks there extend for about 250 m. salt steppes, in which the mineral appears in the form of an efflorescence, and is collected by the inhabitants. Vargem Redonda is about 30 m. from the river following the course of the riv. Not far from this place the river is narrowed by high rocky cliffs on both sides, runs with great rapidity, and forms several falls, of which the Cacheoeira de Alfonso, the most considerable, is said to be 50 ft. in height, and 40 ft. in breadth. The river descends in a flat space of nearly 70 m., and terminates at the Aldeia do Canindé, whence a road leads to Vargem Redonda for the transport of merchandise into the interior of Brazil. From the Aldeia do Canindé to its mouth, the riv. runs still about 30 m. in length, to its mouth. At its mouth the current is rapid. Though a deep riv. in the interior of the continent, the Rio de S. Francisco enters the sea by two comparatively shallow mouths of unequal size, of which the N. and the larger is nearly 2 m. wide, but with so little depth that only vessels of 50 tons can enter it at high water, and must wait for the full tides to go out. The tide ascends it about 50 m., and it rises at Villa de Pinedo, where the riv. is about 1 m. wide, 3 ft. at full and change. The inundations are considerable, especially above the falls. The river descends 1000 ft. from the Serra de Minas to Feb. Being skirted in most places by low and level tracts, its waters cover the country along its banks to the distance of 15 or 20 m., and in some places it penetrates still further by means of some channels, by which the adjacent hills are divided from one another. The current during this period is so rapid in the middle of the riv., that the barges make nearly 100 m. in 24 hours down the stream. These inundations cultivate the country, and are particularly favourable to the cultivation of the sugar-cane. The pop. of its basin is increasing rapidly. The average altitude of the Rio de S. Francisco may be above 1300 m., and it may be compared with the Volga.

The Rio Tocantins is divided from the Rio de S. Francisco, not by a chain of high mountains, but by a table-land, which towards the upper branches of the riv. on each side, and towards its confluence with the Araguaia, is overtopped by groups of hills of considerable height. The upper branches
of the Tocantins rise in the Montes dos Pyrinos and in the Serra Doirada, both portions of the Serra dos Verdetes. In the Serra Doirada rises the Urubú, which is considered as the true source of the riv., and after a course of 70 m., joins the Rio Almas, which is not inferior to it, and descends to the Pietro Maranhão, where it receives the name of Rio Almas to its confluence with the Maranhão, which joins it 90 m. farther down. The Maranhão rises in lake Formosa, which is 15 m. in length, and two in width, and flows to the W. and then to the N. Hence the united riv. is called Maranhão, to its junction with the Paranatinga, about 140 m. lower down (12° 20'). The Para- natinga is formed by the junction of two considerable riv., the Paranam and the Fama, the former of which flows nearly 300 m. Hence the riv. is called Tocantins, and be- comes hereabout 200 m. wide, and 2 m. deep, and 374 fathoms wide. The number of its affluent s lowers down is great, but none of them is very considerable, except the Rio Araguay, which joins it at about 6° S. lat. Before the Tocantins arrives at this point, its navigation is inter- rupted by some cataracts, between 3rd and 6th, among which the most considerable are the Cachoeira de S. Bartolomé or das tres Barras, and the Cachoeira de S. Antonio. After its junction with the Rio Araguay the Tocantins flows between rocks and cliffs, forming many rapid s and small cataracts, and this part of its course is called the channel of Tanirí. Issuing from this channel, it has near Itaboca (3° 30') more considerable cataracts, which rise above one another like terraces, and then too riv. enters the low country skirting the Amazonas. Its whole course is in a N. direc- tion, and 15° S. lat. It is joined by the large riv. of the Rio das Amazonas, and takes the name of Rio da Pará. At the point of junction is an island, about 15 m. long, and low and flat, called Uararayá, which divides the mouth of the Tocantins into two arms; of which the E. is called the Isal, and the W. the Marajoa. The width and the width of the riv. is here upwards of 15 m. The Rio da Pará, which divides the island of Marajoa or Joanes from the continent, widens in its progress to the N. still more, and may be above 60 m. where it falls into the sea (about 6° 29' S. lat.). The whole course of the Tocantins is at least 1500 miles.

The Araguay, the largest tributary of the Tocantins, rises on the N. declivity of the Serra Seixada, about 18° S. lat., where it is called Bonito, which name is changed into that of Rio Grande, after it has united with the Rio Bar- reiros and Rio Caiapo. Its waters are lower down in- creased by those of the Rio Claro, Rio Vermelho, Rio Tio- zonas, and Rio Crixa. All these riv. flowing from the S.E. join the Araguay on the right, and none of the three last can ever flow out of the country. In the rainy season the Araguay and its tributaries, the trade of Brazil area, which is the capital of Goyaz to Pará. About 30 m. from the mouth of the Crixa, the river divides itself in 12° 30' into two branches nearly equal, which reunite in 9° 36', enclosing the is1. of S. Anna, and are divided by a small riv. that crosses 200 m. in length, and of considerable width. The W. arm preserves the name of Araguay, and the E. takes that of Furo; barges generally go through the latter; but both contain small falls and rapids. The branch called Araguay receives, about the S. point of the island of S. Anna, the Rio dos Mortes, which runs nearly 300 m. At about 5° the Araguay joins the Tocantins after a course of above 1000 miles.

The Rio Araguay may be considered as the boundary of the interior of Brazil, the countries drained by the Xingú, and Tapajos being almost unknown. Though the rivers have been ascended the greatest part of their course, no European families have settled in this country, and it has not been traversed by land.

The Rio Xingú probably rises in the Serra dos Verdetes, about 12° 50' S. lat., but its sources as well as its upper course have not been visited. It does not appear that any of its tributaries are considerable. Between 6° and 9° lat. its bed is narrowed and traversed by a chain of rocks, and thus the course of the riv. becomes the brach of the Maranhão. These rocks make the riv. form a large bend to the S. and E., though in general the direction of its course is to the N., with numerous windings. The remainder of its course lies through the low plain on the banks of the Rio Amazonas, which it joins at Porto de Moz, where it is about 4 m. wide.

The Rio Tapajos has lately risen to greater importance, since it has been ascertained that it may be navigated with less danger and difficulty than the Rio Madeira. Since 1812, it has been the road of communication between the banks of the Guaporé, the Paraguay and the St. Laurence. The Rio Tapajos is a very considerable riv., forming the principal affluents of the rio, the Iuruena and the rio dos Arinos. The Iuruena rises near the point where the Serra dos Paricaris divides into two branches, one of which runs N., and the other, the Serra Agraephey, S., near 14° S. lat. It runs for upwards of 200 m., due N., and then inclines to the E. to meet the rio dos Arinos. The number of its affluents is very great, and at the confluence the Iuruena is the larger riv., but has not yet been navigated. The rio dos Arinos rises farther to the E., near the sources of the Paraguay, and runs first N., then E., and then S., where it is the only branch of the riv. which is at present navigated. After this junction the rio dos Arinos flows N.W., nearly to its confluence with the Iuruena, about 90° S. lat. Hence the united riv. is called Tapajos, and flows N.E. forming two cataracts, the Cachoeira de S. João de Barra and de S. Carlos. At the latter the course of the riv. is changed, and flows hence to the N.N.E. The largest of its cataracts, called Salto Grande, occurs at about 7° 30', and is said to be 30 ft. perpendicular height. Between 5° and 6° is another fall, called Cachoeira de Maranhão, which likewise inter- rupts the navigation. The remainder of its course is through the low country along the Rio Amazonas. This riv. is joined by numerous tributaries, especially from the right. It falls into the Amazonas near Santarem, where it is about 4 m. wide.

On the banks of the Iuruena, and to the N. branch of the Serra Paricaris, extends a sandy desert, called Campos dos Paricaris. The surface is formed by long-backed ridges of sandy hills, parallel to one another, and divided by longi- tudinal valleys. In the latter the beasts of burden can hardly proceed; and it is nearly desti- tute of vegetation, except where springs issue from the ground. The extent of this desert, which may be consid- ered as occupying the centre of South America, has not been accurately described.

The climate of the Campos Paricaris has not yet been described. That of the table-land which extends to the E. of it differs in many respects from the climate of the coast. The rain begins in October, with heavy thunder-storms, and lasts till April, but it is less in quantity where the country extends in nearly level plains. The medium heat is stated by Freyreiss to be only 65° Fahrenheit, but it often rises to 100° at noon. The difference between the tempera- ture of the day and night frequently amounts to 30°. In the summer months the rain is almost incessant, but times in the month of June or July slight frost occurs, espe- cially towards the Serra dos Verdetes, in the S. districts, which destroy the crops of the bananas, sugar, coffee, and even cotton. Thunder-storms prevail only in the plain, and are comparatively rare in the mountains. The winds are irregular at all seasons, and frequently bring dense fogs.

The table-land of Brazil is separated from the Andes of Bolivia by a large and extensive plain, traversed by the means which by their junction form the Rio Madeira. This plain may perhaps rise to the height of 1200 or 1500 ft.; the latter being the height which, according to the esti- mate of Martius, the country attains which forms the water- shed between the Pecocay and the Uabá. A greater part of this plain is covered by savannas, extending along the W. declivity of the N. branch of the Serra Paricaris on both banks of the Rio Guaporé. A few scattered hills rise on the plain to a moderate elevation, and are divided from one another by extensive level tracts, mostly covered with high forest-trees, and hemmed in by a few barren districts without trees and with little vegetation.

The Rio Guaporé, called also Itenez, rises (14° 30' S. lat.) in the Serra dos Paricaris, about 100 m. N.E. of Villa Bella, the capital of Matto Grosso, and at first runs in a northeast direction to the N. of the Jaru, a branch of the Xingú. It then turns W., and receives the waters of the Rio Alegre, a small but navigable tributary. In 1773 an unsuccessful attempt was made to unite this river by a canal with the Rio Agraephey, which falls into the Jaru. At the junction it joins the riv. of the Guaporé, and then to the W., where it is joined on the right by the large Rio Paraguay, and the still larger Uabá. At the confluence with the latter it turns N., and
The Madeira is formed by the junction of the Rio Beni with the Mamoré (in 10° 22' S. lat.), which takes place about 100 m. below the confluence of the latter with the Guaporé (in 11° 45' S. lat.). This river runs in a N.E. direction, descending by the principal valleys of the llanos in 3° 24' S. lat., about 70 m. below Villa de Borba, after a course of upwards of 600 miles. As the river, after the junction of the Mamoré and Beni, is 900 fathoms wide, and in its course in general preserves this width, with a considerable depth of water, navigation were its course not interrupted by numerous cataracts. Below the union of the two principal rivers, thirteen cataracts occur; and above it, in the Mamoré, five. They begin in the great cataract known as El Chaco, and are at 8° 49' 8' S. lat., with the Sitapuy or San Tonio. The highest of these cataracts is in 8° 52' S. lat., where the river descends 30 feet. It is however supposed that all the falls taken together amount only to 150 ft. of height. The Madeira was frequently navigated up to 1775, but at present other lines of communication are preferred.

The N. part of Brazil comprehends the greater portion of the river of the Rio das Amazonas, one of the most extensive of the globe. It lies along the east side of the Amazonas, near 5° 56' W. long., to the mouth of the Ucayale, near 7° 22' W. long., and consequently extends in this direction about 1500 miles. The width of this plain varies, being much narrower towards the mouth of the river, and the great discharge of water, in the Xingó (6° 26' S. lat.) and the Serras de Tumucuhraque and do Acaray, which chain divides the sources of the Essequibo and Mazarony from the riv. falling into the Amazonas, the plain hardly extends S. and N. more than 3° S., or about 350 miles. Under the meridian of 6° it begins S. at the cataracts of the Rio Madeira (6° 48'), and extends N. to the S. branches of the Serra Parima (3° N. lat.) about 800 miles. It is probable that its width enlarges considerably still farther to the W., but here the knowledge of the extension of the Amazonas, as on other rivers in countries not yet explored. This plain is divided by the Rio Amazonas into two parts, declining insensibly towards the bed of the riv., but not everywhere in the same direction. On the E., as far as the mouth of the Madeira, its surface declines N. and S., but to the W. of the Madeira the declivity is directed S.E. and N.E. Hence the riv., joining the Rio Amazonas towards its mouth, form nearly right angles with its course, but the Madeira and the riv., which unite with it farther to the W. form acute angles, and some of them only of 15° or 20°, and the declivity a considerable part of their course nearly parallel to it. But this declivity is so imperceptible that the eye cannot discover it, and some of the rivs. seem to have no current at all in the lower dry season, as is observed of the lower course of the Rio Madeira, as well as the Madeira itself, the latter, rare, but the surface, does not present one unvarying level like the plains on the Orinoco: it consists rather of a continual succession of extremely slight undulations, and to this peculiarity of its surface, joined to its tropical climate, it seems principally to owe the incomparable luxuriance of its vegetation.

The softness of the soil, which consists, as far as it is known, nearly everywhere of earthy matter, possessing only a small degree of cohesion, yields readily to the impetuous rush of the water, and, in consequence, the almost countless larger and smaller islands which continually divide the riv. into numerous channels. In other countries travellers generally think it necessary to observe the islands formed by rivs., but in this plain, on the contrary, it appears an extraordinary occurrence if at any place the whole volume of the riv. runs in one channel. These islands occupy a considerable portion of the plain: they are inundated in the wet season, but when the riv. is low, they rise 20 and 30 ft. above the surface. They have a sandy bottom, but are very swampy.

The tracts which skirt the banks of the riv. are generally low, and overflowed when the riv. rises. In many places the inundations are extended much farther inland by the channels which, in the dry season, bring down the water from the numerous lakes. But during the inundation these channels carry the water from the riv. to the lakes, and the low country in their vicinity is covered with water. All the tracts thus inundated are overgrown by an uninterrupted forest of trees of different sorts. The bushes and underwood between them, and all these plants are tied together by numerous creepers, so that they form a vegetable wall, through which it is impossible to penetrate. The water-courses are the only habitable places in the land which is not subject to inundations is likewise covered with interminable forests, but the trees are of more equal size, and without underwood, though here also the creepers are numerous. Occasionally some tracts of moderate extent occur, which are without trees, and covered with rich grass, intermingled with a few low bushes.

Nothing however characterizes this plain more strikingly than the incredible abundance of water. Brooks and ponds are of rare occurrence, for they enlarge immediately into rivs. and lakes, and the banks of the channels of the larger rivs. (the only part of the country which has yet been visited) an interminable watery maze. Martins is at a loss how to explain this matter. He thinks that the inundation cannot account for it, and supposes that the soil of this plain contains an extraordinary number of sources and springs, and that the water issuing from them is continually increased by the moisture of the air, which is more especially abundant in tropical countries whenever they are not inundated, by reason of the great quantity of water contained in the large proportion of the soil, and the comparatively small inequalities of the surface, have made some phenomena common here which are rare in other countries. Such are the natural canals by which two rivs. are united. Between the Madeira and the Rio Negro, there is no cataract, no communication between the two, at least 120 m. distant from one another.

The other river which drains this plain, we have already noticed the Tocantins, Xingó, Tapajós, and Madeira. To the W. of the last, and nearly parallel to it, flows some considerable riv. of which we have no other information, the Itanorá, the Iutahy, and the Hyaraby or Yavary. These rivs. which run from 600 to 800 m., have not been explored, and the country through which they flow is nowhere infested by the Indians which inhabit those countries; but according to the information of the Indians which do not inhabit the region mentioned, there are no other rivs. than those above mentioned, which drain the plain of the N. of the Rio das Amazonas belong partly to the republic of Ecuador, as the Pastaza, the Tigre, the Napo, and Putumayo or Ica, only the lower part of the course is included in Ecuador, as the part before mentioned is in Brazil, going generally by the name of the Rio Apurímac. The river Yuruparí is the most important tributary of the Rio Negro. The remote branches of the Yuruparí originate in the S. of the republic of New Granada, in the mountains of Popayan, where they descend into the plain. The greatest part of its course is within the boundary of the republic of Ecuador, in which it forms, in 79° 40' W. long., a cataract called Cachoeira de Amora Comra, about 60 ft. high. It is not yet determined if the country between this fall and that of Cupati, which occurs 3° farther E., belongs to Brazil or to the rep. of Ecuador. The river Yuruparí, at this stage, is navigable for its largest tributary, the Apurímac. The fall of Cupati is however the only rapid. From this fall downwards the Yuruparí, flowing nearly parallel to the Rio Amazonas, is divided from it by a low, wooded country, of which the greatest part is annually inundated for some months. About 100 m. from the mouth of the Yuruparí, on the Amazonas, is the port of Yuruparí, which is 80 m. above the mouth of the Yuruparí. In this canal the water flows from December to May N.E. from the Rio Amazonas to the Yuruparí, and from June to November S.W. from the Yuruparí to the Rio Amazonas. The large is. formed by this can. and the riv. is traversed by other canals, which are subject to a similar change of current. The Rio Negro originates in a swampy country about 2° 30' N. lat. and 70° 30' W. long. and runs first N.E. and afterwards S.E. about 200 m., when
it is joined by the can. of Cassiquiare, which comes with a rather rapid course from the Orinoco. Hence it runs with numerous windings nearly due S. till it is joined from the W. by the Rio Uaupê or Uaupes, which should be considered as the principal branch. This riv., whose sources are very imperfectly known, seems not to originate in the principal range of mountains, but is derived from a considerable distance E. of them. It flows first for a great distance S.E., and then turns E.: not far from the place where the Uaupe begins to turn to the E., it forms a considerable cataract, the Cachoeira de Ipanoré. The Uaupe may have run 500 m. which is intersected by the Rio Negro near the equator, between 67° and 69° W. long. From this junction the Rio Negro flows E. with a slight declination to the S., which increases as it proceeds till its course is S.E. In this part of its course the Rio Negro has rather the appearance of a branch of the Orinoco, 30 m. wide, with only a few rapidly flowing and tortuous channels of a different riv. It sometimes narrows to 12, 15, or even 20 m. in width, and sometimes narrows to 1 or 1½ m.: its current is generally very slow and not disturbed by rapids. Above 200 m. from its mouth it is joined by the Rio Branco, whose principal branch, called Uaricoura, originates in the Serra Parima, at no great distance from some of the branches of the Orinoco, and flows E. till it joins another considerable branch, the Tocuatu, which rises near the sources of the Rio Negro. The easternmost branch of the Orinoco, the S.E. parallel to the Rupuniri. The Tocuatu afterwards turns S. by a bold bend and joins the Uaricoura. Both branches have probably a course of more than 200 m. before their junction. The united riv., called Rio Branco, 300 m. above the mouth of the Tocuatu, has only a few rapids: cataracts however occur in the Tocuatu. The upper course of the Rio Branco is without the boundary line of the plain of the Rio Amazonas. About 50 m. below the mouth of the Rio Branco, a can. branches off from it to the left called Caraipa, which lies in S.W. and S. direction, and passing through the Lake of Cuyaba, sends its waters to the Rio Amazonas by the can. Cuyaba, about 100 m. above the principal mouth of the Rio Negro. The whole course of this river may be 1200 m., and the Uaupe is taken for its principal branch, probably 100 m. more.

No large riv. traverses the N. plain E. of the Rio Negro. The Orito orina or the Trombetas and Gurupustuba are the most numerous. The great plain of the Rio Amazonas, which even on its extreme borders hardly anywhere exceeds the elevation of 600 or 700 ft. above the sea, and extends on both sides of the equator, differs in climate considerably from other tropical countries. The dry and rainy seasons are here not so distinctly marked as in other parts of South America. It is even at times in the night no cloud covers the dark blue sky, and this serenity continues to the morning hours. But between 9 and 10 o'clock clouds begin to appear on the horizon, and rapidly extend towards the higher parts of the country until after noon, when the hot sun begins to toil under the scorching light. The climate is therefore in winter very dry, and in summer very hot. Occasionally there is a very light rain, and this rain is most abundant from August to October. They increase during the month of November and are accompanied with more violent thunder-storms; the rains generally continue in equal abundance to the end of March. Frequently the dark blue sky is broken by a succession of bright flashes, which terminates in January and February, which is called Veranico (summer), and then they continue more abundant from April to May. The wind is by far the most prevalent. The trees never without leaves; for they are not subject to the old rules of growth already forming. Most of the trees and plants, especially those which are peculiar to a tropical climate, blossom between November and March, and bear fruit between June and September.

All the rivers, traversing the plain immodestly the adjacent low lands, but the inundation does not take place in all of them at the same time. Some of the S. affluents of the Rio Amazonas originate near the tropic, and others at no great distance from it; but the northern rivers, exterior country, N. to the equa- tor. The periodical rains are different in these countries, and the riv. rise and fall at different seasons. The riv. descending from the table-land, the Xingu and Tapajos, begin to rise in Nov., attain their greatest height in Jan., and find their lowest level from Aug. to Oct. The Madeira, whose changes coincide with those of the principal riv., and which therefore has in this respect the greatest claim to be considered its principal branch, begins to rise in Dec., and attains its greatest height, May and June, and falls to its lowest level from Aug. to Oct. The N. riv. begin to rise in Feb. or March, and are fullest from July to Sept., when the water in the Rio Amazonas has nearly attained its lowest line. This explains why the canal of Avatãparani, between the Yupurã and Amazonas, flows from June to Aug. S.W. into the latter, and from Dec. to June into the Yupurã. The height which the water attains above the lowest level varies in different riv.: in the Xingu and Tapajos it is 35 ft.; in the Madeira, as far up as the cataracts, 38 ft.; in the Rio Branco, 40 ft.; in the rivers of the Uruará region, and in the Rio Amazonas, in the plain, 40 ft. and upwards.

On the N. of the Rio das Amazonas, the plain extends to Macapá, opposite the island of Caviana, which lies in the principal embouchure of the riv.; on the S. it includes the lower course of the Rio Tapajos, and extends to the series of hills which run at a distance of about 50 m. from its banks on the E. parallel to its course. To the E. of these hills lies another plain, which also, though less extensive, measures from N. to S. upwards of 600 m., and from W. to E. upwards of 500 m. The hills are separated from the Parnahybas. This plain, which may be called the plain of Parnahybas, differs nearly in every respect from that of the Amazonas. Its surface is much more uneven, rising frequently to hills of some hundred feet elevation, which support extensive marshes. This plain is separated from another by large plains destitute of trees, overgrown with greyish high grass and a few bushes. The lower districts of this part are favourable to the growth of cotton, the soil being rather dry and sandy.

The Pará River begins near the S. angle of the plain, near 16° S. lat., and traverses it in a diagonal line from S.W. to N.E. and N. Having no falls and only a few rapids, it is navigated by vessels of from 13 to 40 tons to its junction with the Rio das Balsas, up to which place the European settlements on its banks are numerous. It empties itself into the sea by five mouths, the most remote of which are 30 m. from one another, measured along the shore. But as these mouths are not more than two to four fathoms deep, only vessels of moderate size can come up to the town of S. Rio de Janeiro. The discharge of the river, from nearly 600 m.; and, with the exception of the Francisco, it is the largest riv. that enters the sea between the Rio de la Plata and the Amazonas.

The climate of the plain is hot; the thermometer rises in summer as high as 106° and sometimes to 110°. The rains begin in Oct., and increase gradually to Feb., when they are most abundant; they terminate in April; but even in May it generally rains between three and four o'clock in the afternoon. The months of July, Aug. and Sept. are usually very rainy. The prevalent wind is from the S., especially during the dry season.

The E. boundary of this plain is formed by the Serra Ibipabara or Hibiappaba, from which extends E. the mountainous country that forms the projection of Brazil, which terminates with the capes of St. Vincent in South America, and St. Thomas of the island of Tamoin. It resembles, in some respects, the table-land of Brazil; but the mountain plains are of less extent, and the valleys occupy proportionally a much greater part of the surface. The mountains, of which the tops of the mountains and their declivities are closed, or covered with grass and bushes. The rain of Brazil, it rains less; the rainy season begins only in Jan. and terminates in April. In this season vegetation is vigorous and rapid, but from Aug. to Dec. the country resembles a desert. Sometimes, and as it appears in decennial periods, there is no rain at all, and then both men and animals die of hunger and thirst.

No. 317.

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Cape Augustinópolis (Augustinó), in 8° 20' 41" S. lat. and 34° 36' W. long., is one of the most E. points of Brazil. About 360 m. from the cape, the great equatorial current, which towards the Atlantic extends northwards, divides into two branches, of which the N. and by far the larger part runs along the N. coast of Brazil to the mouth of the Rio das Amazumas, and hence along Guiana to the West Indies. This current, combined with the trade-winds, which along these coasts are almost parallel to the surface of the water, from the N. parts of Brazil along this shore to the provinces S. of Cape Augustinópolis so tedious, that it is more easy for the inh. of this part to communicate with Europe and North America than with the S. provinces of the empire. The S. branch of the equatorial currents called the Brazilian current is at first of considerable breadth, but it grows wide in 16° and 17° S. lat., where it is 250 m. from the coast. At Cape Frio it is only 200 m. distant, and runs 30 m. per day. Where the coast trends to the S.W., the current is farther off, but it approaches again within the same distance near the Morro de S. Marta, and so continues to Cape de S. Maria.

Between the coast and this current occurs a regular change in the wind and currents; and their direction depends on the position of the sun. When it is S. of the equator the winds blow from between N. and E. and the current S. or S.W.: when the sun is on the N. the line the winds blow from between E. and S.E. and the current flows to the N. These regular and constant changes are very favourable to the intercourse of the maritime provinces of Brazil and Cape Augustinópolis.

We must here observe that the S.E. trade-wind of the South Atlantic ceases at a great distance from the coast of Brazil, and that other winds, especially from the N.E., are sometimes found to extend to the middle of the ocean. This circumstance is benefit to the S. part of South America continent, which has the effect of changing the trade-wind into a monsoon.

The cultivated lands in Brazil bear a very small proportion to the whole surface. According to the most favourable statements the former are 30,000 sq. m., or less than 1/5th of the surface. But this is evidently a very exaggerated estimate, and it is more probable that they do not amount to one-third of that area. With the exception of the immediate vicinity of the larger towns of Rio, Bahia, and Porto Novo, the coffee plant occurs from one another, even in the neighbourhood of the sea, and still more so farther inland. They are nearer one another in the E. district of the tabe land of the Paramá, about S. Paolo in the mining district near Villa Rica, and along the river Piracicaba. In the prov. of Maranhão, Agriculture is carried on in a very rude manner. The forest-trees are cut down and burnt on the ground; the soil then gives rich crops for several years without manure. When it is exhausted it is abandoned, and another piece of ground is similarly treated.

The aborigines of Brazil were not entirely unacquainted with agriculture, but it was limited to a few articles. They planted maize, bananas, *apia* (*Manihot aipi*, Pohl), manioc, and caspicum. Since the arrival of the Europeans and Africans the cultivated plants have been increased more than tenfold in number, but still the cultivation of those which were grown by the aborigines is the most extended. The manioc, of which different species are cultivated (*faturapa mantihot*, Linn.), is grown in every prov. except that of Río Grande do Sul. *Maize* (*Zeus Mat*, Linn.) is cultivated all over the country. In the Amazonic district, the milho cabedo, a species with smaller grains, is commonly cultivated; it yields twenty fold. The Milho Serra, with larger whish grains, is grown in the valleys of the table-land, especially in Minas Geraes, and yields 110 fold. Two crops are annually got, one in September and the other in May; the first is the most abundant.

*Ríe* (*Oryza sativa*, Linn.) is extensively cultivated on the plains as well as on the mountains, but especially in the prov. Maranhão and Para. Two species are used, a red and a white one. In the latter the grain is 2 m. in one country it ripens in 4 months and gives abundant crops from 50 to 60 fold, in some places even from 200 to 300 fold. On the hills it ripens in 6 months, produces less abundant crops, and is not so good. No artificial irrigation is used. *Ríe* is not very well suited for the cultivation in a wild state, as in the Lagos de Xarayes, and Martius found it also on the banks of the San or Furo of Iriáz, which divides the long island of Topinambres, or more properly Tapinambarana, in the Amazonas, from the S. bank. The cultivation of wheat has been attempted in the ier. *Tapioca* (*Manihot esculenta*, Linn.) is cultivated in the table-land of the Paramá and the plains of Río Grande do Sul, whence considerable quantities are brought to Rio Janeiro.

The banana (*musa*) is cultivated in the low plains and valleys along the coast and in some parts of the Amazonas. The best *banana* is Río Janeiro, the S. districts of Minas Geraes, and Para. A certain quantity is annually imported from England: but sweet potatoes succeed wherever there is a good sandy soil. The *caru*, a root similar to the sweet potato, and superior in flavour, is less productive. The *hibiscus* (*Pharax spic-, especially in Río Janeiro, the S. districts of Minas Geraes, and Para. None of the trees are cultivated in Europe for oil are found in Brazil. The inhabitants cultivate the sesamum (*Sesamum orientale*), which was brought from the E. I., and different kinds of the castor-oil plant. Lamp-oil is got from the fruit of a forest-tree called *andra* (*Carapa guajania*, Aulx., *Yxilocar-pus*, Schreb.), which is common in some districts, especially in the plain of the Amazonas. A species of palm (*Eno- carpus distichus*, Mart.) which gives an excellent oil for the kitchen, grows on the N. coast. The *oca* and *oca* (*Erithopy- rum excelsum*, Jacq.) which is used by many of the aborigines of South America pretly much as the betel in India, is cultivated on the banks of the Yupurá, as in Peru. The *maté* (*Cassine gononza*, Mart.), which produces the tea of Paraguay, is a shrub which is cultivated in the prov. of Rio Negro, and which grows wild in Patagonia. It forms a considerable article of export from some countries of South America, especially Peru.

Coffee, which was introduced into Brazil about 50 years ago, is now grown in most of the maritime prov., more especially in Río Janeiro, the S. districts of Minas Geraes, and in Bahia. That of Río Janeiro is the best, and since more attention has been paid to its culture, it is considered equal to that of St. Domingo. The sugar-cane is most extensively grown in Bahia and along the banks of the Río S. Francesco. The smaller variety, called canna da terra or canna cresa, is the most common. The cultivation of this article does not increase so rapidly as might be expected, probably for want of sufficient capital. In other districts of Brazil the cultivation of the sugar-cane is less extended than in the maritime prov.s, a certain quantity is exported. Cotton has been mixed with other article of export. It may be grown as far as 31° S. lat., but is only cultivated to any great extent from 15° S. to the equator. The cotton of Pernambuco, in which that of Rio Janeiro and Río Grande do Norte, and Seará is included, is hardly inferior to that of Georgia. The *Bourbon* coffee, a species which is raised in Pauly and Maranhão is also in high repute: that of Bahia and Pará is of less value. In Pernambuco the cotton is gathered in July and August, in Maranhão in October, November, and December. On the banks of the Amazonas there are two trees, the manguba and the samaha (*Erodendron samuna*, Mart.) which produce a kind of cotton that is used to make felts and mat- tresses, but hitherto, we believe, the attempts to spin it have failed. The cultivation of tobacco, which formerly was very extensive in Brazil, was destroyed by the war with Spain. Tobacco is still cultivated in Brazil, and the colonies in Brazil are in the hands of the tobacco growers. Tobacco is now cultivated as a crop in Brazil, and the colonies in Brazil are in the hands of the tobacco growers.
The immense forests which cover the plain of the Rio das Amazônas supply various articles of export. Cacao is gathered very extensively, as well as cloves, cinnamon, vanilla, saraca-palma, caoutchouc, Brazil-nuts, and different balsams, as copaiba, and copal. The forests on the coast provide a large number of gums and resins, like the gums of India, used in making of furniture and dyeing. The fruits of Europe, which succeed best in Brazil, are figs, oranges, pomegranates, quinces, and a small sort of lemon. It is commonly asserted that grapes do not ripen; but Martius found that the vines bore abundantly in the neighbourhood of Bahia, as well as in the plain of the Rio das Amazônas; and that they produced ripe grapes twice a year, in June and in December.

Pine-apples are sometimes found wild in the forests near Pará, and the palms are abundant in the district N. of 30°, near Pará attain an extraordinary size, with an exquisite flavour.

In the N. provinces palms abound, and perhaps every one of the numerous species may be applied to some useful purpose. The most useful is the coco-palm (cocos nucifera L.), which is common along the coast between 10° and 20° S. lat. and principally valuable on account of the cãoir or outer part of the fruit, of which ropes of great strength are made. The coco-de-mer, or oil-palm (Elaeis guineensis L.), which is chiefly cultivated in the Ashanti. The nut is very hard, like the coco-tree on the coast, but also to a considerable distance from the shore, and yields an oil which is used for lamps and culinary purposes. The leaves of the piapapa-palm (Attalea funifera Mart.), which grows wild between 10° and 20° s. lat., the leaves are so long that it excels in their excellence, which does not succeed in these parts of Brazil. Cables made of these leaves are much preferred to those made of cãoir, being three times as strong.

Of the native vegetation of so extensive a country as Brazil, one can give only some general ideas, as it cannot be surveyed into numerous details for which we have not space. Those who are desirous of making themselves acquainted with this subject will find the most valuable sources of information to be the following:- Auguste de St. Hilaire’s Voyage dans l'intérieur du Brésil; the travaux of Martius and Spix; and of Prince Maximilian of Wied-Neuwied: the Pflanzen and Thiere des tropischen America, in Naturgeschilde von Dr. C. F. Ph. von Martius and the Aperçu d’un Voyage dans l'intérieur du Brésil. La province cuyaptine et les Mémories du Museum, vol. ix. Even these, full of information as they are, convey no precise intelligence concerning the S. and W. frontier of the vast state, and we have still to wait for details with which the unexplored portions of the Provinces of the frontier provinces, which future travellers may supply us, before any good connected account of the Brazilian Flora can be prepared beyond the provinces with which Europeans have most frequent communication.

We may call a proportion of Brazil is cultivated, and by far the greatest part consists of extensive plains, very thinly wooded and frequently entirely without trees, the pastures are extensive, and one of the principal sources of wealth is in the domestic animals. The best pastures are to the S. of 20° S. lat., in Rio de Sul, St. Paolo, and the S. districts of Minas Geraes. The herds of horned cattle are here immense, and their produce, consisting, besides live stock, of hides, jerked beef, tallow, horns, and horn-tips, is exported in great quantities. As soon as the animal is cast, a large number of them are salted, slightly salted, and dried in the sun. The flesh is cut into thin slices, salted, and dried in the air. Thus prepared it is called Carne seca do Serêio, proca or carne charqueada, and is carried from the S. prov. to the N., where it is consumed by the poorer classes, and especially by the negroes. Butter is made in St. Paolo, and cheese in Minas Geraes, but neither is good. By far the greatest part of the cattle live nearly in a wild state, and are not milked. Cattle hair is exported from Rio Grande do Sul.

There are numerous in the S. provinces, but less so in St. Paolo than in Rio de Sul. The number annually exported to the N. is vaguely estimated at 40,000 or 50,000 head. They are of a middling size, from 12 to 14 hands high, but strong, lively, and swift. Those reared in Espirito Santo and called Campos horses, are beautiful animals and last longer. Even near the equator, in the prov. of Pará, good horses are reared, and during the disaster in Caracas a considerable number was exported to Barbadoes and other British settlements. Mules are only reared in the S. prov., but in great numbers. In 1814 17,504 head were exported to the N. prov. The sheep is in little repute, the meat being ill flavoured, and the wool very coarse. A different species of sheep is reared in the Pampas, and raises a wool for their milk. Hogs are kept in great numbers. Monkeys are among the wild animals used for food. The Indians skin and roast them on a gridiron over a slow fire, and in this state preserve them for a long time. A great number of these animals live in the forests along the Amazonas, where Spix observed 25 different species; some of very small dimensions. Many monkeys live in a domestic state with the Indians, but do not propagate their species. The meat of the cebo gracilis of Spix is preferred to all others by the Indians.

The other wild animals used for food are the following. the anta or tapi, three species of porcupine, three species of nasie, five species of deer, the Brasilian hare (lepus brasiliensis, L.), five species of armadillo, seven species of paca and agouti, and the wild bear; and of bats two kinds, the vampires and the quindiri, which stick to domestic animals in the night-time, and suck their blood. The largest bird is the American ostrich or emu (Struthio rhoea), which is found in numerous flocks on the table-land, with its young, and even with its eggs exposed to the eyes of which different articles are made, as fans, &c. The other birds are more remarkable for the beauty of their plumage than their voice. The most beautiful are the toucans (Ramphastos dicolor), the tanagras (Lonagra americana), the scarlets, of which different colours, as also the Baleeane cranes, and the humming-birds. Many other birds are suitable for food, and especially the different kinds of pigeons, which are caught by steeping grain in the poisonous juice of the mandioca plant.

As soon as they have devoured them they are unable to fly away.

The numerous lakes at the S. extremity of Brazil in the prov. of Rio Grande do Sul are at certain seasons covered with water-fowl, especially geese and ducks; this is still more the case in the earlier part of the year. The Indians of the Amazonas, where the Indians kill great numbers of storks, cranes, ducks, &c. The Indians have succeeded in domesticate some of the wild birds; but it is observed that they do not propagate their species in the domestic state for any long time, and that occasionally they are lost.

Fish must be considered as one of the most important sources of wealth to Brazil. Whales, which in the S. hemisphere approach much nearer to the equator than in the N., and come as far as 15° S. lat. formerly yielded considerable profit to the seamen of the east coast of Brazil. Clarence_Beekman. The trade is now much depressed, in consequence, it is supposed, of the numerous fishing establishments of the English and North Americans on the Falkland Islands. Farther S. on the coast of Rio Grande do Sul the physiceus macrocephalus, Linm., is frequent and in great number; the same animaçõ is met with along the coast of Parana. The fish caught along the coast the garupa is the most important.

It attains the length of from 12 to 20 ft. and is very well tasted. It is most abundant along the shores of the prov. of Bahia, where great quantities are annually caught and exported. But the quantity of fish in the Amazonas and its large tributaries as far as the cataratas is truly astonishing, and in many places the inhabitants, Indians as well as European settlers, gain a considerable part of their subsistence by fishing, in which the Indians are employed in great numbers; but this occupation is not, however, confined, in consequence, it is supposed, of the numerous fishing establishments of the English and North Americans on the Falkland Islands. Farther S. on the coast of Rio Grande do Sul the physiceus macrocephalus, Linm., is frequent and in great number; the same animal is met with along the coast of Parana. The fish caught along the coast the garupa is the most important.

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sometimes 20 ft. long, and weighs from 70 to 80 cwt. One fish often yields 480 or 500 gallons of oil, and its flesh, when properly cooked, is very good. It has been made of it, and sent to Portugal as a delicacy. It is a very peaceful animal, and rapidly decreasing in numbers. Its greatest enemy is the alligator, of which there are two species in the rivers of Brazil, the crocoddus niger, Spix, in the Prain, and the Crocoddus niloticus, of the Rio Franceses. The former is generally from 15 to 24 ft. long. The Indians eat its eggs and flesh, though the latter has a strong smell of musk.

There are several species of turtles in the Rio Amazons, but that called Tartarugue Grande (Emysa Amazonica, Spix) is most common. Its flesh generally weighs from 9 to 10 lb. The farms in the neighbourhood of the river have places well fenced, in which they are kept and killed as they are wanted. On some sandy islands of the Rio Amazons, as well as in the Negro, the hens lay their eggs when the water is lowest: the eggs are gathered, broken, and by means of a slow fire reduced to a fat substance, called manteiga de Tartugue, which is extensively used all over Brazil. About 20,000 tons of this fat, each containing 60 lbs., are annually made, and several thousand persons are occupied in its preparation.

Snakes are common in Brazil, but the number which are poisonous, according to Freyreiss, is not very large. He names only six poisonous species, among which the klapper-snake is the most dangerous. The larger species, which are not poisonous, attain eighteen to twenty ft. in length.

The insects of Brazil are remarkable for the beauty of their colours and size, especially the butterflies. Some are very large and very elaborate. One family of beetles, each one species is fried and eaten as a delicacy. Persons, more especially Europeans, who have just arrived in Brazil, suffer much from mosquitos, sand-fly (Pulex penetrans) and some kinds of compass. The scorpion, which sometimes attains 10 inches, the tarantula, and some kinds of caterpillars, especially those of the family of bombyces, cause swellings and excessive pains.

The domesticated bee of Europe is not known in Brazil; but Martius has enumerated more than thirty species of wild bees, nearly all of which are without stings, and it is supposed that some of them could be domesticated. In the prov. of St. Paolo the nopal tree grows, and the inhabitants have begun to collect cochineal. Several attempts have been made to introduce the silk-worm, but hitherto without success. Martius also mentions that perhaps the god of the Philaeans, Atlas, L., which abounds on the N. coast, could be used as a substitute for silk.

The mineral wealth of Brazil is considerable, but limited to a few articles, of which the chief are gold and iron, diamonds and topazes, and salt. Gold is found on both sides of the Serra das Tapuieiras, and particularly from the lower part of the S. end of the Serra da Cavaquera, nearly to the N. branch of the Serra dos Paris, for a distance of about 200 m., but farther on the N. than on the S. side. It is found, more or less, in almost all the rivers which form the upper branches of the Franceses, Tocantins, Araguay, and Guaporé, but by far the greatest quantity has been collected in the affluents of the Franceses. On the arrival of the first Europeans small pieces of gold were found in some places in the sand, and considerable quantities were collected in a short time. The greatest quantity, however, has been obtained by washing the gravel from the beds of certain rivers, or the alluvial deposit on their banks. It is only in comparatively recent times that attempts have been made to work the mines in the mountains.

Before the beginning of the last century the quantity of gold obtained was considerable, but it increased rapidly. The greatest quantity was found between 1753 and 1763, and since that time it has always been on the decrease. According to the incomplete accounts which Escwege gave he calculated that the whole quantity of gold collected during the years 1719 and 1720 was 172,562 pounds, or 4,058,668 marcs, or about 33,922 marcs annually, including one-fifth which he thinks was smuggled out of the country. Between 1753 and 1763 it amounted annually to 34,560 marcs, but between 1801 and 1810 only to 8,218 marcs. It is therefore apparent that the statement which the writer has made of the country is not included; and it may amount to more than one fifth, at least for the latter period, when the means of communication had been greatly increased. The decrease of the produce was mainly owing to the better portion of the auriferous sand having been exhausted, and to the want of sufficient capital to work the veins in the mountains on a scale commensurate with the new discoveries made with success, and the productive mines at Congo Soco, near the Villa de Sabará, on the banks of the Rio das Velhas, a tributary of the Rio de St. Francisco, have been the reward of British enterprise. Iron is very abundant: in some places the beds extend for many miles, and since the sent time it has been worked on an extensive scale only in two or three places. No silver has been found, and only slight indications of copper, tin, and quicksilver. Platinum occurs on the banks of the Rio Abaeté, a tributary of the Franceses, and in some other places. Lead and cobalt are more common.

No country probably is richer in diamonds than Brazil, but hitherto they have only been found in the rivers. The most W. streams in which diamonds have been discovered are the Abaetés, the Aratuins, and of the large part of the Rio Parna, the Abaeté district, or the district of Tucupé, where by far the greatest quantity of diamonds has been found, is situated under 15° S. lat., and comprehends both sides of the Serra de Espinhaco. It is traversed by the Rio Feiquetinhonha, an upper branch of the Rio Belmonte; the small rivers of the W. part of the district fall into the Franceses. In this district about 2000 persons are employed in collecting the stones by the government; and according to Escwege, the diamonds collected between 1730 and 1822 were of the value of about 200,000 ducats. The diamonds are of all sizes and kinds.

He thinks that the value of what has been smuggled out of the country was probably less than this amount before the arrival of the royal family in Brazil, and that it afterwards doubled, owing to the more easy communication between the coast and the interior. According to Escwege, the whole quantity of diamonds has been valued at the lowest price, that is, as stones weighing only one carat; and it may therefore be presumed that the real value was at least double what he has given.

The small town of Abaeté on the Abaeté and Indus, both of which join the Franceses on the left bank, between 18° and 19°, there is another diamond district, which some years ago was worked but soon abandoned. In the Rio Abaeté was found, in 1791, the great diamond which weighs 1334 carats, and is called the Parana diamond, the plain of the Rio Paraná diamonds was found in the Tabajá, which falls into the Paranapanema, a tributary of the Pará, whence it is said they are smuggled out of the country. The yellow topazes found near Villa Rica are much esteemed.

Brazil could not maintain its immense stock of cattle if the people were obliged to buy salt, without a supply of which the animals will not thrive. The table-land does not contain rock-salt, but a great number of small patches occurs on the surface covered with a salt efflorescence, which the negroes and their wives till, and till them; but usually exceed a few square yards, double the value of an estate. In other places salt springs occur, and serve the same purpose. There are also salt steps, which resemble those on the high land of Iran in Asia. Two of them are very extensive: one runs, on both sides of the Franceses, between 17° and 18° S. lat. from the Villa de Urubuí to the Villa de Ioaizeio, with an average breadth of from 80 to 100 m.; the other is situated near the W. boundary of the empire, between the Paraguay and the Serra de Agaspély, beginning on the banks of the Agaspé, and extending for a distance of about 150 m., across the plateaus, through which it flows, to the Alto de Psagély, a great distance. In both districts the surface is slightly undulating, and the salt which appears on the surface after the rains is extracted by washing the earth, and leaving the water to evaporate. In some places, along the Franceses, and in the prov. of Seará, large caverns occur, the soil of which is impregnated with saltpetre. In other places, more especially on the Rio de Feiquetinhonha, alum is found in abundance.

The inhabitants of Brazil consist of aborigines and of foreigners, who have settled here in the last three centuries. The aborigines are divided into two main tribes, the Tupi and the Tupinambas. They are so far resembling another one another in figure, complexion, and habits, as to appear to belong to the same race. They are of a middling size and of slender make. Their complexion is a shining light copper colour, which sometimes passes into a yellowish tinge on their faces; their noses are thin, their eyes small, dark brown, and placed a little oblique; their cheek bones are prominent. All these characters indicate a resemblance to the race which inhabits the E. parts of Asia. They have little hair on the chin. It is remarkable,
that these tribes agree so well in their external characteristics, they have all a different language, even if a tribe consists of only a few families, which is sometimes the case. It is true that most of these languages contain some common roots, but the relationship is not so close that one can be easily understood or learned because another is known.

2. The aborigines of Brazil cultivate the ground and plant two kinds of mandioc, bananas and a species of rice. They have likewise divided their hunting and fighting grounds, and marked these divisions by boundaries. Still they derive the greater part of their subsistence from the chase, the wild fruits of the forest, and from fishing. In some tribes the men and women go naked, in others the women are covered with leaves and grass, and the men wear only a loincloth and eat their enemies, a fact well ascertained of the Boto-cudos in Espirito Santo. But modern writers do not state that they kill their parents or relations and eat them, like the Batuas of Sumatra. Most of them seem to have a very imperfect idea of a Supreme Being, but they generally believe in an evil Spirit. The number of these savage tribes probably exceeds 200 at least; Martius has enumerated 210; many of them consist of only one or two families. This is particularly the case with the tribes in the plain of the Amazon, and those which live in the interior are completely isolated, and at great distances from one another. To the S. of that riv. the tribes are much more numerous, and often consist of several thousand individuals. The Mundurucas on the Tapajós are said to amount to 13,000, and those on the Tocantins, to 10,000; the Paraguai, to 12,000; the Cajapos on the Paranaubahy, an affluent of the Paraná, to 8000; and the Chereotes on the Araguay, also to 8000.

All the aborigines, who lead an independent and roving life, are divided into three larger parties, or classes; the tradistinction to the Indians mansos (domesticated Indians), who have settled among, or in the neighborhood of the Europeans. It has always been the policy of the government to induce a number of Indians to live in one place, and to accommodate them to agriculture. Some are forced to do so, on account of the measure of health and the饮水 and civilized effect, or if they have, it has been observed that the Indians wasted away under numerous diseases, or returned at last to their former habits of life in the deep forests. Still there is a considerable number of these domesticated Indians, especially on the coast, where they perhaps amount to 400,000 individuals, as Freyrejeus conjectures. They were brought together by the Jesuits, and induced to settle in villages, called in Portuguese aldeas, where they were accustomed to agricultural labor. But on the suppression of the Order, the inhabitants left the abandoned settlements to the woods, where they now cultivate a piece of ground, hardly sufficient to give them a bare subsistence, and employ their time chiefly in fishing and hunting. Their huts are better than those of the savage tribes, and they profess Christianity.

The foreign settlers are either Portuguese, or negroes from Africa who have been brought over as slaves, and for the most part are still in a state of slavery. The Portuguese and the negro have intermingled with one another, and with the aborigines. The descendants of Europeans and negroes are divided in Brazil into two groups, Mulatas, and those of the Europeans and aborigines, Mamelucos; and those of the negroes and Indians, Cariboces. The offspring of the Mulattos and negroes, who are called Cubras, are also very numerous. The descendants of the negroes are called in Brazil Creoles. The European and African slaves are valued for their quiet disposition and their honesty.

The whole population of Brazil is variously estimated, from three and a half to five or six millions; but the different independent aboriginal tribes, which still possess more than half of the land, are not taken into account. It is conjectured that the negroes may amount to about two millions, of which number more than three-fourths are slaves; and the descendants of Europeans to somewhat more. The remainder are Mulattos, Mamelucos, Cariboco, Cubras, and/or.

Brazil is divided into nineteen provinces, of which fifteen are situated along the ocean, and four in the interior. Along the coast, beginning from the S., are the following provinces:

1. S. Pedro do Rio Grande do Sul comprehends the sandy plain that stretches along the shore from the boundary of the republic of Uruguay Oriental to the Rio Mambituba, a small riv. which enters the sea S. of the Morro de S. Marta, and also the whole country between this plain and the Rio Uruguay. This prov. is rich in cattle and horses, produces the grains of Europe and rice, as well as sugar cane and coffee, and is inhabited by the most N. districts along the Rio Uruguay there are still a few sejile tribes of independent Indians.

S. Pedro, the only harbour of this prov., is situated some miles from the mouth of the Rio S. Pedro, on a sandy plain of land. As vessels cannot approach near it, they remain on the E. bank of the riv. at a place called S. José. S. Pedro contains between 3000 and 4000 inhabitants, and carries on an active trade with Rio Janeiro. Porto Alegre, the capital of the prov., situated on a bay formed by the mouth of the Guaiahy, is well built, and contains between 7000 and 8000 inh.

2. S. Catharina comprehends the hilly country along the coast between the Rio Mambituba and the Rio Safy, which separates it from S. Paulo, and also the island of S. Catharina: it lies between 29° 30' and 25° 50'. Here the grains and fruits of Europe are cultivated together with those of a better climate. It does not appear that there are any free native tribes in this prov., but they sometimes enter it from the W. side of the mountain-ridge. There are some Spanish settlements, but the principal port is the harbour formed by the is! of S. Catharina. The is! of S. Catharina is above 30 m. long from N. to S., and from 4 to 8 m. wide; its surface presents a succession of hill and dale, and a great part of it is covered with fine trees; it abounds with lakes and rivers, and is separated from the mainland by a strait, which in its narrowest part, where it is formed by two projecting capes, is not more than 200 fathoms wide. These capes divide the strait in two large ports, almost equal in size, and both very safe. The N. port is called S. Catharina; the S. port is called Nossa Senhora do Desterro, the capital of the prov., is on the W. side of the is! upon a bay, a little to the S.E.S.E. of the narrowest part of the strait. It has between 3000 and 4000 inhabitants, and has mosses, and cotton cloths, and of pottery. Many spermaceti whales are taken in the strait, and the oil is prepared in several places of the is! and the adjacent mainland. Laguna, on the continent, has a harbour for coasting vessels, and exports grain, which is raised in the interior.

S. Francesco, near the boundary of the prov. of S. Paulo, and on an is!, has also a harbour for smacks, and exports grain and a great quantity of timber and cordage.

S. Paulo extends over the greater part of the plain of the Parana and over the Campos da Vacaria, and the sea-coast from the Rio Safy to the bay called Angra dos Reys. On the table-lands cattle and horses are raised in great numbers, and grain, manioc, and rice are cultivated and exported. On the coast, and a little coffee, are raised. The W. districts, along the Rio Parana, from the mouth of the Rio Tiete to that of the Iguacu, are still in possession of independent tribes; and the country to the N. of the Tiete is exposed to invasion from the Chajapés, a people hostile to any good seeking vessels, and some thriving towns along the coast.

Iguape, with 5600 inh., exports great quantities of rice. Santos, the port of the town of S. Paulo, to which an excellent road leads over the mountains, is on the N. side of the is!, called Ilha Grande. It has a good harbour capable of receiving men-of-war. It has above 7000 inh., and carries on a very considerable trade. On the same is!, but on the S. shore is the town of S. Vincente, the first establishment of the Portuguese in Brazil; it is now only inhabited by fishermen. S. Sebastião, farther to the E., is the seat of the is! and has more than 2 m. wide, and separates the is! of S. Sebastião from the continent. The town has a harbour for coasting vessels, 4500 inh., and exports timber and grain. Besides the town of S. Paulo (S. Paolo), which contains between 50,000 and 60,000 inh., there is another town of the same name in the interior. Sorocaba and Curitiba. Sorocaba, situated to the W. of S. Paulo, has 11,000 inh., and considerable trade in cattle and grain. In its neighbourhood is the Morro de Ararasaba, which is several miles in circuit, and consists entirely of iron ore. Curitiba, on the N. skirts of the Cam-
pos da Vacaria, is said to have a pop. of 12,000. It sends the produce of that country to the coast.

Alagoas, a port near it, commands a very extensive water-communication, which unites the most W. districts of Brazil with the coast; but it is now much less used than formerly.

4. Rio Janeiro, comprehending the coast between the W. extreme of the bay, called Angra dos Reis, and the mouth of the Rio Capanéu, extends from 50 to 60 m. inland. It belongs to the greatest portion of the Serra do Mar; and the Serra de Mantigueira stretches along its W. boundary. It is mountainous, but contains also extensive valleys. The greatest part of the province is inhabited; but rice, mandioca, and maize, are extensively cultivated. Coffee is raised to a greater amount than in any other prov., and cotton is also largely raised. Savage tribes occur only to the N. of the Rio Paraíba. It has some excellent harbors, including the Bay of Rio Janeiro. The latter is formed by two isl., Ilha Grande and Marumbaya, lying in a parallel line with the coast, and contains some excellent roadsteads. Two of its three entrances are from 5 to 8 m. wide, with a depth of about 30 fathoms. This prov. does not contain any considerable town except Rio Janeiro, the capital of Brazil. [Rio Ja-

5. Espirito Santo extends from the Rio Capanéu to the Rio Belmonte along the coast, and from 60 to about 100 m. inland. The districts are not very extensive; but the north part of the prov. consists of extensive low plains. A small portion of it is under cultivation, and produces sugar, cotton, rice, mandioca, and maize in abundance. Fish abound along the whole extent of the coast. The prov. district, as well as the independent towns and parishes, differ from the rest of Brazil by the B. peoples being distinguished by their bravery and cannibalism. Along the coast are the isl. called the Abrolhos. It has some harbors, but only fit for trading vessels, Victoria, or Nossa Senhora de Victoria, the capital, is the place of residence of the B. peoples. Another prov. is the riv. Caravellas, which is only an arm of the sea extending 10 m. inland, of considerable width and very deep; but the entrance is only accessible to small vessels. The town, which contains about 4000 inh., ships chiefly mandioca, flour, and fish, the gardens being taken in great numbers near the Abrolhos and the reef extending E. of them. Porto Seguro, near the mouth of the small riv. Buruhen is a considerable place, with a good but not deep harbour. Its inhabitants are principally occupied in the garapa fisheries.

6. Bahia. [Bahi; St. Salvador.]

7. Sergipe d'vel Rey comprehends the country to the N. of the riv. Rio Real, as far as the embouchure of the Francisco, and 140 m. inland. Its surface is a plain, with the exception of a few hills; but the W. portion is considerably higher than the E., which is covered with forests, intermingled with patches of cultivated ground. The W. country is generally stony, with few woods or fertile tracts, and very deficient in water. It supplies only very scanty rice for exportation. The gardens are planted with sugar and cotton are numerous. There are no independent tribes in this district. The harbours are formed by the mouths of the rivers, which are neither large nor deep.

Sergipe, the capital of the prov., is situated near the riv. Paramirim, an arm of the Rio Vazabares, 18 m. from the sea; coasting vessels come up to the town. It has a sugar house, a manufactory of tobacco, and some tan-pits. The pop. is stated by Schaffer at 30,000, but this seems an exaggeration. It is an active commercial town in the prov. 18 m. from the sea on the Rio Real, carries on an active commerce in the produce of the country.

8. Alagoas (D. Anna) extends along the shore from the mouth of the Francisco to that of the small riv. Urubu, and is about 140 m. inland. It resembles in aspect the prov. of Sergipe, the W. districts being sterile, and producing in the E. districts the same articles, with tobacco besides. There are no independent tribes in this province. There are two good harbours, the united ports of Jariagu and Pajus-
sara, and the bay of Curupiru. Alagoas, the capital, is on the S. side of the lake of Manguaba, which is 30 m. long, 20 m. wide, the widest part, and is situated on the E. coast of the prov. by the riv. Alagoas. Porto Calvo, situated upon the margin of the riv. bearing the same name, 20 m. from the sea, exports a great quantity of dye-woods. Penedo de S. Francisco, a populous and commercial town, on the banks of the Francisco, about 25 m. from its mouth, contains 11,000 inh.

9. Pernambuco consists of two parts, one on the coast, and the other on the table-land. The latter is distinguished by the name of Serra de Pernambuco. The country along the short coast extending below the riv. Una and Goyana is in general flat, but farther inland it presents a succession of hill and dales, intermixed with some level grounds of considerable extent. Where it approaches the Serra the surface is stony and sterile. The Serra, which extends along the coast, is a range of hills, the highest of which is 2000 m. above sea level. The prov. of Bahia and Goyaz, as far as the Rio Carinheba, an affluent of the Rio S. Francisco, (near 15° S. lat.) is a portion of the table-land of Brazil, and comprehends the greater part of the salt steppes already described. Other portions however afford excellent pasture for cattle, and on the banks of the prov. the plantations of cotton are rapidly increasing. Besides the common productions of tropical climates, sugar and cotton are cultivated, and dye-wood is got in the forests, nearby 100 m. from the sea. The indefi-
nate climate of the coast has subjected the prov. to many changes. Several of the villages have lately been subjected or expelled. The numerous harbours are only adapted for small craft, except those of Cat-

10. Recife is the port of the prov. It contains about 50 m. at its widest from E. to W. More than two-thirds of its surface have an arid soil and are not cultivated. The cultivated lands are in the vicinity of some rivers and on the mountain-ridges, which are generally covered with trees and have a strong soil. The principal products are sugar, cotton, mandioca, maize and tobacco, with excellent fruits. Its few ports can only receive small vessels; but from Cape Branco a reef extends nearly 18 m. N., between which and the coast there are 9 and 10 fath, water, in which vessels can ride in safety.

Parahyba is on the right bank, 10 m. above the embouchure of the riv. of the same name, which, though about 3 m. wide at its mouth, allows ships to ascend only for 3 m.; nothing but smacks can come up to the t., which contains about 12,000 inh., and its commerce in the produce of the prov. is considerable.

11. Rio Grande do Norte extends along the coast from the bay of Marcos to a range of hills called the Serra de Ap-

12. Natal, the capital of the prov., is advantageously situated on the right bank of the Rio Grande, near 2 m. above its mouth. It has also an easy communication with the inland districts, the riv. being navigable for large vessels near 40 m. from its mouth. The prov. is not very extensive, and its pop. is about 18,000. The Island of Fernando de Noronha, 3° 30' S. lat., about 250 m. E. N. E. of Cape S. Roque, belongs to this prov. It is 10 m. long, generally hilly and stony, with a few small portions of land capable of cultivation. Convicts are transported here.
12. Seara, or Ceará, extends from the Serra Appody to the Serra Hibiapaha, which terminates between the riv. Camucim and Parnahybas, in hills not far distant from the sea. It is separated from Pirayu by. It is computed to measure, from N. to S., 132 m. of Pará and Roraima. This riv. is generally uneven, but the valleys are wide and not deep, the elevations are not great, except towards the S. and W. boundary-line. The soil is in general sandy, arid and sterile, except on the broad summits of the mountains, where it is rich and covered with forests. In the department of the Seara and mandicas are cultivated. Along the rivers coton is grown. The district about the upper branches of the Rio Jaguari, the principal riv. of the prov., is the most fertile and productive. This prov. often suffers much from long droughts. The descendent of the native inhabitants are numerous, especially in the less fertile districts. The Indians in some parts are steers, in others flat and sandy, have no ports except for small coasting vessels.

Seará, the capital, is situated near the beach, about 7 m. N. W. of the mouth of the riv. Seará. It has no harbour, about 10,000 inh., and very little commerce. Aracatá, on the E. bank of the Jaguari, 8 m. above its mouth, is the most commercial and populous town in the prov. It has 24,000 inh., and exports cotton and hides in large quantities. The tide, which runs 30 m. up the riv., facilitates the navigation. Sobral, not far from the bank of the Camucim, the second town in commerce and pop., is about 70 m. from the sea. Its port is Granja, on the left bank of the Camucim, 50 m. from the sea.

13. A considerable coast of about 60 m. between the Serra Hibiapaha and the mouth of the Río Parnahybas, which riv. divides it from Maranhão; but it extends 400 m. inland to the source of that riv. This prov. is only hilly on the boundary-line of Seará and Pernambuco; it is particularly in the interior, is not watered by any important succession of the southern portion of the plain of the Parnahybas being extensive and excellent. Besides cattle, cotton is exported, and, in addition to other grains, rice and mandicado are particularly cultivated. Independent tribes still exist in the S. district, and the Parnahybas, deceptively named, is not a port, except that formed by the E. mouth of the Río Parnahybas, called Higuarauss. Oeiras, the capital, is situated on a small riv., which, three m. lower down, falls into the Canindé, a tributary of the Parnahybas. It is a small town with 1,700 inh. Parnahybas lies on the Higuarauss, the E. and most considerable branch of the Parnahybas, 15 m. from the sea, and carries on an active trade in hides and cotton. Its pop. amounts to 2,600.

14. Maranhão comprehends the western portion of the plain of the Parnahybas, being bounded by the coast 350 m. from the western mouth of the Río Parnahybas to that of the Tuyuruass, and nearly 400 m. inland. It is more hilly than Piauí, especially in the S. districts, but towards the sea extremely productive in rice and cotton, which are exported in large quantities. The Seará delimits the prov. on the S. and the Tuyuruass, forming all together perhaps more than half the prov., are still occupied by independent tribes. It has some good harbours. The best of which are the bays of S. José and of S. Marcos, formed by the isl. of Maranhão, which is 20 m. long from S. S. and 15 m. its greatest width. To the W. of the bay of S. Marcos, the shores are skirted by a series of small and low islands up to the bay of Tuyuruass, the limits of the prov. on the side of Pará. Besides the capital, S. Luiz de Maranhão [Marañon, Mora], a portion of the Tuyuruass and Cachicas. Alcantara, on the W. of the bay of S. Marcos, which has a port capable of receiving large coasting vessels, is a large well-buit town, and carries on a considerable trade in the produce of the country. Cachicas is situated on the Itaupur, where that riv. begins to be navigable for large barges, in a district which is productive in cotton; it is a considerable thriving town. Its pop. may amount to 10,000.

15. Pará is the largest of the prov. of Brazil, extending from the riv. Tuyuruass, W. near to the isl. of Tupinambarana, along the S. bank of the Amazonas; and farther to the S. to the E. bank of the rio Madeira. This portion of Pará comprehends the greater part of the plain of the Rio das Amazonas, and also considerable portions of the table-lands, nearly the whole of it is still in the possession of independent tribes, the European settlements being very small and at great distances from one another. They only occur on the banks of the rio das Amazonas, and at the mouth of its larger affluents. On the banks of the tocantins and Madeira, which two rivers have been navigated for some time, there are also a few feeble settlements, but none on those of the Xingu and Tapajos, nor on the rivers between the Madeira and Tapajos. Some attempts have been recently made to navigate the Tapajos, but the obstacles and difficulties may be made on that riv. In this portion of the prov. of Pará, is the capital, Pará [Pará], and the following places:—Braganza or Cayté, on the banks of the riv. Cayté, about 20 m. from the sea, is an old town and a considerable place; the town is seated on a reservation land, which navigate between Maranhão and Pará. Cameta, the most considerable t. next to Pará, is situated on the left bank of the tocantins, above 50 m. from its mouth. It has considerable trade with Pará and the prov. of Goias, and about 6,900 inh. Sanhaua is the mouth of the Tapajos, 20 m. from the mouth, and depth of the numerous articles of commerce collected in the forests around it and farther up the Amazonas; it is also visited by barges which navigate towards the country farther W. It has about 2,000 inh. The prov. of Pará comprehends also a considerable tract N. of the Amazonas, from the E. coast to the Rio Nhamunda. This tract, which is considered as part of Guiana, is almost entirely occupied by independent tribes. The few European settlements only occur on the west coast and on the banks of the Río Amazonas. The most considerable places here are:—Macapa, at the mouth of the can. of Braganza, the principal branch of the Río Amazonas, opposite the Archipelago of Isl. which that great riv. forms here. It is a large port, and carries on an active commerce in the produce of the country. Its pop. is 2,000. Montalegre, situated on a small isl. in the riv. Guarupeu, 7 m. from its junction with the Amazonas, is a considerable place, and has some trade. Óbidos, formerly a principality, is on the Río Oromina, which joins the Amazonas. In this place, at the distance of about 700 m. from the sea, the Amazonas runs in one channel, about 900 fathoms wide, and up to this point the tide ascends. It has some commerce and nearly 2,000 inh.

The prov. between Tucumán and Cape Norte is a narrow channel extends along the coast, which is formed by some islands that line the coast at a short distance from it; in this channel the current called poroboca, is most strongly felt. At full and change, the tide, instead of gradually rising in six hours, attains its greatest height in a few minutes, and is accompanied with a terrific noise. [Bones.]

The isl. of Marajó or Iha dos Joannes is the largest isl. of Brazil, extending above 90 m. from N. to S., and at least 120 from E. to W. It perhaps contains about 16,000 sq. m. of land. It is surrounded by the Rio das Bocas, a fresh-water bay, at the E. extremity of which the Tocantins has its embouchure. This bay and the Rio do Amazonas, 200 m. S. S. of it, are both frequently used and its own numerous rivers, some of which have a course of 70 or 80 m. wide, and, in the rainy season, considerable tracts on the W. and S. side. About one-half of the isl., consisting of that part which borders on the ocean and the mouth of the Pará, is nearly without wood and pastured by great herds of cattle and horses; the other half is covered with high trees and abundance of underwater. The pop. is probably not much above 10,000.

16. S. José do Rio Negro, which is not much more than 6 m. distant from the mouth of the Madeira, is a small town, and lies near the N. side between the Rio Nhamunda and the limits of the rep. of Ecuador; on the S. between the Rio Madeira and the Hyabary, the limit towards Peru. The isl. of Tupinambarana is included in this prov., and also the country S. and E. of it. The European settlements here are still less numerous and less important, and are only found on the Rio Negro and its tributary, Rio Branco, on the Tapuara, and the Madeira, except a very few on the Rio Amazonas. The country between the Madeira and Hyabary has never been opened by the Europeans. N. of the prov. of Pará, and S. of it the numerous tribes of the Mundurucú, Mahés, Muras, and others. Barro do Rio Negro, the capital, is situated on the banks of the Rio Negro, about 4 m. from its mouth, and contains above 3,000 inh. Catacariru, on the Amazonas, situated near the boundary-line of Ecuador, is a very small place.

The isl. of Tupinambarana, which is above 150 m. long, lies near the S. bank of the Amazonas, from the mouth of
the Madeira W. Between it and the main land on the S. is a large, deep, and navigable channel, called can. de Irarí, into which many riv. empty themselves. When the Ma-
deira is swollen, the current runs through this channel E.; but in the dry season it runs partly in the channel of the Páu, and partly in the channel of the S. San Pedro, by different mouths. The isl. is low and covered with impenetrable woods. Nearly in the middle it is divided by a narrow strait called the Furo dos Ramos, which unites the Irarí with the Amazonas.

17. Matto Grosso (Great Forest) occupies the eastern part of S. America, in a position on the great eastern portion of the table-land between the Madeira and the Araguaui, the tributary of the Tapajos, the portion of the plain of the Upper Madeira belonging to Brazil, the plain of the Paraguay, and the W. portion of the plain of the Yanayacu, to the bank of the Rio de la Plata. A great portion of the table-land of the Serra dos Vertentes seems to be a desert of little value, of which the Campos dos Parecis are the worst part; and no Europeans are settled here. The table-land of the Paraná is better, and has extensive pastures; but it is still entirely possessed by the independent Indians, more especially the Cajapos. But on the riv. falling into the Paraguay, there are numerous European settlements, though they are generally small. In many places gold is found, which circumstance gave rise to the settlements, though the mines are at present unemployed or neglected. The low country on both sides of the Paraguay is mostly occupied by the Guaiacurús. On the plain of the Upper Madeira, along the banks of the Guaporé, there are also many European settlements: gold abounds here; but the greater part of the country is possessed by independent Indians.

Villa B'ella, the capital, a considerable town, situated near the Guaporé, has 25,000 inh. and considerable mines in its neighbourhood. Cuyabá, not far from the banks of the Rio Cuiabá, on the right bank of the Paraná, has 1,700 inh. In consequence, the inspection of the country, which is a tributary of the Paraguay, is noted for the quantity of gold which was found here in the beginning of the last century. It is still a considerable place, though the mines have greatly fallen off. Villa Maria, on the E. bank of the Paraguay, is a considerable town.

18. Guayos occupies the centre of the Brazilian table-land, including the basin of the Tapajos to its confluence with the Araguaui and the countries on the E. bank of the Araguaui, together with the hilly country on the Paranaiba, an affluent of the Paraná. European settlements are common only on some of the upper branches of the Tapajos and Araguaui, where gold was found in abundance. There are a few small settlements along the Tapajos up to its confluence with the Araguaui. By far the greater portion of the gold production of Independencia belongs to those which the Cajapos on the Paranaiba, and the Chevantes, between the Tapajos and Araguaui, are the most numerous. Villa Boa, the capital, situated on the Rio Vermelho, an affluent of the Araguaui, in a country rich in gold, contains 700 inh. The river do Paraguái, which forms the boundary near the ridge, which divides the affluents of the Tapajos from those of the Araguaui, is in the neighbourhood of some rich gold mines. Natividade, a town 35 m. from the E. bank of the Tapajos, is the most commercial place of the prov.; it sends its produce to Bahia.

19. Minas Gerais comprehends the E. and, as it appears, most elevated portion of the Brazilian table-land along the upper course of the Rio de S. Francisco, together with the most N. part of the table-land of the Paraná. It is rich in gold. Cotia is a considerable mine; on the W. of the E. Cotia, it has also considerable mines in its neighbourhood, and 2000 inh. S. João do Rey, on a small riv. which unites with the Rio Grande, the principal branch of the Paraná, has above 6000 inh. The gold vicinity is a rich mine, but it depends from the importance of the connection between S. Paulo and Villa Rica passing through it. Sabará, on the Rio das Velhas, contains 6000 inh. In its neighbourhood are considerable mines, among which are the rich mines of Congo.

Sóco. Tejuco, the capital of the diamond district, and the seat of its administration, is situated between high mountains, on the small riv. S. Antonio, which falls into the Tequeitinhoas: it has 6000 inh. In its neighbourhood is the Serra de Ouro, the road from S. Paulo to Rio Janeiro.

The communication between the prov. of Brazil is only easy so far as it can be effected by sea or the Rio Amazonas. The mountains dividing the table-land from the coast are in general steep and difficult to pass. There are only three roads over and down. The most E. of these leads from S. Paulo to Rio Janeiro, a carriage-road, and the best of all. Another road leads over the Serra da Mantigueira from Rio de Janeiro to Villa Rica, but it can only be travelled on horseback. The third, which runs from the banks of the Rio Araguaui to Jacobina, and from Jacobina to Bahia, is still worse. Between Goayz and the country further E. are two roads. One passes from Villa Boa to Villa Rica, and the other from Natividade to the Rio S. Francisco. The country further W. communicates with the E. prov. only by one road, which runs from Cotia to Villa Rica; another road connects Cuyabá with Villa B'ella. Before the last-mentioned road was made, the prov. of Matto Grosso communicated with Rio Janeiro by the way of S. Paulo, and by an inland navigation of great difficulty. Departing from Villa B'ella, the barges ascended the Rio Alegre, an affluent of the Guaporé, whose upper course is separated from the Rio Agraópehy by a portage of only 4800 yards. Hence they descended the Rio Agraópehy and Jauri to the Paraguay. From the Paraguay they entered the Paraná, and at the point afterward called the Campaú, where the navigation on this riv. ceases, there is another portage of 7 m., by which the riv. Sanguijua is reached. This riv. unites with the Vermelho, and both fall into the Rio Parado, a tributary of the Paraná. The Paraguay is now in European hands. The latter riv. was then navigated as far as Porto Feliz. The remainder of the road to S. Paulo and Rio Janeiro was by land. This route has been almost abandoned since a road has been made between Cuyabá and Villa B'ella; a road to Porto Alegre, via Cuiabá and Villa Boa, or Villa Rica; and another passing through Oeyras and Cachias connects Bahia with Maranhão.

The navigation on the Rio das Amazonas and on the Parnahyba is easy, but on the Madeira has been almost entirely abandoned, on account of the great number of cataracts. The Tapajós and Araguaui are navigated with difficulty; but the Tapajós seems to present fewer obstacles.

Commerce of Brazil. The scarcity of the means of inland communication prevents the prov. of Matto Grosso and Guayos, most of the mining districts; but from 1829 bringing their agricultural produce to any market, and their export is consequently limited to gold and diamonds. Minas Gerais, which is connected by tolerable roads with Rio Janeiro, Bahia, and S. Paulo, and also enjoys the select position of having a direct road to the S. Francisco, exports its gold and precious stones, and also coffee and cotton: S. Paulo exports its bulky and heavy products by the port of Santos.

The foreign commerce of Brazil is more extensive than that of any other country of the Americas, except the United States. The vessels of all nations are admitted on the same conditions, and their cargoes pay the same duties. The most important articles of exportation are sugar, 1,500,000 cwt. annually; coffee, 750,000 cwt.; and cotton, from 230,000 bales to 250,000 bales. Rice, tapioca, hides, tobacco, rice, and orange, dyes, wood, sarsaparilla, and indigo is also considerable. The smaller articles are iecnic, indigo, castor-beans, castor-oil, and different drugs.

The following are the ports frequented by European vessels. From S. Pedro in Bahia, S. Francisco is exported three-fourths of all the hides brought from Brazil; formerly they were sent chiefly to Rio de Janeiro, and a few to Bahia, but now a considerable portion is exported direct to Europe, and chiefly to Anwerp. The greatest part of the hides exported from the slave trade goes to Europe, and the slaves in the S. prov. of Brazil; but a part is exported to the Hamburg, as well direct from S. Pedro, as from Bahia and Rio Janeiro. Wheat and tallow go to Rio Janeiro. Santos sends the numerous productions of S. Paulo to Rio de Janeiro; and the few cargoes of sugar exported to Europe, chiefly to Lisbon: a considerable part of the sugar exported from Rio Janeiro is brought from Santos.

Rio Janeiro exports a great quantity of coffee, which now
amounts to 550,000 bags annually, being ten times the quantity exported from all the other Brazilian ports. It is sent to all parts of Europe, chiefly to Antwerp, Hamburg, and Lisbon, as well as to the United States. Next to coffee, sugar is an important export, being from 16,000 to 18,000 cases annually; it goes almost entirely to Europe, and chiefly to Hamburg; but when European prices are low, part of it has occasionally been sent to Buenos Aires, Brazil. Other exports are hides, brought from Rio Grande do Sul and S. Paulo, rum, dye-woods, and drugs; the first two are considerable.

Bahia, or S. Salvador, is the principal port for the exportation of sugar, which annually amounts to from 50,000 to 60,000 bags. These exports are chiefly of some tobacco, rum, rice, cassava, rosewood, and drugs. The sugar goes principally to Hamburg and Trieste, and the cotton to England, a small portion only being sent to France. To Lisbon and Oporto are sent part of the sugar, tobacco, rum, and cassava, and all the rice; and to the coast of Africa much rum and the inferior quality of tobacco.

Pernambuco supplies cotton, sugar, and Brazil-wood. The cotton, amounting to above 100,000 bags annually, comes mostly to England; the sugar being less fit for refining, is distributed in small portions to many markets: it amounts to about 15,000 cases. The Brazil-wood of best quality is found in the neighbourhood of Pernambuco, and is exported on account of the government, which has a monopoly in it. Though this article is also found in the prov. of Rio Janeiro and Bahia, these exports are only a small number.

Cape S. Roque as to bear no comparison in value. The smaller articles are hides, cocoa-nuts, peacucanuha, and other drugs.

Maranhão exports chiefly cotton, rice, tapioca, hides, and hogs' tallow and some drugs. The cotton, amounting to about 50,000 bags, goes chiefly to England (36,000), and the remainder to Portugal and Spain. The rice and tapioca (maniocca flour) is sent to Portugal. The hides (100,000) are divided between England and the United States. Brazil and Belgium are the only small traders in it. What is called Maranhão cassava is the produce of Pará, and is not now exported at all from Maranhão.

Pará, though a larger town than S. Pedro and Santos, is a place of much less trade: its exports consist of a greater value than its imports. It is the second port of Brazil, and its trade is only a small number. What is called Maranhão cassava is the produce of Pará, and is not now exported at all from Maranhão.

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The white, nearly all the sugar of Brazil finds a market at Hamburg, Trieste, and Portugal; the rice, is, with a trifling exception, sent to Portugal; the coffee is divided between the continent of Europe and the United States, the latter having increased their imports to nearly one-third of the whole quantity in late years. Almost all the cotton, rosewood, India-rubber, and sisal grass is brought to England. The hides are distributed between England, the continent of Europe, and the United States. The tobacco is sent to Portugal and to Gibraltar, previous to being exported to England. The rum, which is exported, finds a market chiefly on the African coast, and in some parts of Portugal.

The annual exports from Brazil may be estimated at about 5,000,000, of which nearly one-half is chiefly to Europe, by British vessels; by the remainder about three-fourths to the continent of Europe in Swedish, Danish, Portuguese, and Hamburg vessels, and the rest is carried to America.

The imports into Brazil may likewise be estimated at about 5,000,000, mostly in the form of English vessels. Most of its goods are brought to Brazil, and its manufactures are sent to England. The most important article is cotton fabrics, which amount to nearly 1,500,000; next to these, woollen articles, linen, brass and copper ware, butter and cheese, iron and steel, wrought and unwrought, hardware, Belid cutlery, hats, arms and ammunition, books and candles, and tin. Many cargoes of cod are sent from the British fisheries in North America; and from the British colonies potatoes, India cotton piece-goods, silks and spices. Nearly the whole of this commerce is carried on by vessels from London and Liverpool.

France sends to Brazil, chiefly from the ports of Havre and Brest, some articles of fashion, trinkets, furniture, wax candles, hats, dry fruits, some glass goods, and wine. From Holland and Belgium are sent beer, glass goods, linen, paper; from Germany, Bohemian glass, linen, and iron and brass utensils; from Russia and Sweden, iron, copper utensils, sail-cloths, cords, ropes and tar; from Portugal, wine, brandy, fruits, hats, and European manufactures; from the United States, considerable quantities of salt, flour, rice, coffee, hemp, soap, sweets of candles, tin-foil, tar, leather, boards, pitch, potatoes, and some rough articles of furniture and coarse cotton cloth.

The maritime intercourse between Brazil and the neighbouring republics is not considerable. The most active is that carried on with British Buenos Ayres. Sugar, tobacco, and some other agricultural products are sent, and whence the Paraguay tea or mate is brought back.

Formerly an active trade was carried on with the coasts of Africa, whence, in some years, 25,000 slaves were imported, chiefly from Benguella, Cabilia, and Mozambique. But the slave trade has been abolished, and since that time the traffic has probably much decreased. From Mozambique are imported gold-dust, ivory, pepper, Calombo root, ebony, and some East India goods; from the western coasts of Africa, wax, palm-oil, ivory, ground nuts, sulphur, and some gum-arabic; from Cape Verde islands, sulphur, gum-arabic, and salt. The intercourse with Goa and Macao is not great. From these places are brought cotton pieces, spices, rice, tea, indigo, China tea, cinnamon, pepper, and some camphor. For some years after the opening of the Brazilian ports to free trade, nearly all the commerce was with England and Portugal; but on the general peace in Europe in 1814, the northern ports began to continue the trade.

As almost all the most important products of Brazil are excluded from consumption in England by enormous duties, other countries are gradually, though slowly, supplanting the British in the Brazilian trade.

The British trade with Brazil is on the whole greater now than ever it was, but it by no means comprises the same proportion of the whole of the Brazilian commerce. The whole trade of Brazil has certainly increased very considerably, and though the English share in this trade has probably been decreased, it is still a very considerable one. For some years British shipping carried nearly the whole produce of Brazil, but now it carries less than one-twentieth. North American, Hamburg, Swedish, and other flags have entered into competition with the British, and are beginning to usurp a share of the trade, desiring a larger share of the trade. The principal cause of this change is that the bulky articles, such as Brazilian sugar, coffee, and cacao, being loaded with heavy duties in England, are consumed wholly in other countries, and only sought to be imported for the convenience of these articles direct to the countries of their consumption, much expense is saved, and in doing this foreigners employ their own vessels. The only chance the British have for securing the important carrying trade in Brazilian produce would be by a material reduction of the duties in England.

History.—Brazil was discovered in the last year of the fifteenth century. The voyages of Columbus and Vasco de Gama, who first sailed across extensive seas, had taught navigators to adopt the practice of entering at once upon an open coast, without proceeding far inland. Pedro de Alvaraz de Cabral, who, after the return of Vasco de Gama, was sent by the king of Portugal with a large navy to the East Indies, directed his course from the Cape Verde islands to the S.W., according to the indications of Gama, and discovered that he found himself very unexpectedly in sight of land in 16° S. lat. This country was Brazil, which he saw first on the 3rd of May, 1500. He sailed along the coast as far as Porto Seguro (16° S. lat.), where he landed and took possession. From thence he bought the Algarve Indians, and continued his voyage to India. The king afterwards sent Amerigo Vespucci, a Florentine, to examine the country, who took a rapid survey of nearly the whole of its shores, and upon his return published an account of it, with a map. To this publication this navigator is indebted for the honour of having given his Christian name to the new continent.

Vespucci, and others who were sent somewhat later, reported that the country was not cultivated, and did not offer any great commercial advantages, but that they had found

No. 318.

[THE PENNY CYCLOPEDIA.]
extensive forests of Brazil-wood, of which they brought some cargoes to Portugal. This was not sufficient to induce the Portuguese to form a settlement, or to set up as traders or planters, as they did in the East Indies; but it was quite enough to induce mercantile speculators to send their vessels for the dye-wood. This trade continued for some years, and the merchants of other nations, especially the French, began to consider it seriously. They were encouraged by the Portuguese government as a violation of their rights as discoverers of the country, and they accordingly began to think of forming a permanent establishment. King John III. however, on calculating the expenses to be incurred by such an undertaking, thought it more advantageous to invest some of the richest noble families of Portugal with the property of extensive tracts of coast, for the purpose of colonizing them with Portuguese subjects. Accordingly, about ten or twelve Portuguese nobles were settled in the provinces already acquired—a few leagues of coast, and 40 or 50 leagues inland. These proprietors were called donatários. Most of them made great sacrifices, and underwent much fatigue and danger in forming settlements in Brazil. The towns of S. Vinzent, Espírito Santo, Porto Seguro, and Pernambuco were founded by them between 1531 and 1545. But it soon became evident that the private fortune of these noblemen was not adequate to the establishment of such settlements in an uncultivated country, and in the neighbourhood of weak and barbarous nations. The king, therefore, appointed the king of Portugal and governor to Brazil, Thomé de Sousa, who founded the town of Bahia in the bay of Todos os Santos, and established a regular colonial administration. The government gradually found means to acquire the property of the colonies belonging from the donatários, either by purchase or barter.

Before the religious divisions in England began to people the coasts of North America, the Protestants of France made a similar attempt in Brazil. A colony of French Protestants was established in 1565 in the bay of Rio Janeiro, by Nicolas Durand de Villepagnon, but it soon fell into anarchy. The Portuguese attacked it in 1565, and expelled the French, though not without encountering considerable resistance. On this occasion the town of Rio Janeiro was destroyed by the Portuguese.

On the death of King Sebastian, when Portugal was united to Spain (1580), the numerous enemies of the latter country began to annoy Brazil, among whom the English, under Thomas Cavendish, were the most active. They did not however form any settlement. The French made a second attempt in 1612 to settle on the isle of Maranhão, where they founded the town of S. Luís de Maranhão, but in 1615 they were compelled to abandon it to the Portuguese. The Dutch were more formidable enemies to the Portuguese, for they took possession of many settlements in the Indian seas, and their West India Company was thus invited to similar attempts in America. In 1633 they sent a fleet to Brazil, which took Bahia, then the capital of the country; but it was lost again in 1639. In 1629 the Dutch made another attempt, and possessed themselves of Pernambuco, from which the Portuguese were unable to dislodge them. They also extended their conquest S. to the mouth of the Francisco, and added on the N. the prov. of Paraíba and Rio Grande do Norte to the dominions of the king of Portugal, and the disunited officers appearing to be the principal obstacle to the completion of the conquest of all Brazil, the company sent, in 1637, Prince John Maurice of Nassau to Pernambuco, with unlimited powers as governor. He soon established a more regular administration, and the Portuguese government of Portugal made peace with the Dutch republic. But Nassau did not trouble himself about the orders received from home, and in 1641 and 1642 he took the prov. of Seregin and Pernambuco, so that when he was recalled, in 1643, all that left N. of the Francisco were Dutch, with the exception of the prov. of Paraíba, and in addition to this the prov. of Seregin, was in the hands of the Dutch. The administration of the Dutch colony being left to a council at Recife, every thing soon fell into disorder. The Dutch governor at Bahia was prevented by the peace, and the orders received from his government at home, from taking advantage of these circumstances; but a private person, Fernandes Vieira, formed a conspiracy to seize the city of Bahia, which he was secretly aided by the governor. The conspiracy broke out at Maranhão and Seara, and extended gradually to the other provinces. At last the Dutch were confined to the town of Pernambuco, from which they were expelled in 1643, for the Portuguese government sent a naval force to aid the people who had risen against the Dutch. By the peace of 1668 the Dutch renounced their claims on these countries.

At that time the mineral riches of Brazil were not known. The town of S. Peter in Gallicantu was founded by some Portuguese in 1629, who had ascended to the table-land of the Paraná from the town of S. Vincent, and been induced to settle there on account of its fine climate. The adventurers established a kind of democratic government, and made the place a sort of independent state, in the hope of capturing them and using them as slaves. In these excursions, towards the end of the seventeenth century, they discovered the mines of S. Paulo; and near Saborá, on the Rio das Velhas, in 1700, the richer mines at Villa Rica; and in 1713 those of Maranha. The mines at Cuyabá and Goyaz were discovered between 1715 and 1720. The existence of diamonds in the Rio Icutinbonha was not known before 1728. These discoveries, and the riches which government derived from the mines, induced it to remove the administration of the colony from Bahia to Rio S. Janeiro in 1773.

Brazil has not attained that degree of cultivation and amount of pop. which might have been expected in a colony settled for upwards of 250 years. The principal impediments to the prosperity of Brazil has been the smallness of the population, sometimes 100 or 200 sq. m. and more, and the proprietors not having pains to settle these extensive tracts with a sufficient number of labourers. Another obstacle has existed in the regulations as to commerce, by which no foreign vessel was allowed to enter for the purpose of transporting Brazilians to send their commodities to any other country than Portugal. This of course caused discontent among the merchants. Further, the natives of Portugal who had emigrated to the colony constituted a privileged class, being permitted to hold all public and military employments under government, which naturally excited dissatisfaction among the rich descendants of the Portuguese. This dissatisfaction began to generate a wish for change as soon as the U. S. of North America had obtained their independence; and events in Europe took such a turn that Brazil obtained its object almost without bloodshed and war. When Bonaparte had formed his scheme for taking possession of the Peninsula, he began by declaring war against Portugal, upon which the royal family left Eu
eropa, for Brazil. Consequently Brazil was in a position to take advantage of the situation. Considering Brazil as the principal part of his remaining dominions, King John VI. began to improve its condition by placing the administration on a more regular footing and throwing open its ports to all nations. In the meantime the French army, after having occupied Portugal for some time, was driven out of Spain, and though all apprehension of seeing Portugal again conquered by the French was now removed, the royal family did not return to Europe. On the fall of Bonaparte, the king raised Brazil to the rank of kingdom, and in 1821 he died. In 1822 the country was occupied by the British under Lord Algarve, and the prince regent, Algarve, and Brazil. The inh. of Portugal, finding themselves deprived of the advantages of an exclusive commerce with that country, were much discontented, and it was said that an insurrection, which broke out at Pernambuco in 1822, was excited by the Portuguese government for the purpose of protecting the country from British occupation. The king was however obliged to return to Europe by the revolution which took place in Portugal in 1828, by which the constitution of Spain had been adopted in that kingdom also. The news of this event had hardly reached Brazil when a revolution took place there demanding a stronger government, and the constitution of 1824 was proclaimed by the inh. in the town of Pernambuco, and soon afterwards in Bahia and Pará. It was feared that similar measures would be taken in Rio Janeiro, and accordingly the king found it expedient to proclaim the constitution himself on the 28th of January, 1822, at the seat of government, which was then situated at the head of the administration in Brazil Pedro his eldest son and successor, as lieutenant and regent. The Cortes of Portugal did not conceal their design of restoring the old relations with Brazil, by which its commerce was restricted to the mother country; and they did not treat the
deputies from Brazil quite so well as they should have done. This of course increased the discontent of the Brazilians, and prepared the way for the independence of that country.

The Cortes in Portugal continued their course of policy. They formed a scheme for a new organization of the administration in Brazil and recalled the Prince Regent. But the prince, induced by the representations of the Brazilians, rejected the offer, and the prince and court were finally stationed at Pernambuco and Rio Janeiro to Europe. The Portuguese commandant of Bahia however did not yield; he expelled the militia and remained master of the town. This step was decisive, and immediately followed by others. On the 13th May the Prince Regent was proclaimed protector and perpetual defender of Brazil. The general procurators (Procuradores gerais) of the prov. were assembled by the Prince Regent to consult on the new form of government, but they declared that they were not competent to such a task, and proceeded to choose a new Cortes chosen by the people, to which the prince acceded after a short delay. As the Cortes in Portugal still persisted in their design it was thought necessary to declare the independence of Brazil, and the Prince Regent did not venture to oppose the torrent of public opinion. Accordingly on the 12th of October, 1822, Brazil declared an independent state, and the prince adopted the title of Emperor of Brazil; on the 1st of December he was crowned.

As this step might be considered a declaration of war against Portugal, the president of the Cortes forbade the troops from marching. The Portuguese troops still occupied the towns of Bahia, Maranhão, and Para. Bahia was besieged by the Brazilian forces, and after a few days the garrison was obliged to abandon it, upon the appearance of the admiral and the new forces. The admiral also conquered the garrisons of Maranhão and Para, sailing for Europe. Thus the independence of Brazil was established, with no other loss of blood than what took place in the town of Bahia.

The Cortes of the prov. met on the 3rd of May, 1823, the anniversary of the discovery of Brazil, and adopted the title of General Assembly of Brazil (Assemblea Geral do Brasil). They appointed a committee for drawing up a constitution, which was done by the 30th of August; but this constitution contained several provisions to which the emperor objected. The meetings of the assembly becoming more and more turbulent, the emperor finally dissolved it on the 12th of November, and called another assembly. In the mean time he caused a new constitution to be drawn up, which he approved, and ordered a new assembly (1824). According to this instrument, Brazil is an hereditary monarchy, limited by a popular assembly. The executive is in the hands of the emperor. The legislative body consists of two assemblies, the senate, and the chamber of deputations. On the 1st is the emperor, and the second by the people. The Catholic faith is the religion of the state: all other Christians are tolerated, but are not allowed to build churches, and to perform divine service in public.

During these events the Cortes of Portugal had been dissolved, and the constitution abolished. The king, after some slight attempts, being well aware that it was impossible to re-establish the former relations between Portugal and Brazil, acknowledged the independence of the latter country.

In 1826 two events took place which gave rise to great discontent, the death of King John VI, and the war with Buenos Ayres. By the death of the king, Portugal devolved on the emperor of Brazil, and the Brazilians again apprehended that they might be placed in a state of dependence on that country. To remove such fears, Pedro declared his daughter Maria queen of Portugal, intending to marry her to his brother Miguel. The subject of the war with Buenos Ayres was the possession of the O branded; and, though not in the immediate interest of the nation, the spirit was about to be united to Brazil, and had been partly occupied by Brazilian troops. But the Republic of La Plata maintaining its claims to that country, the war was carried on with some activity and various fortune between 1826 and 1828. By the peace of 1828 the territory between the river La Plata and the Bahia Mission on the Paraná, both of which were to form independent republics, the former under the name of Uruguay Oriental, and the latter under that of Correntes.

But the internal peace of the country was not re-established. The Chamber of deputies had been formed on democratical principles, and they soon found other causes of discontent. Frequent disputes broke out between the emperor and the deputies, and several acts of violence occurred in Rio Janeiro. An affair, which took place on the 13th March, 1831, led to extraordinary results. The chamber of deputies had been prorogued, but twenty-four of the members then residing at Rio renounced with the emperor and returned to their respective provinces. The deputies then waited on the emperor, and demanded that he should accede to this demand, but his next choices fell on persons still more unpopular. This increased the dissatisfaction of the people, and the emperor was required to dismiss the new ministry also, which he refused to do. On the 6th of April a number of populace having assembled before the palace, the emperor ordered the military to disperse them; and on their refusal, he issued a proclamation, by which he abdicated the throne in favour of his son, and on the 7th left Brazil, after having appointed a guardian to his successor, who ascended the throne on the 11th of April.

The chamber of deputies now took a more decided lead in public affairs, and appointed a regency of three persons. It was expected, under the circumstances, that Brazil would soon be changed into a republic, but this event has not yet taken place. It would appear that the residence of the royal family in Brazil has attached a great number of the inhabitants to its interests, who strenuously oppose the attempts of the democratic party. It is remarkable, that among the numerous disturbances which have taken place since the organization of the country, the hatred which is directed to the destruction or complete overthrow of the democratic party. For the last few years Brazil has enjoyed more tranquility than the other states of South America. (Ayres de Cazal. Corografia Brasileira; Travels of Spalding and White, in Brazil, published by A. Wege's Geburtskunde Brasilie und Brasilien; Freyres, Beiträge zur kenntniss Brasilien; Schäffer's Brasilien; Weech's Brasilien gegenwärtiger Zustand; Travels of Mawo, Caldeleigh, and Graham; Southey's History of Brazil; and Smith's Map of Brazil.)

BRAZIL NUTS, the seeds of Bartholomew excelsa. BRAZIL WOOD. [CEA.SILPINA.]

BRAVE, an opening formed by the partial demolition of a rampart in order to permit an assault to be made upon the defenders of it. When the breach is effectuated it is effectuated either by directing upon the escarp, that is, the exterior surface of the wall, a fire of artillery, or by exploding a quantity of gunpowder which may be deposited in a mine formed for the purpose within the mass of the rampart. When the breach is thus formed, the rule and the breach is to be made by artillery, a battery consisting of guns of the greatest calibre is formed on the crest of the glacis; the muzzle of these are depressed so as to permit the firing to be directed against points in a horizontal line, just above the edge of the breach. The gun is placed at the salient angle, the battery should encompass the angle so that the guns may be fired at the same time against the two faces of the work. When by successive volleys the shots have pierced quite through the wall, the guns are directed as to fire at different points in a vertical line passing through each extremity of the horizontal groove, and thus a portion of the wall is detached from the rest; afterwards, a few shots being fired with diminished charges of powder, the detached pieces fall into the breach, leaving an opening, upon which, after the surface of the breach has been rendered passable by firing against it till the large masses of the demolished wall are sufficiently reduced, the troops may mount to make the assault.

As it is not always convenient to defer the formation of the breach till after the glacis has been crowned, the breaching batteries are sometimes constructed at an earlier period of the siege, and at a greater distance from the works. It is evident, however, that the firing cannot then be made with such precision, and unless the ground is level, or the ditchings are very shallow, the guns be directed to the foot of the escarp wall; consequently the breach will be steeper and more difficult of ascent. In old fortresses however the revetment walls often rise so high as to prevent the batteries from being brought within a much smaller angle of depression; in these circumstances breaches have sometimes been effectuated by firing from batteries at the distance of 1200 yards from the walls. Ramparts have also been breached from great distances by
Sir H. Davy states that wheat sown in autumn contains 77 per cent. of starch, and 19 of gluten; while that sown in spring yielded 70 of starch, and 24 of gluten: the wheats of the south and St. Helens contain more gluten than that of the north, and hence its peculiar fitness for making vermicelli. According to the chemist just quoted, oats yielded 59 of starch, 6 of gluten, and 2 of saccharine matter; while the same quantity of rye gave only 61 of starch, 11 of gluten, and 2 of saccharine matter.

The separation of the gluten from the greater part of the starch is very readily effected. Make flour into a thick paste, and work it between the fingers while a slender stream of water is running upon it, and continue the operation till the water ceases to be milky; then there remains a grey, adhesive, elastic mass, which is principally gluten, but contains some albumen and a little starch: to render it more pure, it is to be treated with boiling alcohol, until the filtered spirit ceases to become turbid on cooling. The alcohol dissolves the gluten, as well as a certain proportion of starches, the nature of which is imperfectly known, while the vegetable albumen is left. To the alcoholic solution of the gluten add water, and distil the mixture; the alcohol comes over, and there remains a fluid in which the gluten floats in coherent bulky flocks; a small quantity however remains dissolved combined with gum.

The gluten thus procured is of a pale yellow colour, and its smell is peculiar, but tasteless; it is elastic and adhesive; water does not dissolve it, but it is taken up by alcohol with difficulty. It is afterwards treated with diluted, of a deeper yellow colour, and eventually dries into a deep yellow mass, which is translucent, and has the appearance of dried animal matter. When moist gluten is exposed to the air it putrefies, emitting a very disagreeable smell, which becomes progressively stronger as the charcoal is left. It is composed of carbon, oxygen, hydrogen, and azote, in proportions which have not been determined: it is owing to the presence of azote that it yields ammonia, and in this respect it resembles animal matter.

These, which are the principal properties of gluten, are sufficient for our present purpose; a more detailed account of them may be seen in Berzelius, Tracté de Chimie, vol. v. In order to procure the starch of the flour, the water which has been used to wash it in obtaining the gluten is to be suffered to remain quiet; rest all the gluten which is merely suspended, may be separated on a filter and afterwards dried.

It is not requisite to give a minute account of the properties of starch; it is sufficient to state that it is colourless, transparent, and in a state of suspension when contained in glass, its particles have a crystalline appearance. It is insoluble in cold water, and coagulated by it when boiling; but between about 160° and 180° of Fahr., it is taken up by an alcohol, and a clear, colourless solution is formed, which does not deposit on cooling. It is not affected by any change even by long exposure to air; but when moist it becomes slowly sour. The peculiar and distinctive property of starch is its giving an intense blue colour, when treated with a solution of iodine in alcohol.

The difference between common biscuit and loaf bread has already been noticed, and we shall now state the means by which fermentation is induced, so as to give the bread the porous texture and lightness which are the proofs of its perfection.

When flour is made into a paste with water, the mixture is called dough, and when this is suffered to remain in a moderately warm place it undergoes that partial and spontaneous decomposition which is called fermentation, and which, in order to distinguish it from other kinds, has been called, but without sufficient reason for the distinction, the panary fermentation. During this fermentation a portion of the carbon and oxygen of the partially-decomposed flour recombine so as to form what is sometimes called fixed air, but correctly carbonate acid gas. this, during its passage through the natural terestial air, escapes into the air, and is conveyed to the other substances in smaller proportion: according to Vogel, it is composed of

<table>
<thead>
<tr>
<th>Substances</th>
<th>Proportion</th>
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<tbody>
<tr>
<td>Starch</td>
<td>68</td>
</tr>
<tr>
<td>Gluten</td>
<td>24</td>
</tr>
<tr>
<td>Gummy Sugar</td>
<td>5</td>
</tr>
<tr>
<td>Vegetable Albumen</td>
<td>1·5</td>
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In order to comprehend what takes place in this case, it will be requisite to state the nature of the different substances which constitute wheat flour; it is composed chiefly of starch and gluten, and some others, all of which diffuse themselves into the mixture of flour and water. In order to acquire the proper effects, the various substances are reduced to certain proportions: according to Vogel, it is composed of starch 68, gluten 24, gummy sugar 5, and vegetable albumen 1·5. The product of fermentation would however not only require much time, but dough thus spontaneously fermented is never quite free from putrescence and acidity, both of which
are injurious to the flavour of the bread: to remedy these inconveniences the process was formerly accelerated by adding to a mass of recent dough, a small quantity of old dough, in a state of strong fermentation; this was called leaven, and the mass to which it was added was said to be leavened.

Although the use of leaven was an unquestionable improvement, a still further one was made by the employment of yeast instead of it; by this the fermentation is much more rapid and perfectly effected. The exact nature of this ferment has not been ascertained; it is the frothy scum which rises on the surface of beer during its fermentation; it is a very compounded substance, and it is by no means determined to what portions of it the fermentive power is particularly owing. It appears to contain gluten, but this alone is not sufficient to account for the effects produced, as it is incapable of fermentation per se.

The following statement of the mode in which the baker's operations are conducted is taken from Dr. Colquhoun's essay On the Art of Baking Bread, in the 28th vol. of the Annals of Philosophy.

When the baker proceeds to the preparation of dough by means of the yeast fermentation, he at first takes, generally a portion only, but sometimes the whole of the water which it is his intention to employ in making the required quantity of dough. In this water, which varies in temperature, according to circumstances, from 90° to 100°, there is dissolved a certain portion of salt, the quantity of which however is always less than that which will finally be regularly containing in the finished bread. Yeast is one of the principal ingredients of the bread: yeast is now mixed with the water, and then a portion of flour is added, which is always less than the quantity to be ultimately employed in forming the finished dough. The mixture is now covered over and set apart in a warm place, exposed to the influence of the air after which signs of commencing decomposition make their appearance. The substance thus placed apart is termed, in the language of the bakehouse, the sponge; its formation and abandonment to spontaneous decomposition is termed setting the sponge; and the process by which the amount of water in the sponge bears to the whole quantity to be used in the dough, it is called quarter, half, or whole sponge. The sponge begins to swell out and heave up, evidently in consequence of the generation of some internal elastic fluid, which in this instance is always carbonic acid gas. If the sponge be of a semi-liquid consistence, large air-bubbles soon force its way to its surface, where they break and dissipate in rapid succession. But when the sponge possesses the consistence of thin dough, it confines this gaseous sub stance to the inner small cavities and enables it perfectly to nearly double its original volume, when no longer capable of containing the pent-up air, it bursts and subsides. This process of rising and falling alternately might be actually carried on and frequently repeated during twenty-four hours. The sponge has now acquired the power of counteracting all scope to the energy of the fermentative principle. He generally interferes after the first, or at farthest after the second or third dropping of the sponge; and were he to omit this the bread formed from his dough would invariably prove sour and tasteless to the eaters.

He therefore at this period adds to the sponge the remaining proportions of flour and water and salt, which may be necessary to form the dough of the required consistence and size, and next incorporates all these materials with the sponge by the process of kneading. When the kneading process has been continued until the fermenting and the newly-added flour have been intimately blended together, and until the glutinous particles of the flour are wrou ght to such a union and consistence that the dough, now tough and elastic, will receive the smart pressure of the hand without adhering to it when withdrawn, the kneading is for awhile suspended. The dough is abandoned to itself for a few hours, during which time it continues in a state of active fermentation now diffused through its whole extent. After this the bread is taken out of the oven and after a less laborious kneading, the object of which is to distribute the gas engendered within it as equally as possible throughout its entire constitution, so that no part of the dough may form a sod or ill-risen bread, from the deficiency of this case. After the second kneading the dough is weighed out into the portions requisite to form the kinds of bread desired; these portions of dough are shaped into loaves, and once more set aside for an hour or two in a warm situation. The continuance of fermentation soon generates a sufficient quantity of fresh carbonic acid gas within them to expand and increase their mass forming a loaf whose crust even is considered fit for the fire, and are finally baked into loaves, which, when they quit the oven have attained a size nearly twice as bulky as that at which they entered it. It should be remarked, that the generation of the due quantity of elastic fluid within the dough has been found absolutely necessary to be complete before placing it in the oven, because as soon as the dough is there introduced, the process of fermentation is checked, and it is only the previously contained air, which, expanded by heat throughout the parts of the entwined tough loaf, swells out its whole volume, and gives it the piled and vesicular structure. When it is recollected that the gas thus generally expanded has been previously distributed by the baker throughout the bread, and that the whole dough has been by kneading formed of a tough consistence, the result becomes apparent, that the well-baked loaf is composed of an infinite number of cellsules, each of which is filled with carbonic acid gas, and seems lined with or composed of a glutinous membrane, and it is this which communicates the light elastic porous texture to the bread.

It has been already observed that what is sometimes called the porus fermentation is not of a peculiar kind: it is the mere vinous fermentation; and it has been shown by Dr. Colquhoun, that during the fermentation of bread by the process of leaven, the fermentation of the grape alcohol is one of the most dangerous of all that take place in the bread; yeasts has also been most satisfactorily proved by Mr. Graham. (Ann. Philosophy, vol. 28, p. 367.)

To avoid the use of yeast, which might introduce alcohol, Mr. Graham kneaded a small quantity of flour, and it was permitted to remain in a state of fermentation for some days. By means of the leaven a considerable quantity of flour was fermented, and when the fermentation had arrived at its proper point, formed into a loaf. The loaf was carefully enclosed in a distillatory apparatus, and subjected for a considerable time to a moderate temperature. Upon examining the condensate liquid, the taste and smell of alcohol were quite perceptible, and by repeatedly rectifying it a small quantity of alcohol was obtained of strength sufficient to burn and ignite gunpowder by its combustion. Alcohol of this strength was obtained in quantity varying in weight from 0:3 to 1 per cent. of the flour employed: when the fermented flour was allowed to sour before baking, the amount of alcohol rapidly diminished, and the disagreeable empyreuma consequent upon this completely disguised the quantity of the alcohol when in its first distilled state and in vapour.

We have now stated sufficient facts to prove that the fermentation which occurs in the preparation of bread is merely the vinous, and Dr. Colquhoun has shown that it proceeds upon the same principles of the process of making wine, against allowing full scope to the energy of the fermentative principle. He generally interferes after the first, or at farthest after the second or third dropping of the sponge; and were he to omit this the bread formed from his dough would invariably prove sour and tasteless to the eaters. He therefore at this period adds to the sponge the remaining proportions of flour and water on salt, which may be necessary to form the dough of the required consistence and size, and next incorporates all these materials with the sponge by the process of kneading. When the kneading process has been continued until the fermenting and the newly-added flour have been intimately blended together, and until the glutinous particles of the flour are wrought to such a union and consistence that the dough, now tough and elastic, will receive the smart pressure of the hand without adhering to it when withdrawn, the kneading is for awhile suspended. The dough is abandoned to itself for a few hours, during which time it continues in a state of active fermentation now diffused through its whole extent. After this the bread is taken out of the oven and after a less laborious kneading, the object of which is to distribute the gas engendered within it as equally as possible through-out its entire constitution, so that no part of the dough may form a sod or ill-risen bread, from the deficiency of this case. After the second kneading the dough is weighed out into the portions requisite to form the kinds of bread desired;
about four pounds. There are however several circumstances which influence the quantity of bread obtained from a given weight of flour, such as the season in which the wheat was ground, the way the flour is, the older, within certain limits, the larger is the quantity of the bread produced.

If it were requisite, a long list might be produced of articles which have been proved or have been said to be mixed with bread. No advertiser could, we believe, arise from such statement. The most innocent of them is potatoes.

BREAD-FRUIT. [Antocarpus.]

BREADALANE. [Perthshire.]

BREAKWATER. [Plymouth.]

BREAM, a fish well known to anglers, and by them often called the carp-bream, from its resemblance to the carp, in being of a golden-yellow colour.

As there is another closely-allied species of bream, it would be well if the latter name were universally adopted. The Spanish bream, sea-bream, &c. belong to quite a different class of fishes [Pagellus, Canthus, and Brama].

The carp-bream and the white bream are included in the genus Abramis, and belong to the Cyprinidae, a family of the abdominal Malacopterygi. The chief distinguishing characters of the genus Abramis consist in the deep and compressed form of the body, the want of barbules to the mouth, the short dorsal fins, which are placed behind the ventrals, and the long anal fin. Abramis brama (the carp-bream) is taken in great numbers in the lakes and slow-running rivers of most parts of Europe, and is very prolific. It may be distinguished from allied fresh-water fish by its yellow colour and the deep compressed form of its body; its pectoral and ventral fins are tinged with red. The weight of this fish is considerable, and two breams have been caught weighing from eight to twelve pounds. Brama blicca (the white bream, or bream flat), the only other species known, has lately been discovered in the river Cam in Cambridgeshire and other rivers of this country. It is a smaller fish than the one just described (solden if ever exceeding one pound in weight), and is of a sliver or bluish-white hue. Its scales are larger in proportion, and likewise its eyes; the number of rays of some of the fins also differs from those of the carp-bream. For more detailed accounts of these fishes see 'Observations on the British Fishes.'

BREAST-PLATE. [Armour.]

BREAST-WORK is a mass of earth raised above the natural ground for the purpose of protecting troops against the fire of an enemy, its height being only such as will permit the enroppers to throw stones, fire over a baquette or step. When the work has its surfaces carefully formed and revetted or covered with sods, particularly when it is elevated on the rampart of a fortress, or constitutes a considerable field fort, it is always denominated a parapet—those of the English chiefly composed of a solid mass of earth thrown up to cover the troops stationed on any exposed part of a field of battle, or doing duty as an outpost of the army; or to the gabionnaud, that is, the row of gabions placed on end and filled with earth, which the sappers construct for the protection of the troops in the trenches, or on the breach which is made in a rampart. A breast-work however differs from an eapament, which is also a mass of earth or other material raised to cover troops or artillery when in situations exposed to the fire of the enemy, in that it is intended to be placed above ground level.

The understandings with which the Greeks and Romans protected the ground occupied by their armies were breast-works, which in wooded countries frequently consisted merely of felled trees; and in other circumstances were formed of earth protected by palisades, or by the interwoven branches of trees planted on the top of the bank of earth. The same denomination might be applied to the continuous lines which were formerly raised for the protection of armies; but as these are now understood as engineering expedients, instead of the number of separate redoubts are usually formed at intervals from each other to contain artillery, the word breast-work is little used, the protecting masses of earth generally receiving the name which is given to those which crown the ramparts of a permanent fortification.

BREATHING. [Respiration.]

BREATHING-PORES, microscopic apertures in the cuticle of plants, through which the functions of respiration and evaporation are supposed to be carried on. They are formed by the juxtaposition of two cells which do not subside when they touch, but which have a power of contraction so as to leave an opening between them which acts as an escape-valve to the air-chambers immediately beneath the pores [Brady].

Breachword, literally signifying "an opening or breaking in any substance," is employed in geology to designate a rock composed of angular fragments of a pre-existing rock, or of several pre-existing rocks, united by a cement of mineral matter that may vary from compact to friable. Thus, as in the annexed diagram, the fragments (which are shaded) may be composed either of angular portions of quartz rock, or any other single rock, united by a cement (which is dotted) formed of the hard silicious substance named chert, or any other hard mineral substance; or the fragments may be angular portions of many rocks, such as a mixture of pieces of slate, porphyries, limestones, granites, or others, united by a friable sandstone or any other soft mineral substance.

The name of Breccia is derived from the well-known Breccia marble, which has the appearance of being composed of fragments joined together by carbonate of lime, infiltrated among such fragments after the latter were produced by some disrupting force.

Breachwood informs the geologist that the pre-existing portions of rocks, included in them, have not been exposed to considerable friction, which would have rounded off the angular parts, as has happened in the case of pre-existing pieces of rocks included in conglomerates [Conglomerate]. Hence the geologist may expect to find the rocks, whereas the angular fragments of a breccia are derived, not far distant from the breccia itself, while the rounded pebbles contained in a conglomerate may have been transplanted from considerable distances.

Breachwood, a par. and royal burg in Forfarshire, Scotl., bound on the E. by the par. of Dun, W. by Carsiaton, N. by Strickathrow and Menmuir, S. by Faraul, and S.W. by Aberlemno; and situated on the N. bank of the South Esk, 72 m. W. of its junction with the sea at Monroeside; and on the F. of Forfar, 5 m. S.W. of Aberdeen, its par. is about 7 m. from E. to W. and 6 broad from N. to S.; and contains 224 square miles.

Breachwood was formerly a walled town and a bishop's see. The bishopric was formed about 1160 by David I. In 1669 B. was made a county borough, and possessed uniting of 16 doz. and 10 geo.; 18, corn for horses, 1 chald and 2 bolls; salmon, 3 barrels; money by kinds, 2417. 6s. 8d. (Scotch); teind wheat, 41 bolls; bear, 14 chalders, 6 bolls; meat, 26 chalders, 5 bolls. They are in the upper part of the town, and are the ancient chapel of Maison Dieu, which is now used as a stable. In the churchyard near the cathedral there is one of those curious round towers which have puzzled antiquarians to settle by whom they were built and for what purpose they were constructed. Several exist in Ireland; one only other exists in this island. This tower is about 106 ft. high, and is constructed of stone: the workmanship is admirable. It is surmounted with a conical roof of gray slate; and there is no appearance of there having been any staircase within it. There is a full description of it in the 'Account of Fife,' 1796. The measurements there are correct given; but the statement as to the spiral courses of masonry is incorrect. The cathedral, the W. end of which is now the par. church, was built by David I. in the eleventh century. Brechin Castle stands on the top of a precipice, and is separated from the town on the E. and W. by a deep ravine; its S. base is washed by the South Esk, which here forms a fine sheet of water. In this castle Sir Thomas Maule defied the forces of Edward III. until he was killed by a stone thrown by an engine, when the garrison surrendered to the English.

The town-house, near the cross or market-place in the middle of the town, was almost entirely rebuilt about thirty years ago: it contains a court-room and prison, two rooms for the meetings of council, and a guild-hall. Three schoolrooms, built in 1840, are described above. The W. end of the town. Towards the N. end there is a Scotch Episcopalian chapel, built about twenty years ago, and enlarged and beautified in 1833, especially at the W. end, which is nearly finished with two nunaria in each side of
THE cross in the centre. There are four plain and commodious Presbyterian meeting-houses; one of which was until lately used as an English Episcopal chapel, one belonging now to the Antiburger, one to the Relief, and two to the Secession. The building of the last was in 1832. In 1831 a new church, or chapel of ease to the establishment, is now (1836) building.

In 1831 the number of houses in the burgh and parish was—Inhabited 900, building 9, and uninhabited 32; the total number of families was 1675, of whom there were engaged in agriculture, 961; in trade, manufactures, and handicraft, 1630; other families, 317; the total number of persons was 6508; males, 3048; females, 3460.

At Brechin upwards of 400 persons are employed in the linen trade. The number of fatuous persons is 34; blind, 19; and deaf and dumb, 3. About 900 families attend the Established, and 500 the Dissenting and Episcopal churches. The real rent of the parish is about 13,064
eight, the average rent of land is about 27s., and land as grass for the season from 20s. to 35s. per imperial acre. There are about 30 men and women employed in hecking, 260 in spinning, from 1000 to 1500 in weaving, and from 40 to 50 in bleaching. Two spirit distilleries are carried on near the town.

There are three tramways and several freestone quarries, besides three nurseries, consisting of about 25 imperial acres, which supply a large district with ornamental shrubs, bushes, fruit, and forest trees.

The burgh is governed by the town council, which since 1829 has consisted of thirteen members, chosen by the 10l. householders within the burgh. One of the eleven is elected by the ratepayers in the parish. The council choose the magistrates, a provost, two bailies, a treasurer, and a master of the hospital. The property, except the town-house and school-house of Brechin, in 1832, was valued at 13,935£; it consists of lands, houses, mills, growing wood, and meadow; the church has 900 acres, and a church and shares in a turnpike road.

The town-house and school-house may be worth about 300£. The total annual revenue of the burgh is 721£ 3s. 34d. The ordinary expenditure in 1832 was 700£ 4s. 114d.; the extraordinary in improving streets and roads, about 50£, and the repayment of the mortgage of that year, 354£ 6s. 63d. At the same time the town's debts were 3284£ 10s. 04d.

Within the last forty years the value of the property is nearly doubled, the income and outlay are nearly doubled, and the debt has increased fivefold. The magistrates exercise their jurisdiction within the royalty boundaries, which are not so wide as the parliamentary. A bailie court is held every Wednesday, except two short vacations, in which there have been brought, from 1820 to 1834, 639 Civil Causes (proper). 436 Removals. 24 Building Warrants, since 1837. 46 Criminal Causes.

1163

The town-clerk acts as assessor in the bailie court. There is an appeal from the bailie court, where only one magistrate sits, to the other magistrates. The magistrates and council elect the civil officers of the burgh. The six incorporated trades, except the jewellers, possess the exclusive privilege of carrying on their trades in the burgh. Brechin, in conjunction with Montrose, Arbroath, Forfar, and Inverbervie, returns one member to parliament: the number of constituents amounts to for Brechin, 233; for the district, in 1833, to 242.

The church in the centre of the town is in excellent repair, and contains 1500 sittings. The charge is collegiate. The first minister has a house built from the funds of the Exchequer more than fifty years ago, and about an acre of garden ground. His stipend is 19 chalders of grain, 34 loads of coal, and the rest half barley and half oatmeal, besides 10l. for communion elements. The second minister has a house, a glebe of 6 acres of good ground, 17 chalders of grain, 21l. from bishops' rents, and 10l. for communion elements. We have already mentioned the stipend of each is about from 220l. to 300l. a-year.

In 1834-35 the arrangement of the schools was rescinded. The rector of the grammar school and preceptor of Maiton Dietz has a fixed salary of 60l. per annum; 10l. per annum for a house, and 20l. as a premium for some excellent work or some fees from scholars. The parochial teacher has a salary of 40l. and the third teacher of 25l. per annum, besides fees. In 1826 the rate of par. school fees was, per quarter, reading 2s. 6d.; writing, 2s.; reading and writing, 3s. 6d.; arithmetic, 4s. 6d.; French, 8s.; Latin, 6s.; and geography, in addition to any of these branches, 1s. The average number of pupils was 112. Greek and mathematics were occasionally taught. In 1825 a minute was taken to oppose the building of any new church, or chapel of ease to the establishment, is now (1836) building.

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(Answers to Queries on Sheriffdoms on Parishional Education in Scotland; Enumeration Abstract of Population Returns, 1831; Boundary Reports; New Statistical Account of Scotland; Playfair's Description of Scotland; Chambers's Gazetteer; Scotch Municipal Corporation Reports.)

BRECKNOCK or BRECON, the capital town of Brecknockshire, called by the Welsh Aber Honndu, the mouth of the Honndu, in lat. 51° 54' N., long. 3° 12' W., 167 m. W.N.W. of London, near the centre of the co., in an open valley at the confluence of the riv. Usk and Honndu. It is a corporate town, and returns one member to parliament. The limits of the bor., which are not set out in any existing charter, seem to be well ascertained; they are extremely irregular, reaching in a W.S.W. direction about 2 m. from the castle; towards the W. of the same building, their extent does not exceed a quarter of a mile. Part of the par. of Llyw, called Treecastle Ward, on the left bank of the Usk, on the high road from Brecknock to Caermarthen, belongs to the bor. of Brecon, and is subject to the jurisdiction of the corporation. Exceeding Treecastle Ward, the whole bor. of Brecon extends to the Usk, the river forming the bor. of Llanfaes. Each of these par. is divided into an upper and lower division. Of St. David's, the lower division is wholly within the bor., and the upper wholly without it; and of St. John's, a great part of the upper division of the par. is without the bor. wall. The chapel of St. Mary's, called the chapel of St. Mary's, is within its limits. Two portions of the space comprised within the bor. line, the castle and Christ's College, are extra-parochial. Under the Boundary Act, they form a part of the parliamentary, but are not included in the assessment for the trial of small debts and actions. The expense of trial in these courts is sometimes less than forty shillings, if the action is undefended; and from four to five pounds, if it is defended. It takes about three weeks to obtain judgment. There is a small bor. gaol maintained by a bor. rate, which is used for debtors only, an arrangement having been made with the co. to send other prisoners to the co. gaol, which is also in Brecknock. The income of the corporation, in 1835, was under 256£.

The castle and court were built by Barnard Newmarch, a relative of William the Conqueror, who wrested the co. from the hands of the Welsh princes, and here fortified himself, that he might the better maintain the rights which had been granted to him as Lord of Brecon, against the annual attacks of the Britons. When the Britons were considerably increased and improved by the last Humphrey de Bohun, Earl of Hereford, high constable of England and governor of Brecknock. Part of several towers, including that called Ely Tower, in which Morton was confounded [BRECKNOCKSHIRE], are still standing. The situation is commanding for the purposes of early warfare: the main part of the fortifications may still be traced. It appears from a manuscript in the British Museum that the Castle of Brecknock and the walls of the town were destroyed by the inquisition of the inl. and Edwards; and that a garrison and the miseries of a siege. Two priories, the one Benedictine and the other Dominican, were also founded by Barnard Newmarch, in the reign of Henry I. The first is now the par. church of St. John's, called the Priory Church; the second was converted into a college by Henry VIII. The Priory Church stands in the N. part of the town, adjoining the precinct of the priory, where there is a beautiful panoramic by the side of the riv. Honndu. The architecture of the church is not so antient as the institution itself. It was built, perhaps, in some ways, and is built in the form of a cross, from the centre of which rises an embattled tower. A paddle cloister extends from the church to the refectory. This is the principal church in Brecknock; it is frequented by the inl. of the upper portion of the par., and of St. John's; the chapel of St. Mary's, the building of no remarkable beauty or antiquity, is the established place of worship for the lower division. The Dominican convent, now the college, is situated near Llanfaes.
church, on the W. side of the Usk. This establishment is
now of little use: it formerly was a place of education for
the Welsh clergy, but has ceased to be so since the foun-
dation of Bishop's College, which is a rival in influence.
Part of the college buildings have been converted into a grammar school and dwelling house.

The school is attended by less than ten children, and the building is very much out of repair. Service is performed to a small
congregation in the chapel on Sunday evenings. The en-
doors, which are under the authority of the bishop, are
in good order. The pastor, Rev. W. G. David's is an early English building, of no particular beauty,
situated near the Treacle road, on the W. side of the Usk.

The town is built in a healthy and extremely picturesque situation: it contains no very remarkable buildings. There
was formerly a wall formed with ten turrets, and through
which there were five gates, called the Castle Gate, Street
Gate, Watton Gate, Water Gate, and Bridge Gate: these
do not now exist. The principal streets are the Bulwark,
the Street, High Street, Watton, and Wheat Street. There
are three bridges over the Houndu, and one over the Usk.
The town-hall stands near the centre of the town: the
building is old and inadequate for its purposes; and a
bill is now before parliament for the erection of a new one. The
barracks are situated in the Watton, the entrance from
Crickhowell. Detachments of infantry and artillery are
quartered here, to be at hand in case of any disturbances
among the colliers and iron-works. Nearly adjoining the
barracks an infirmary has been lately built, which is reliev-
ing fifty in and out-patients. There are three banks in
Brecon, according to a joint company, and another to others to private individuals. The town has a tendency to
increase at the principal outlets; houses are now building in
those which lead to Hay and to Crickhowell. Fairs are
held five times in the year,—in March, May, July, Septem-
ber, and December at the fair-ground in Market-day on
Saturday; these are well supplied with corn, cattle, eggs,
and poultry, of which an abundance is reaped by the neigh-
bouring farmers and cottagers. The town is lighted with
gas, and is well supplied with coal, brought along the can-
at a very moderate price. A small quantity of flannel and
coarse woollen cloths are manufactured in the town; hats
also are made here of a middling quality. The excursions of
the Breconshire Agricultural Society to establish a linen
factory have been wholly unsuccessful.

The pop. of Treacle, according to the last census, males, 2234; females, 2702; total, 5026.

The entire par. of Llanfae then contained 1321, and
the par. of St. John's 867 inh., including in each the portions
which are without the bor. The census states the bor. of
Brecon, according to the returns of 1831, consisted of 1149 families; 92 employed in agriculture; 609 in trade
and manufactures; 448 others. The commissioners of
corporation inquiry who were in Brecon in 1834, estimated the
number of 161 houses within the bor., at about 348; only
12 were assessed for taxes. The number of voters registered, in 1834, was 242.

The Lancasterian schools, both for boys and girls, are
well attended. The school of the Broughghard charity con-
tains about forty children: these, since the decline of the
College school, have been the principal places of education
in the town. There is no mechanics' institute or other
similar establishment. The poor's-rate does not appear to
have varied much in the last few years; it has not in-
creased, if any judgment can be formed from the accounts,
which have not been made up in a regular manner, of the
amount of the assessed taxes collected in the bor. of Brecon
in 1834, 1192l.; in 1835, 997l. (Communication
from Breconshire.)

'BRE', an inland co. of S. Wales, bounded on the N. by Cardiganshire and Radnorshire, from
which latter co. it is for the most part separated by the riv.
Clerainen, Eian, and Wye; on the W. by Cardiganshire and Caermarthenshire; on the S. by Glandorganshire and Monmouthshire; on the E. by Herefordshire.

This co. extends from N. to S. 35 m., and from E. to W. about 30 m. Its area is near 754 sq. m.
The pop., in 1831, amounted to 47,763: thus Breconshire ranks the third among the S. Welsh co. in extent of surface, and fifth in amount of population. At an antiently called Garth
Madin or the box-hold, and derives its present name from
Brychan, a Welsh prince, who lived in the fifth century.
The surface of this co. is extremely irregular, the valleys
and the mountains the highest in S. Wales. It is
interconnected on the N. and S. by two long ranges of moun-
tains: 4 that on the N. goes by the general name of Egypt,

an obsolete British word for a hill; the other range, begin-
ning with the Caermarthensha Beacos, runs nearly parallel to
the Usk, and is named after the stations of its various
outlets in Monmouthshire. Between these two chains a third
ranges abruptly near Talgarth, which is called the Black
Mountain. Another line also branches across in a direction
from N. to S., about eight m. below Brecknock, dividing
the tract of country into the above noted two. The principal
rivers are the Wye; the Usk, which rises in the Caermarthensha Fann, about five m. from Treacle; the Houndu, which rises in
Drum-dhu, and falls into the Usk at Brecknock; the
Yfon, which rises in Bryn-gawr, in the N.W. boundary of
the co., and falls into the Wye about a mile north of
the Eian, the Claerwen, and the Tawe. The Tarell also, a
small riv., rising in Bryn-du, joins the Usk a little above
Brecknock, and the Taf Fechan (small), and Taf Fawr
(large), which rise in different parts of the S. declivity
of the Brecon Beacos, unite into a considerable stream,
the Taf, at the S. boundary of the co. near Cyfarthfa Park.
None of these streams are navigable. To facilitate the
conveyance of goods from Brecknock to Newport, a can.,
capable of conveying boats of twenty-four tons, was finished
in 1827. The Usk and the Tawe, navigable down to Hay,
and from thence to Kington and the lime rocks near Old
Radar. The Swansea can. enters for a short distance
the S.W. part of the co. The mountains Mynydd Llan-
gynfa, Mynydd Fechan, and Mynydd Pen Cynr, near the Clydach, at the S.
boundary of the co., are the highest peaks in this part of the
co., and are connected with many railways, which communicate with the
various collieries and iron-works. Two branches descend into the vale of Usk, so as to connect with the Crickhowell can.;
the one near Tal-y-bont, the other near Llangattock. There
is also a long line of railroad, which begins near the north
milestone on the Breconock and Treacle road, and passing up
a valley of Forest Fawr to the E. of the riv. Tawe, and
nearly parallel to it, communicates with Dowl Colliery, and
finally with the Swansea can. About five m. E.S.E. of
Brecknock, there is a circular level Lagoon, 400 feet
above the level of the Severn, a sheet of water two m. long, and in some places one
branching. It abounds in fish, and in winter is much fre-
cquently fished by wild fowl. In 1235 permission was
granted to the monks of Breconock to fish in this lake three days in
the year. The glebe held by the vicar of Brecon is 23 a. 10ro.
one boat. The scenery in this co. is extremely beautiful.
The extensive views from the mountains, the abrupt outline of the Brecon Beacos, the undulating surface, frequently
clothed with woods and intersected by torrents, from which the excellence of the landscape assessments,
are very striking to the admirers of the picturesque.

The principal roads are from Treacle, through Breck-

ock to Crickhowell, which is travelled by the Caermarthensha and London mail, that from Brecon to Hay, on which a considerable improvement is contemplated within two miles
of the former place; also the roads from Brecon to Merthyr,
and from Builth to Hay. These as well as the less important thoroughfares through the co. have in late years been
greatly improved. A new line of communication of great
utility, the canal from Builth to Hay, seven miles in length,
built by Sir R. Livington, was in 1834, 3552.

The climate varies considerably, according to the elevation
and exposure. In the neighbourhood of the Brecon Beacos,
the Black Mountains, and the elevated districts between
Treacle and Blaenavon, the winds are light and the tem-

erature is very variable; in the lower situation, the win-
tinal rains, are often severely felt, by which the crops are
injured, and the harvests retarded; the lower valleys are comparatively warm. The country is subject to much rain, but
the air is, on the whole, bracing, and the pop. healthy: upon
an average, the deaths from 1821 to 1830 in the par. of Brecon,
deaths were 1 in 66.4.—a calculation which places Breconshire
among the most healthy co. of England and Wales.

The geology of this dist. has lately occupied the attention
of that able and industrious geologist, Mr. Murcshian, late
president of the Geological Society. The oldest rocks which occupy the W. of Brecknockshire consist of gneiss-wacke slates; a remarkable line of trap and porphyry breaks through the rocks of this age, extending from Llandinam for about four m. to the N.N.E. Between these old rocks and the escarpment of Mynydd Epynt and Mynydd Bwch y Groes are the remains of a ridge of conglomerate, consisting of that which Mr. Murchison has recently described as the Ludlow rock, which there passes up into the old red sandstone. These transition rocks, which in Shropshire and Radnorshire contain thick masses of lime, are throughout the whole of their range in Brecknock the remarkably void of limestone. The great mass of the co., especially the central and S.E. dist., consist of the old red sandstone, which has been shown by Mr. Murchison to be divisible into three sub-formations:—1. A lower zone of limestones, remarkable in this district for the remains of the corals of Mynydd Bwch y Groes, extending into Caermarthenshire. 2. A central portion of marls, concretionary limestones (locally called cornstones), sandstones, &c. 3. The upper portion of sandstone and conglomerate; this upper portion, occurring in very small layers in Brecon, consists of the lofty mountains, between Brecknock and Abergavenny, is by its inclination carried under the whole of the great productive S. Welsh coal-field. We thus see that the whole of the district to the N.W. of this tract of country lies beneath the coal measures.

The mineral springs at Builth and at Llandrindod are in the silicified and hardened schists, at points where they are penetrated by trap-rocks. Their origin is considered to be due to the decomposition of the vast quantities of sulphuret of iron; in such places without a stratum of the strata containing iron and coal, which, though for the most part in Monmouthshire [Monmouth], in some places cross the boundary of Brecknockshire, there are no mines or minerals in this county. Some small tracts of coal have been found in the old red sandstones, which upon trial have proved to be un-workable.

One of the most remarkable features in the geology of Brecknockshire is a penin. of transition rocks, which is thrown up from N.E. to S.W., ranging from a high bluff on the Wye, the rocky promontory of Cory’s Fan, five m. N. of Brecon.

The soil in the hund. of Talgarth and Crickhowell is more favourable to cultivation than any other part of this co., as results from the conditions of climate; there are orchards, from which good cider is frequently manufactured. In the hund. of Devynnock, and perhaps more so than in that of Builth, where there is much cold, wet clay, barley and oats are the grain crops chiefly cultivated by the tenants; but the farming of the co. has considerably improved during the last fifty years: partly through the exertions of an Agricultural Society, one of the earliest in the is., which was established in 1755, by Mr. Powell of Castle Madoc. Better implements are used, more manure penn. to the fallow land, and more skillful tillage is being practised. The farm animals are much more numerous and better cultivated, and the farming stock is of better quality. In the high lands are bred small black and brindled cattle, horses (which throughout the co. are of rather an inferior sort), ponies, and good hill sheep, the soil, though much worn, being not so changeable as that of Builth, is not so unsuitable to the manufacture of flannel. In the low lands the Herefordshire breed of cattle predominates, and is on the increase. The ewes are brought down from the hills in winter, and are not taken back until the colts are three months old. There are three farms at Cory’s Fan, consisting of 100 acres, one of 200 acres, and another of 400 acres, under the tenure of 100 years, and very few exceed 500. Among the few that are considerable are the united vicar of Crickhowell and Llan-der-felly, the income of which is about 188l., the ree. of Llangattock 1123l., and Llananwedl 460l. a year.

The manufactures of this dist. are few and unimportant. Flannel and other woolen goods, such as baize and coarse checks for trousers, are woven in several small factories. Some hats of middling quality are also made in the bor. of Brecon. The knitting of straw caps was formerly practised to a great extent by the women of the country, is now less frequent. Woven stockings, though less durable, are so much cheaper as to have greatly diminished this branch of industry.

The co. of Brecknock contained, in 1821, 9848 families, of which 3959 were employed in agriculture, and 2954 in handicraft, trade, and manufactures. The number of males above twenty years of age was then 12,220: about 80 of these are employed in weaving woolen yarn, the produce of which is marketed in the co.; and about 2500 are employed in the iron-works, of whom 126 are at Llanelli, 110 at Penderney, and 234 at Faenor, places near Merthyr Tydfil. The pop. of the co. is thus distributed:—

<table>
<thead>
<tr>
<th>Habitations</th>
<th>Males</th>
<th>Females</th>
<th>Inhabitants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builth</td>
<td>5187</td>
<td>5187</td>
<td>10374</td>
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<tr>
<td>Crickhowell</td>
<td>5924</td>
<td>5295</td>
<td>11219</td>
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<td>Devynnock</td>
<td>4330</td>
<td>4270</td>
<td>8600</td>
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<td>Merthyr</td>
<td>1658</td>
<td>1637</td>
<td>3295</td>
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<td>Penkelly</td>
<td>2689</td>
<td>2648</td>
<td>5337</td>
</tr>
<tr>
<td>Talgarth</td>
<td>7774</td>
<td>7701</td>
<td>15475</td>
</tr>
<tr>
<td>Borough of Brecknock</td>
<td>2324</td>
<td>2072</td>
<td>4396</td>
</tr>
</tbody>
</table>

Total: 23,896

The number of occupiers of land is estimated at 24,294, of whom 12,494 are employers of labourers. It is remarkable that in the pop. returns of this as well as in some of the adjoining co. no one is enumerated as following the trade of a pawb a thyrn.

This co. is wholly in the diocese of St. David’s and prov. of Canterbury. In its 66 par. there are 23 recs., 16 vicis., and the remainders perpetual curacies. The assizes are held at Brecknock, by the judge attended the S. Welsh assize circuit. Brecknockshire returns one member to parliament. The number of co. constables increased in 1834 was 1646. Brecknock is the only polling place.

Brecknockshire remained in the power of the Welsh princes until 1092. It was in this year that Barnard Newchurch, a heriet, a, and, according to the Chronicle of Brecon, the brother of William the Conqueror, made himself master of Brecknock, where he established himself with a number of his retainers. The lordship of Brecknock was granted to him by the king, and that he might obtain possession of his rights and to better defend himself against the Danes, whose hostility and resistance to his authority made it difficult for him to maintain his position in the country, he built the castle of Brecknock, as a stronghold for himself and for his troops. Notwithstanding the vigorous efforts of the Normans, the insurrection of the Danes and the Welsh, William, whose hostility and resistance to his authority made it difficult for him to maintain his position in the country, he built the castle of Brecknock, as a stronghold for himself and for his troops. Notwithstanding the vigorous efforts of the Normans, the insurrection of the Danes and the Welsh, determined the Prince of Wales, and at his death the lordship of Brecknock was inherited by his son-in-law, Milo Fitz Walter, Earl of Hereford. This earl was succeeded by four of his sons, in turn, and, afterwards by Philip de Broes, their brother-in-law, who died about 1160 a.p. He was followed by his son William de Broes, to whom the lordship was confirmed by King John in 1194. This spendthrift defrauded his son, upon whom he had settled his inheritance, mortgaged it three times over, cheated his creditors, and at last sold it to the king, who, after obtaining possession, though all paid the purchase-money. He was for some time at enmity with King John, was attainted, and the lordships of Talgarth and Bladynffili were given to the king’s favourite Peter Fitzherbert. William was succeeded by Roger, and afterwards by Henry, who, on the accession of Henry III., had obtained the restoration of some escheated property to forsake his father-in-law and his adherents. Llewelyn, incensed at

No. 319. [THE PENNY Cyclopaedia.] VOL. VII.-3 C
this breach of faith, laid siege to Brecknock, which was however spared at the earnest interference of the burgesses. Reginald and Llewelyn were afterwards reconciled, upon which the king re-transferred some of the property of the former to Fitzherbert. Reginald died in 1228, and was buried in the Priory church at Brecknock. His inheritance passed to his brother William, but his eldest son by his first marriage, who died before his father, was disinherited, and his property restored to the family of the Herefords, in the person of John de Bohun. This earl, after having been created knight of the bath, died in 1335. Humphrey, his brother, succeeded him, and was excommunicated by Pisan, because he married the daughter of the last earl of Brecon; he died unmarried, and his nephew William inherited his titles and estates. William resided in the castle of Brecknock, and by his wealth, magnificence, and hospitality considerably raised the importance of the place. Elected lord of Hereford, his courtesy and magnificence were so great that once accompanied Edward III, to France, was employed by him in an embassy to the Duke of Bretagne, and finally died in 1377. The lordship of Brecon seems to have remained in settlement during the childhood of Joan his heir. While Warwick was in France, the last of the lords de Bohun, the last of whom made ample amends for the offences of some of his predecessors, who seem to have considered their Welsh territories of no further use than as a source of revenue and a nursery for men, who, through a system of systematic education, retired to Henry IV, who had married Mary, the daughter of the last De Bohun. During the first four years of this reign, Brecknockshire was greatly harassed by Owen Glendower. The castle of Brecknock was intrusted to the care of Sir Thomas Tew, who, for a bribe of 1000 marks, was promised by Warwick to order to defend the castle and the lordship, having 100 men at arms and 300 mounted archers assigned them for that purpose. Griffith, the eldest son of Owen Glendower, engaged the king's troops upon a hill in the hedges of Cwmhir, resisted the attack of 1500 men. Henry IV, granted to the inh. of Brecknock an exemption from tolls and other payments, renewed the benefactions to the monks, and gave them their first royal charter. Upon the death of Joan, courtier, dowager of Hereford, the king granted her estates to Anne, the widow of Edmund, Earl of Stafford, slain in the battle of Shrewsbury, who claimed a division of her grandmother's property. No sooner was she possessed of Brecknock than she disposed of the baron and took all their grants, charters, privileges, and possessions which were during her life, which terminated in 1439. Her son Henry, Earl and afterwards Duke of Buckingham, succeeded to her inheritance. He was a severe, arbitrary man, who, though he obtained the support of the king, was an oppressive governor and landlord. He was also Lord Lancaster, was wounded at St. Albans, and slain in 1450 at the battle of Northampton. His grandson, a minor, succeeded to his honours, and to Sir William Herbert during his minority. In 1551, during the English Wars with France, the lordship of the Earl of Brecknock, as well as the stewardship of all the other Welsh castles which had belonged to the late Duke of Buckingham. Upon coming of age Buckingham obtained possession of his estates, and lived in retirement within the walls of Brecknock Castle, which he had purchased from the Earl of Edward IV. At the death of this king however he left his seclusion, and became a conspicuous supporter of the Duke of Gloucester, until he was seated on the throne. In reward for these services, Richard made him governor of all his castles in Wales, and lord high constable of England, with other lucrative and honourable offices; he also promised to restore to him all the lands forfeited by the Bohuns, which would have made him the richest and most powerful nobleman in England. These promises never were fulfilled. Richard was succeeded by Henry VII, who, after making John of Gaunt his successor, made him a Lancastrian; he was now king; his object was gained; he evaded his engagements, and treated his former friend with neglect and contempt. The duke, incensed at this ingratitude, turned his thoughts to vengeance, and now became as eager to dethrone the Duke of Buckingham for Henry VIII had been anxious to extirpate him. He retired to Brecknock, where Morton, the able and artful Bishop of Ely, was a prisoner; and in Ely tower in the castle was first projected a marriage between the Duke of Richmond and Elizabeth, daughter of Edward IV, and the union of the houses of York and Lancaster. Morton crossed the sea to confer with Richmond, who was on the continent, and to plan with him a descent upon England; while Buckingham endeavoured to raise an insurrection at home. Richard was too vigilant to permit this honourable expedition, and issued an order, commanding the immediate attendance of the Duke of Buckingham, who disobeyed this peremptory sum-
mons, and took arms with his followers; but being detained by floods, betrayed by his friends, and deserted by his troops, was taken, and ultimately executed at Salisbury without a trial. Morton escaped into Flanders. The Duke of Richmond, who afterwards landed at Milford, in his road to Shrewsbury, washed through Brecknockshire, where he greatly increased the number of his followers. As soon as he was established upon the throne, he restored to Edward, the son of the last Duke of Buckingham, the estates and titles of his father, and in 1564 made him high constable of England, the last person that ever held that office. He was afterwards accused of treason, and executed in 1561. The dukedom of Buckingham was now extinct, and the lordship of Brecknock with its dependencies merged in the crown of England.

Brecon was the chief city of Brecknockshire. It is situated on the river Usk, about 20 miles from Newport and 30 miles from the sea. It is a market town, and has a fine market-place. It is the seat of a Bishopric, and has a cathedral. The town is pleasantly situated, with a fine aspect, and is surrounded by beautiful scenery. It is the seat of a grammar school, and has a good library. The town is well supplied with water, and has a good system of drainage. It is also well supplied with gas and electricity. The town is well connected with the railway, and has a good system of roads.

The castle, already mentioned, was rebuilt in 1680 by William, Prince of Orange, afterwards William III. of England. It contains a fine gallery supported by marble columns, and a very handsome staircase of stone.

Breda was once a place of considerable trade, and contained extensive manufactures of cloth; this branch of industry is still carried on to a large extent. The town likewise contains several tanneries and breweries, from which the surrounding country is supplied.

The pop. on the 1st of January, 1830, consisted of 6747 males and 5637 females, and 4703 families. The accompanying table shows the present state of education.

Brecknock.

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Lending libraries are attached to only three of these schools. No infant schools have yet been established.

The amount of money expended for the relief of the poor was, for the years ending 23rd March, 1826, 1826, 18434; 1827, 17,019; 1828, 16,712; 1829, 16,264. (Communication from Mr. Breda.)

BREDA, once a lordship belonging to the House of Orange, and a town in N. Brabant situated at the confluence of the Meuse and the Scheldt, in 51° 35' N. lat., and 4° 47' E. long.

Breda is a well-built and strongly fortified town, surrounded by marbles, which, in case of attack, can be laid under water. The castle, which is the principal building in the town, is surrounded by the riv. Merk. It was originally built by the family of Schoten, who held it with the title of Baron, in 1190. It is the seat of the Duke of Brabant; and in the beginning of the 13th century passed by marriage to the house of Nassau. In 1567 it was annexed by the Duke of Alba to the crown of Spain. In 1577 the Spanish garrison opened the gates to the conquerors. Four years after, the town was treasonably delivered to the Duke of Parma; but it was retaken in March, 1590, by Prince Maurice of Nassau, by means of the following stratagem:—A vessel was loaded, apparently with turf, of which the besieged garrison was greatly in want, but under the cover of a party of soldiers were concealed. Admission into the town being thus secured, the soldiers left their place of concealment during the night, and having overpowered the guard, opened the gates to Prince Maurice, who had advanced with his army. In 1624 Breda yielded to the troops of General Spinola, who commanded the troops of the Infanta Isabella. In 1637 the town again came into the possession of the States General of the United Provinces, and was confirmed to them by the treaty of Westphalia. The French, under Dumourier, took Breda in 1695.

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fact, the French even now (January, 1836) are only pos-
sessed of the city of Algiers and a small district around, and
of the towns of Oran and Bona, and one or two more points
on the coast. All the rest is in possession of the bey of
Constantina, and of the Arabs and Kabyles, who are at
war with the Mohammeds.

Bredow wrote also a 'Chronicle of the 19th Century,' in
which he spoke of Napoleon's power, then at its height,
with a boldness that accorded him a name among the pa-
triarchs of political journalism."

BREEDING is the art of multiplying the domestic
animals rapidly, and at the same time improving their
qualities.

Any breed of animals will perpetuate itself provided there
is a sufficient supply of food, and that the breed and the variety
found in a wild state must depend in some degree on the cli-
mate and the products of the country in which they are
found. Care and domestication also produce varieties,
which are much more useful or profitable than the wild
breds; and in the selection of the best individual to
regenerate a useful race, and in the rearing of the young,
consists the art of the breeder.

Without entering into particulars, which vary with every
species of animal, and with the different varieties of the
same species, it may be said that the general principles of the
breeder's experience have proved to be correct, and which being
attended to will greatly promote the improvement of all the
different animals usually bred for the use of man,
whether for his sustenance or for his pleasure. The first
thing which should be attended to in view of the chief purpose
which the animal is reared, whether for labour and to assist
human strength, or for speed, to convey us rapidly from one
place to another,—whether merely for a supply of animal
food, or whether man has designed the animal for some other
purpose,—is that each of these cases distinct qualities are required;
and it is seldom that two of these objects can be combined in
the greatest perfection.

Having then determined the purpose for which any species
of domestic animal is intended, the animal must be attended
to which further this view; and except under very pecu-
liar circumstances the animals intended to keep up the
stock by their produce must be chosen with those quali-
ties in the greatest perfection which are essential to the
end. To add to the perfection of the breed, the constant
frame is essential to the due performance of the vital
functions. The skeleton of the animal should therefore be
as perfect as possible. The capacity of the chest, and the
healthy nature of the lungs are points which must never be
overlooked, for without these the animal cannot be of
much use; and if the animal is bred; for although a defect
may in some measure be counteracted by a judicious choice of
the individual coupled with the defective animal, it is only where
there is no alternative that any deficiency in the vitality of
an animal kept for breeding should be overlooked.

Bredow also says that it is the same with respect to the
care of every care the defect will appear in the offspring;
sometimes not till after several generations. If it were possible
to find individuals without fault or defect, no price would be
too great for them; and those that are to work off badly
selected for several generations it is real economy to give
a very liberal price. In horses bred for racing or for the
chase experience has fully proved the truth of this rule
and no one who pretends to breed race-horses would breed
from a mare which had a natural defect, or a horse whose
whole pedigree was not free from fault. For mere swiftness
the shape of the animal, whether horse or greyhound, must
combine strength with great activity. The chest must be
deep, the lungs free, and the digestive organs sound but
and it is the less easy to be the better; for the health of
a horse or horse, or of a good breed, if in health, will die of exertion sooner than that of a
weak one with chace. Any defect in courage in an animal intended for
great occasional exertion renders him unfit to be selected to
continue an improved breed; and whatever may be his per-
fection.

With respect to animals whose strength and endurance
are their most desirable qualities, a greater compactness
of form is required, a greater capacity of the digestive
organs, and, according to the climate to which they may be exposed, a
thick covering of hair is equally serviceable in
both cases. Hardiness of constitution is hereditary, like
other qualities; and the manner in which the young are
reared tends greatly to confirm or diminish this. An animal
of which the breed originally came from a warm climate,
as a tender exotic plant, will require artificial warmth for the
healthy growth of its limbs; while the indigenous and more
hardy breeds may be left exposed to the elements.

An abundance of wholesome food and pure water is essential
to the healthy state of every animal, as well as exercise
and a change of air. In the care of the young, the strength
which it is obvious must be carefully attended to. There
are others, the result of long experience, which are equally
necessary to be known, but which are not so obvious. These
vary according to the species and variety of the animals
bred; and others appear to be the result of an art not
derived from the known qualities of certain individuals, and
of which no very good physiological account can be given.
That high withers and a freely moving shoulder-blade in a
horse are connected with his speed is readily perceived,
and the idea of the value of a horse, of the useful and
powerful zones of his body, and of the manner of his insertion,
should affect his power is equally evident; but it is not so apparent that the manner in
which the ears are placed on the head, the shape of the nose or jaw, the form of the
feet or the structure of the body are of such important effect on the value of the animal, independently
of any arbitrary idea of beauty. A breeder who should not
attend to these circumstances in the animals chosen to per-
petuate the breed would find, to his cost, that it is more
profitable to sacrifice his animals to a manufacturer of
surface, than to build up a character on the result of observation and experience that certain breeds
are invariably distinguished by certain peculiarities, and
that these are as much as invariably connected with good
qualities, apparently quite independent of the parts on
which the points are aimed.

There is an indication of the disposition of an animal in
the eye, in the shape of the head, and in the manner in
which it is carried, which seldom deceives an experienced
judge. He will not risk introducing a vicious or sulky dis-
posed individual, for the sake of a bad point; and in
equipage the colour with some defect, and those who breed for
profit by sale must be ruled by the taste of their customers.
The rational mode of proceeding is to be well acquainted with
the anatomy of the kind of animal which we make the
subject of our attention; to learn by experience what are the
peculiar qualities of the different breeds, distinguished by
any particular feature, and whether these qualities have any
apparent connexion with the peculiarity in make or colour.
We may then be guided by the knowledge thus acquired in
our choice of individuals, and may then and there only
preserve the useful qualities which they already posses,
but gradually improve them. No greater mistake can
be committed than that of making what are called violent
crosses, such as coupling a very spirited male with a slug-
bered female, the result of which will be a long, slender make, a long-limbed animal with a compact one.
By such crosses the first produce has often appeared much
improved; but nature is not to be forced, and if the breed is
to be improved, inexplorable defects are certain to follow.
The safe way is to choose the animal which is as nearly
alike in their general qualities as possible, taking care that
where there is a defect in one it exist not in the other, which
would infallibly perpetuate it. A defect can never be re-
paired by means of another of the opposite kind, but, by
great attention, it may be diminished gradually, and at last
disappear entirely. This refers however to defects; not to peculiar qualities. Cows, for example, may produce either milk or fat in abundance from similar food; and a species of cow, which secretes too much fat, so as to be deficient in the milk necessary to rear the calf, may be improved by selecting those which give more fat and less milk than the breed with these; but we must be cautious not to choose individuals which differ much in shape from the breed to be improved. A cross between a Herefordshire cow and an Ayrshire bull might possibly produce a good cow, but the breed of the calf would be uncertain. It is not for fattening or for the dairy, and nothing but ill-formed cows, deficient in milk, and slow-feeding oxen, are likely to result from it. Every attempt to unite opposite qualities is generally attended with evil results. Yet, behold how too great an aptitude to fatten, so as to engender the symptoms of waste of the mother or health of the offspring, the only remedy is to diminish the food; and if, on the other hand, a difficulty is found in fattening cows which are of a peculiarly good live stock for that, be good, but slow. The food, and other small breeds, the loss on the old cow sold half fat will have been amply repaid by the milk she has given; and the bull-calves which are not wanted to rear for bulls, if they are not profitable to fatten as oxen, must be fattened off young and sold for veal. But it is not a necessary consequence of an abundant produce of milk, that the cow, when dry, will not fatten readily; although a great propensity to fatten renders the breed less fit for the dairy. The Ayrshire, which are good milkers, fatten well when dry, and the oxen are less likely to be poor feeders, than other breeds.

Many breeders have an idea that coupling animals which are nearly allied in blood produces a weak race; others consider it as a prejudice, and among those who held the latter opinion was the famous breeder Bakewell. Without denying the bad qualities which may be produced by this relationship, provided individuals equally perfect can be found of the same breed more distantly related. Every individual has some peculiar defect, and his descendants may still have a tendency to this defect. If two immediate descendants are produced by animals which were well-conditioned, whereas by uniting the descendants of different individuals of the defect of either of the parents may never be broken out; but sooner than retrograde by coupling an inferior animal with one in an improved state, we should not hesitate to risk the consequences supposed to arise from what is called breeding in and in, that is coupling animals nearly related in blood, especially if only on one side, such as the produce of the same male by different females, or of a female by different sires. Many breeds which distinguish animals in which the muscles and bones are well connected, by being of a different breed, dogs, horses, and working oxen, are very different from those of animals destined to accumulate more tender flesh and fat for human food. In the former there must be spirit, activity, and in the latter, there must be roominess of the proneness to sleep are advantageous. In the first, the lungs must play with ease, and the muscles be strong, and not encumbered with fat. In the second, the lungs must be sound, as they are essential to all the secretions, and the digested food must be assimilated and not be accelerated through the bowels by exercise, but the absorbent vessels of the intestines must draw all the nourishment from the digested food. The more the muscles are impeded with fat, the better the animal will repay the food given to it, and that animal which can produce shall get fat readily, we must attend to this part of the constitution, and care little about spirit and activity. The tendency to secrete bone, and those parts which are called offal by the butchers, as being of inferior value, is a defect, whereas the muscles and bones are the principal parts of the body.

The manner in which the more solid parts of the body are formed, and the greater consumption of food, in proportion to the increase of weight which takes place in young animals, while bones and horns are growing, prove that it is a different breed and of a different species from the present muscular fibre than fat. Hence it is evident that the greater profit is in fattening animals that have finished their growth; and also that there is a superiority in those breeds of which there are small bones and no horns. This is an important point not to be attended to by a breeder; as is also the time when the bony secretion is completed. A breed of animals that will cease to grow, or have attained their full size of bone at an early age, will be much more profitable to the grazer than of one slower growth. It is in this respect chiefly that certain breeds of sheep and cattle are so far superior to others. The principles which apply to cattle are equally applicable, mutatis mutandis, to sheep. In no case are strong bones or horns of much importance to the sheep in its domestic state. The principal objects are to produce a well-made and fleshly animal, and to get fat stock, and perhaps incompatible qualities.

The attempt to unite the two is perhaps the reason why the Spanish breed, which has been improved when transported into Saxony, has degenerated in England; so that even its crosses are not in general of great value now. It is a fact that the breed kept for their wool chiefly are more profitable than those which give an increase of meat at the expense of the quality of the wool. A breeder of sheep who attends only to the quality of the wool will not have the same attention to the production of a fat animal, or the cencency in the carcass, or the disposition of the animal to increase in flesh and fat. It is possible that mixed breeds may be more profitable than the pure. Fine wool may not repay the breeder and the sheepman for the cost of feeding and good meat. But the principle we contend for is, that of producing the most perfect animal of any one variety existing, by correcting individual defects gradually, and avoiding fanciful crosses, which may destroy in one generation the improvements obtained in a great many.

Hence it is a matter of great importance to consider well the qualities of the individuals with which you begin your improvement, and to know that these qualities have existed in their progenitors, and are not merely accidental. If crossing espouses it may be necessary to proceed cautiously. No experienced breeder would ever expect to improve the fleece of a sheep of the Leicester breed or the carcass of the Merino by a direct cross between these two breeds. The offspring would most probably lose all the qualities that were in the pure breeds, for a country mongrel breed worth little in comparison. But a cross of Merinos with South Downs, or Leicester with Cotswold, might produce new and useful breeds, and these, carefully selected, as has been done, have produced mixed breeds, which has more room to manoeuvre than the country mongrel breed worth little in comparison. When it is determined what breed of animals you wish to perpetuate and improve, the individuals which are to be the parents of the stock cannot be too carefully selected. The more nearly they are alike in form, colour and exterior appearance, the more likely they are to produce a distinct race. They should neither be above nor under the usual size. They should be of such an age as to have entirely ceased growing, and be arrived at perfect maturity; and, whatever may be their good qualities, they should not be used till they are the product of very aged parents, at least on the female side.

In horses and horned cattle many breeders prefer a male rather less in size than the female, and pretend that the reason is, that the male is more susceptible to freshen. It is a truism that a female should be the larger. The expression is however a misapplied term a roomy female. There may be some truth in this, but equality of size, or rather the due proportion established in nature, seems most likely to produce a well-formed offspring. Any considerable deviation from this is generally attended with defect. Nothing is more common than, for a country gentleman who has a useful favourite mare, not particularly well bred, when any accident has rendered her unfit for work, to have her covered by some very high-bred stallion, expecting to have a very superior foal. Sometimes this succeeds, but in general, the inferiority of the male is so pronounced that the mare be small. A much more certain way is to choose a half-bred stallion, nearly of the size of the mare, and having those good points which the mare already possesses. In this case there is every probability of rearing a well-proportioned and well-formed animal, and it is on these points as the breeders call them, probably from the very circumstance of these crosses not succeeding in general. We advert to this as a fact which many of our readers may know from experience.

To give in conclusion a few of the rules which result from what we have very briefly stated:—

Choose the kind of animal which you wish to breed from, having distinguishing qualities; keep these constantly in view and reject all individuals which do not come perfectly at least as in the parents. Select the most perfect forms and let the defects be corrected gradually. Have patience and perseverance and avoid all attempts at any sudden alteration by bold crosses. If possible, breed two or
more families of the same kind, keeping them distinct, and only occasionally crossing the one with the other. In this manner, the breed may be produced. The nearer you approach to perfection the more difficult will be the selection, and the greater the danger of retrograding. Hence in very highly bred stocks it is often almost impossible to keep up the perfection of the breed, and a fluctuation in its quality is the probable consequence. If improved the breed is, therefore, the greater attention must be paid in the selection of those which are to continue it. And for want of this, almost every breed, however reputed it may have been at one time, gradually degenerates, and ceases to produce anything but breeders.

As every farmer and occupier of land is more or less a breeder, if he be only a breeder of pigs, these observations may be useful. In the articles on each particular species of animals, these general principles are applied and more particularly illustrated.

**BREGENZ, CIRCLE OF (also called the circle of Vorarlberg), forms part of the Austrian earldom of the Tyrol, and is bounded on the N. and N.E. by Bavaria, on the S. and W. by Switzerland, and on the N.W. by the lake of Constance. Its area, according to von Leder, is about 1560 sq. m., within which there are 3 towns, 7 m. t., and 412 vll. Being traversed by the lofty range of the Adler (or Eagle mountains), an offset of the Rhätian Alps, which separates the Tyrol from the Austrian country, and full of forests: it possesses also fine tracts of pasture land, the grazing of which forms the principal occupation of the inh., and it produces abundance of wine, fruit, and potatoes, but not grain enough for domestic consumption. In the vicinity of the town, its breadth is about 23,600 m. In the good climate of the Rhine, which flows through the town, its breadth is about 89,600. Bregenz, the capital, is an open, busy town, beautifully situated on an eminence at the entrance of the Aach into the lake of Constance: it is one of the oldest towns in Germany, is well built, and is divided into the old town, which is surrounded by a wall, and newer town, which spreads along the shores of the lake. Bregenz contains the head school of the circle (Haupt-schule), three churches, two monastic establishments, an orphan asylum, a hospital, and a number of houses of commerce. The town has a post office, and a number of banks. The annual value is about 23,600. The productions of the immediate vicinity are grapes, fruit, wine, butter, and cattle; the townsmen spin flax and cotton yarns, weave cottons, bleach wax, sell considerable numbers of articles of wood, frameworks, and complete fittings of iron, and skins of sheep, and skins of cattle, which are sold in the neighboring Swiss cantons. The yearly amount of the commercial transactions of the town has been estimated at nearly 200,000 fr. sterling. The old castle exhibits vestiges of Roman construction, and appears to have been formerly a place of considerable strength. The Gerhardshof, a high mountain, on which stands the ruins of the once spacious stronghold of the counts of Montfort, is in the neighborhood. 47° 30' N. lat., 9° 42' E. long.

**BREHON LAWS.** The ancient laws of the Irish, so called because they are in the most barbarous language Brethaimhuin, or Brehons. Feisichtas however and Brethia-neimeth, words signifying respectively ancient laws and sacred ordinances, are the terms commonly applied to the collection of these writings by the native writers.

Prior to the Anglo-Norman invasion, Ireland was wholly governed by the Brehon law; and, notwithstanding the statements of Spencer, Davies, Cox, and others, that this was an ancient law, there is abundant evidence to prove that some of the collections of the Brehia-neimeth are of equal antiquity with the oldest manuscripts of Irish history, whether civil or ecclesiastical, an antiquity which carries us safely back to the earlier ages of the Christian era.† The extant collections are numerous and authentical, but the labour of translating, methodizing, and illustrating them must be that of years; so that nothing has been done to establish the Brehon law as an historical and ecclesiastical work. The Brehon law is of the same system as the celebrated laws of the Irish under these laws as their available fragments, compared with the general history of the country, would point to the reader of the various accessible authorities on the subject.

The liberal extension of the Brehon laws from province to province, counties, baronies, and townlands would appear to correspond pretty nearly with the old territorial distinctions of minor kingships, lordships of countries, chiefries of clans, and presidencies (if we may use the term) of villages; all subject to the dominion of the king, or the king, or the tributary, one to another, among themselves.

The law governing this community is distinguishable into the common and, to speak, the statute law. And, first, as to the common law, or immemorial custom of the people, nothing is more necessary to be derived chiefly from the reference made to such usages in the remaining fragments of the written law; for at this day there remains scarce any oral tradition available on this subject in Ireland. The practice of the old society in ancient Ireland was patriarchal and pastoral. By the common law of the tribes, the ground belonging to each seems to have been divided into common pasture lands, common tillage lands, private demesne lands, and private houses. The demesne lands and houses are owned by the tribes as a body, and when the tribe gives up them then the right to pasture as many cattle as he possessed on these common grazing lands; and in proportion to the number of cattle thus pastured by each was the share of the common tillage lands assigned to him on the annual distribution of the rich harvest from which all the demesne lands were the distinct property of individuals who were entitled to acquire and transmit such possessions by certain qualifications not very clearly explained. The deeds of this work; but the reader who wishes to investigate the subject is referred to the elaborate treatise on the Brehon law by Dr. Blaikie, and to any work on the ancient law of Scotland, which has been written by that learned man. We have now come to the review of the existing law only of the more interesting testimonies which may be adduced. Arca, or the Brehon law, is a mixed system, and its origin is covered with obscurity. The superior courts, known as the general council, held annually, was now restored in the 10th century; hence, whereas, the council was supposed to be derived from the old tribal law, and hence the belief that the Brehon law was the law of the ages. And it is the belief of another writer that the Brehon law was the law of the ages, and that the Brehon law was the law of the ages, and that the Brehon law was the law of the ages. And it is the belief of another writer that the Brehon law was the law of the ages, and that the Brehon law was the law of the ages.

† To enser at large into these proofs would be incompatible with the design.

* These terms are still the subject of etymological dispute: the translations given are those most generally received.

† To enser at large into these proofs would be incompatible with the design.
members holding in common. But co-existent with the first practical development of such a system, if not actually contemplated in its very rudiments, arises the necessity of providing for those members of the community who, either by reason of old age or infirmity, or on account of their particular kindreds, and have thus no proper Fianna with whom to claim a share. Such individuals could not expect to participate in the rights of blood enjoyed by those tribes among whom they might be dispersed, neither could they be received by the community of those tribes as tenants on their fluctuating possessions. To provide for them, it was necessary that a certain portion of the land should be set apart for the reception of strangers. To prevent the confusion of many landlords, the profits of these several tenements were invested in the hands of the chief, for the latter to exact a lighter tribute from the Fianna of his tribe. To induce the better sort of strangers to settle among them, the chief was empowered to grant some of these tenements in perpetuity, but the greater portion was usually let at will. For those who were not tenants of the chief's protection, they were received on his private demesne lands and became his serfs. Admission to the upper class depended on the stranger's ability to pay the entrance fine on one or more of the disposable tenements. These tenements consisted of a homestead and a certain scope of ground annexed. The homestead was designated a Rath or a dwelling-house, an ox-stall, a hog-sty, a sheep-pen, and a calf-house; these buildings were generally surrounded by a fort. The Rasnaeth and Rath were the symbols of title as well as of residence. There is one very prevalent error with regard to ratha in Ireland; viz., that they were Danish erections, and designed solely for military occupation. The term "Danish rath" is altogether a misnomer, as no similar erections are known in Danish history. The latter part of the brehon law, were drawn solely from the circumstances of their erection and occupation by the natives themselves; as for example, among many others, the Fianna-rath, a homestead occupied by the owner of the land who a Med-rath, one rented by stranger tenants for the first time; an Is-rath, one occupied by stranger serfs on the chief's demesne lands; a Sio-rath, one of which the stranger tenant enjoyed the perpetuity; a Forgus-rath, a secondary tenement appurtenant to a homestead with a certain scope of ground called a Path. Now these terms are pronounced respectively Feuer and Peu, the identical words still employed in Scottish law to indicate the freeholder and his freehold. Hence that they are the radical form of the other feudal derivatives, such as a villein fee, &c., is quite clear. It would appear that the Irish tended to consider more closely the relative situation of the Irish fee-feudal. It will appear that there is something in it very analogous indeed to the older forms of pure feudal tenure. First, the allotment of the soil vested in the representative of the tribe, so that the baron of the rectorial holding of the chief might be considered as in capite, with a power in many cases of granting mesne tenures to others. Secondly, at the death of the chief a stapled fine was paid to his successor. Thirdly, females could not inherit. Fourthly, raths and homesteads were common, and the Fianna was not confined to serve the chief in war, and to diet certain numbers of his soldiers at all seasons. Of the more minute characteristics of the perfect feud as introduced by the Normans into England, such as escuage, wardship, ransom, &c., &c., there are so far few discoverable traces, but enough has been shown to give good ground for considering the Irish law of feuars, connected as it necessarily was with the pastoral constitution of their society, as the original form of feudal tenure among all the Celtic nations. Feuars were classified according to the circumstances of their position. Some had left their former tribe to seek their fortunes; those whose tribe had been dispersed in war, and those who had fled or been expelled their tribe for debt, for robbery, for piracy, or murder. The first three classes only had the privilege of the coming residence on being restored to the protection of their original tribe, to a temporary protection, which they paid for by cattle or hand-service, on the private demesne lands of the chief, until he should compound with his prosecutors, after which they usually became his serfs or bondmen. Bond-feuers were
attached to the soil; the lands to which they were assigned being
denominated Betagh lands, and they themselves being
frequently granted with the soil, as appears in many
antient deeds, where they are special mentioned in the
name of Betaghs.

Thus then it would appear that the country was occupied
by kindreds called Finn, holding for the most part in
common, and by Fenagh, who resided either by
emigration, or as vassals of the chief. The tributes of chief
to superior chief, up to the supreme king of the whole
island, were regulated by established precedents. The collec-
tion of these rules for the kingdom of Munster is entitled
'The Eayers of the Law,' and is still used by the
tribes of chiefs.

So far of the common law; next as to the statute law of the
Irish. Whether these particular enactments were decreted by a
general assembly, as asserted by some, or by local chiefs, as
affirmed by others, is a question not present to point out
by a party of any importance. The collection containing
them, of whatever age, profess to be but tran-
scripts and collections, with frequent references to similar
compilations of still older date; but the text appears
to be original, as its dialect is so antiquated as to require
the assistance of the learned to decipher it, and even when translated not by any
means easily understood. The collections are interspersed
with numerous moral sentences, occasionally also with su-
persistious dogmas: as an instance of the first, 'Heaven is
the Friend of the man that serves God, and men are
the Friends of the man that serves men.' The second
is the farther it flies from you;' and as an example of the
second, 'There are seven witnesses against a wicked king;
viz., division in his councils, strained interpretation of the
laws in his court, death, barrenness of cattle or lack of milk, a
pestilence in the land, and a night of darkness in the
ground; these are as lighted candles to expose the
misgovernment of every king.'

The number seven would seem to have been held in
much the same esteem and the mystic number three. There
are the instance, 'seven classes of persons whose anger is
not to be resented; viz. bards, commanders, women, pris-
ioners, drunken persons, druids, and kings in their own
dominions. There are again 'three deaths not to be be-
moaned; the death of the flint, the death of the fat
beef; the death of a proud prince.' things again which adv.
ance the subject; 'to be tender a good wife, to serve a
good prince, and to be obedient to a good governor.' In
this last example the same idea is repeated in order to
complete the oath. What time can have been so pressed to
reside in these peculiar forms of expression it is hard to
conceive. The only assignable reason for their use seems
to be that they were thus more easily committed to memory.
The system however does not appear to have been used to
any great extent, as we find no record of their use in
sermons, or other religious discourses, or in the form of
laws. The code of Felim Reachtair, the Lawgiver, the lex talionis
vailed in Ireland, and that he altered that code for a system
of retribution by mutilation only. A.D. 164. Partridge, rape,
rave, and murder, under certain circumstances, still remained
punishable by death; but whether in consequence of this
reform in the old law, or by immemorial custom, all other
offences were theretofore provided against in the brehon
law by definite fines. The retribution thus exacted was
denominated Eneclan or Eriu, terms applicable also to
punishment by the law in general. It is said to this day
by the people of Felim Reachtair, or the Lawgiver, the lex talionis
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offences were theretofore provided against in the brehon
law by definite...
follows so many cows." Hence, in all likelihood, the term Bally-boe, i.e., cow-land, a term which has perverted many writers, in consequence of the varying extent represented by it at different times and in different districts. It appears therefore that by leasing all mutilations for infringe- ments of the exclusive rights of the tenant, the most effective method of making their punishments tell on the whole condition and standing of the offender in his tribe, for punishments so inflicted showed themselves, more or less, in every circumstance of his life and fortunes, and affected his landed property in all cases for a whole year at least.

In calculating by the measure, it was necessary again to fix a standard of available aliquot parts. The number three was found most convenient, and accordingly the cumhala, a general expression of fixed value, was made to consist of three parts, and the proportion of every quantification with which all other proportions of value were usually regulated. Seven cumhala, or twenty-one cows, was the usual eric for murder on the highway. This will appear, at first sight, a very inadequate retribution, but it is not quite clear whether the relations of the deceased could not possibly recover an eric from the murderer, and as it is an accompaniment of the punishment in this offence, that the criminal loses all right in the common tillage lands of his tribe, no matter how numerous his herds may be, after sifting through the provision of the Code, it can be stated that the code does not perhaps have been so much disproportionate as it would otherwise appear. Sull the possession of numerous herds might thus purchase the wealthy man a privilege of violence.

To guard against this, the liability increased with the rank of the injured party. If a man was killed at the hands of the chief, or the most influential man at one, that of the wealthy boor (bo-airrugh, pronounced boo-ørri, i.e., a person rich in cattle), would be represented by two, that of the flast or petty chief by three and a half, and so on to the righ or lord of the country. This system was particularly well suited to the social state to one. Robbery was, in like manner, with this salutary provision, that if the robber could not be discovered, the holder of the stolen goods should pay his eric. The sanctity of marriage was strictly guarded; the injured husband had rights both in person and property at the hands of the law; failing him, he might levy retribution on his wife's brothers; failing them again, on her foster-children; and finally, if she had no relations, or if none of them were solvent, her tribe at large had to pay the penalty of her crime. Public orders have been attended to with peculiar strictness and care. Hibertto have spoken of lands held in common, whether for pasturage or tillage, where there could be no fences, and consequently little trespass; but, before we enter on the code of trespass, we must premise that the tribes have denounced the private demesne lands of the tribe in which the Darbh-Finné possessed their distinct inheritance. In the present stage of the inquiry, it cannot be precisely ascertained how this inheritance was acquired; but it is known to have been by purchase, by force of arms, and by law, and distinctly recognized by Sir James Ware, who admits them to have been freeholds. These lands not being subject to yearly repartition, were permanently defined and fenced, and the exclusive possession enjoyed by their holders is evidenced by the extreme rigidities of the law decreeing their inviolability. First, we have the legal fence defined; viz. a trench, two feet in width at bottom, three feet in depth, and three feet in width at top, with a ditch raised on one side, of these dimensions and materials, viz. twelve hands of stone, two feet thick: the whole piled over and over with earth; and even the ashes of the dead were to be scattered over the site. The total enclosure was inclosed by a second fence, viz. a wall of stone, three feet thick, the whole raised to the height of twelve feet, with a chamber in each corner, which was to contain a sufficient supply of cinders and ashes for the burning of the trespassed against trespass on timber. The classification and comparative valuation of trees in a country which has usually been considered a wilderness of forests cannot fail to be interesting. Timber was divided into four classes—airigh, athair, foggal, and loss timber; and the fines for trespass on each were thus proportioned: airigh timber, viz. oak, ash, hazel, holly, yew, and fir—for cutting the trunk, five cows; for cutting or maiming the limbs, a heifer; for the branches, a two-year-old. Athair timber, viz. alder, willow, hazel, quick-beam, birch, and elm—for killing the trunk, a cow; for the branches, a heifer. Foggal timber, viz. black thorn, elder, spindle-tree, white hazle, aspen, lime, rowan. Loss timber, viz. wild cherry, birch, hawthorn, furze, briar, heath, ivy, broom, dronn—three cows for destroying these trees by the number of swnipe its branches could give shelter to*

But perhaps a more remarkable law is that of the Irish brehon regulating the property in bees. Honey and wax must have formed a large portion of the wealth of those years, and therefore the possession of property so hard to fix as that in a swarm of wandering bees had never been calculated and laid down with such scrupulous nicety. In the first place, the bees themselves are protected by severe enactments against injury of whatever kind. Next, they are to be left free, under heavy penalties, to choose their own place of swarming: "to bind the bees" by casting up dust, or taking any other means to force them to descend and swarm on one's own land, while they are flying out of the lands of another, was an offence for which no less than five cows were taken from the tribe and territory. The bees having voluntarily settled on a tree, it then depended on the rank and privileges of the owner as well of the bees as of the tree they had chosen, what was to be the portion of wax and honey received. The law consequently directed that they should continue to receive that share, as the bees in all cases ultimately became the property of him upon whose tree they had alighted. The commentators on the old text here complain very bitterly of the clergy, who, it would appear, were particularly encouraged to collect swarms to their abbey orchards, where they did not scruple to cover them with sheets, and take other unfair means of securing their stay among them. If the bees, however, were found beyond the sound of a church bell, or the crowing of a cock, at the woods or glens, without being solicited by the priest, the whole proceeds, excepting a ninth part, which he had to pay by way of tribute to the chief. If these laws have been rightly translated, the old Irish must have possessed the secret of abstracting the wax and honey without destroying the bees, or even collecting the swarms; and the regulations regarding this species of property so copious; in fact it would require all the space here devoted to this subject to explain the minute and complicated decrees of the brehon law regarding bees alone.

It is equally necessary to enter fully into the law of watercourses, the enactments on which are very remarkable, inasmuch as the property of the whole water of a stream vests in him out of whose land it first springs, so that the owner of the fountain could levy tribute even on those bridges which were fifty miles from his land, and extend it to other men, as well as on all houses (save those of the chief, the head villager, and the miller,) whose occupants drew water either from the fountain or the stream. Millers were a class peculiarly favoured in these laws: their mill-races were exempt from tax free; their mill-rights, while pursuing their trade, could not be prosecuted for trespass; and, as above stated, their households were exempt from tribute on all water drawn for their consumption. It is worthy of remark that by the Jewish law the mill-stone could not be confiscated.

The law of roads is not very ancient; it was of some length; but of the law of roads only one section hitherto has been found. This section, however, is well worth notice, as it contains proof of a much more general design in these laws than we might otherwise be disposed to give them credit for. It provides that the space of the castle or fort road that shall be left from high-water mark along the sea-shore for the construction of a public coast-road round the whole kingdom. It is said that some traces of such a road are still to be seen upon the Irish coast. Valency states that in his time the country was inhabited by a species of butterflies other writers mention the remains of a great inland causeway somewhat similar to the British Watling Street, crossing the country from Dublin to Limerick, which was probably the effect of a similar provision for inland communication. The law of feeding is more fully stated. Every member of the Dathang-Finné, or gentry of the clan, was bound to

* Leges Ian., Lambard., No. 43.
send his male children to foster with some family of the
In-finned or commonly: for it was provided that none but
fosterers could claim full eric. The Brégar or foster-fee
was a stated sum payable by instamlers during the child’s
majority. It was established that the foster-father was bound
to pay one-half of his fines, in return for which the young
nolle or idil-man was ever after bound to protect his new kindred, and in particular to pay all fines
incurred by his foster-mother, except in case of adultery,
when the child left his first upon her father and brothers, if
alive and soluble.

The law of tuition provides for three chief branches
of education, viz.: knowledge of cattle, as being the first
and most important in a pastoral community; next, knowledge
of agriculture, and, finally, of navigation, instruction in
latter being an indispensable branch of each. These
attainments were acquired under tutors hired for the purpose, and
paid by the father or foster-father, according to the arrange-
ment of the Brégar, the foster-father himself being always
the youth’s instructor in all military and athletic exercises.
The tutors alluded to were the ollichie or bards, who also
acted as clerks and notaries under the bréhon.

The offices of these functionaries, as well as of the physician, were bire-
editary, but not, as is generally supposed, subject to the law of
primogeniture; the jurist, poet, or doctor, being at liberty to
select from all of his own name those apprentices whom he
might think most promising in his peculiar profession.

The law of physic proportioned doctors’ fees to the rank
of the patient and the nature of the complaint. If a cure
was not successful, the patient had the right to sue for the
amount proved successful the recompense was very liberal, as
fourteen cumhals or forty-two cows for the cure of a bishop or
provincial king, seven and a half cumhals for that of a
lord of a country, three for that of a bovaré, and two for a
merchant.

It is disputed whether the new series of enactments were
sumptuary or merely valutary. Doctor Ledwich adopts
the latter opinion, but the tenor of the translated fragments
would seem rather to imply the former. They are said to have been
introduced into Ulster in 1589, the year in which Elizabeth
had a king who lived in the second century. By them a
certain value is established for various articles of dress and
luxury, as, for example, a mantle wrought with the needle is
valued at a steer or heifer. The dress of a petty-chief’s
lady is estimated at three cows; that of a head villager’s
wife at two; that of a bard and his wife together at three;
and that of a bishop at six. The bodkin or brooch of any
one under the rank of a bovaré was in like manner priced
at three heifers; that of a bovaré at three; that of a Fiath or
petty-chief at a cow; that of a country lord at a cow and a
third. Of the same value in each degree was the bridle.
The belt was estimated proportionately at about a third;
and in like manner with regard to arms and armour, drinking-
cups, &c. &c.

As some, of old, there is nothing preserved which so
far throws any light upon this portion of the inquiry, except
one very interesting fragment, viz., cases of disputed inher-
tance of lands were to be judged by twelve voices, one dis-
sentient voice invalidated the verdict. This was the ancient
law, and the commentators generally agree that the hardship of its
extreme strictness occasioned its practical repeal.

Such, so far as can be collected from the present ill-
arranged and defective materials, would appear to have been
the old system of rude jurisprudence under which the Irish
people lived and continued to live until the Norman
conquest of the twelfth century. The conquerors brought their own laws with them; but the progress of the more complicated and
formal feudal system of the continent in displacing its primitive
originator and rival was necessarily very slow. The bréhon law
offered many attractions to ambitious individuals desirous of
establishing a self-contained despotism in each of their
several territories; and while the particular duties and
services done by the new feudal law were rigorously exacted,
the general privileges of the English constitution were denied to them, both by consent of the crown, and thus participated in the evils of both systems; for the pro-
tection of judicial trial by the law of England could not be
claimed by the serfs of remote districts; and the power of
the conquerors was too arbitrary to permit any operation of
the regular courts. The Norman lords, therefore, not far from
the sole interest of the lord: thus the poor native of the pale
was mulcted under both laws and protected by neither. It is not
surprising therefore that the lapse of a Norman noble into
mores Irish, by which he acknowledged the brehon code
alone, was anxious encouraged by his dependents; and such
were the inducements of the system itself for turbulent and
ambitious spirits, that few of the adventurous nobles who
settled in the pale could help but immediately avail them-
themselves of a new opportunity. To guard against defection so ruinous to the whole
policy of the conquerors, many statutes were enacted in the
parliaments of both countries. These at first were for the
encouragement of the English law only, but afterwards it
became necessary to take more effectual means of discouragement. The first positive act against the prac-
tice of the brehon law within the pale was passed by the
parliament held at Kilkenney by Lionel Duke of Clarence,
anno 1369; by which the offence is declared high treason.
This was followed by the 24th Vic. c. i. ii., and the
28th do. c. i., with similar prohibitions and penalties. The
prohibition, however, had little effect. The open defec-
tion of the great families of De Burgo, Bermingham, and various
branches of the Fitzgeralds, in Ulster, Connaught and Mun-
ster, kept the dangerous example constantly before the eyes
of the nobility on the borders of the pale, and each succes-
sive rebellion tended to increase the evil: for if the govern-
ment were successful, the border barons, on whom the main-
tenance of that advantage afterwards depended, were pro-
portionately more indulged; and, if the Irish prevailed, their
yielding under such compulsion was the more excusable. A
good example of the anomalous state of society produced by
the intermixture of the two systems on the borders of the
pale may be adduced from the reports made by various cor-
temporary writers, of the usual custom of the Irish and English
King Henry the Eighth to inquire into the abuses of the Irish
nobility anno 1537. The following is an abstract of some of
of the most remarkable complaints. All the freeholders, lay
and spiritual, charged their tenants with cowne and livery,
and they paid fees for their services, together with various
cashies, with black-men, with black-money, with the main-
tenance of mustrons, and with carriage and service in general.
Lord Kildare and Lady Catherina Poer not only re-
quired cowne and livery for their own horses and boys, but
that they pay for their services; and some of them, early
when either (Kildare) or Poer, or Osory, hunted, their dogs were sup-
pplied with bread, milk or butter. When the deputy or
any great man came to Lady Poer she levied a subsidy at her
pleasure for meat, drink, and, under the name of mertyagh. When Osory or Poer married a daughter,
the former demanded a sheep from every husbandman, and
a cow from every village; and when their sons were sent to
England, a tribute was levied on every village or plough-
man. Lord Kildare levied money for each horse and cow
bleaken, 5 marks for his want of vigilance. Sir Thomas
Butler exacted 10 marks at Easter, if his subjects had passed
the year without gallenglass or speramens. William
Bermynghama required 16 quarts to the gallon, in payments
for liquor and meat. Some of these were accounted
at prices fixed by themselves, and thereby were enabled to forestall the markets. The brehon, who was kept by
Lady Catherina Poer, took for his judgment, called
'sylogar,' 16d. of every mark sterling, both of the plaintiff
and defendant, &c. &c. Such extraneous practices, res-
ulting from the union of the worst parts of both systems,
the brehon law fell into extreme odium, but they are chiefly
the exorbitances and malpractices of this class which have
been quoted by English writers who censures it; so
that if the English government can in any degree be
said to have been at fault, it was in great measure undeserved. Indeed the nobility of the
pale seem to have established a separate code of laws for their
own government, known as the Sttites of Kilcyle; and we
find them, in the reign of Henry the Eighth, inflicting
a penalty of five marks upon a man, and the same
individual would be by any other law. If these statutes be the index of such
acts as those quoted above, it is little to be wondered
that the bréhon law, which bore the blame of all, should have
been denounced as it was. Great efforts were accordingly
made to supplant the bréhon law by the law of
Elizabeth, and by the Brégar, 3rd and 4th, and 3rd
Parliaments. Sir Philip Molyneux's law, the v.
was also directed against some of its effects; but it was not
till the 3rd of James that the final extirpation of the old
law was effected. The whole kingdom being then divided
into counties, each of whose several shires and circuits of
assize, the brehon law became a mere subject of inquiry
to the antiquary, and as such, at the present day, pos-
sees perhaps greater interest than any other branch of
Irish or Celtic archeology. The sketch here attempted cannot be free from numerous defects, and perhaps from some actual errors, or minor materials of a vague and sometimes defective. The original MSS. are written in a dialect so antiquated as to baffle almost all Irish scholars, and the accuracy of some of the existing translations, moreover, as they are, has been seriously questioned in question. It remains true, however, that the Society of Ireland, with which there is no lack of means for the undertaking, to make that use of the brehon law manuscripts in their possession, to which bodies professing similar objects in any other country of Europe, would long since have turned them. A professorship of the Irish Tongue is about to be established in the University of Dublin: and it is to be hoped that a step so long and unaccountably delayed may now lead to some result which will do away with the reproach in this regard at least on this institution. (MSS. in the library of the Royal Irish Academy, Trinity College, Dublin; Vallancey's Collectanea, vol. i. and iii.; Ledwich's Antiquities of Ireland; State Papers of the reign of Henry the Eighth (Ireland); Statutes of Ireland; Original Communications.)

BREISACH, OLD BREISACH or BRISACH, an ancient town on the Rhine, about 12 m. S. of Freiburg, is in the circle of the Upper Rhine in the grand duchy of Baden. It was considered the bulwark of Germany on the left bank of the Upper Rhine, and was termed the 'pillow' (kissen) or 'pillow' (kissen) and 'pillow' (kissen) of the strongest fortresses in Germany. The castle was built by Borthol, duke of Zähringen. Its vicinage was the theatre of obstinate conflicts during the Thirty-years' war, and was the scene of two victories gained by the Swedes over the Imperial forces. By the treaty of Westphalia in 1648 Breisach was ceded to the French, but the peace of Ryswick in 1697 restored it to the Austrians. Six years afterwards it was invested by Marshal Vauban, and betrayed into his hands by the Imperial generals, Count Arco and Marsigli, of whom the former was tried, convicted of treason, and beheaded at Bregenz. Austria regained possession of the place by virtue of the treaty of Rastadt in 1715, and its works were afterwards rendered much stronger by the erection of a citadel on the right bank of the Rhine. In 1744 the French, under the command of the Dauphin of Orleans, took the place, but they evacuated it and recrossed the Rhine, after destroying the town and its fortifications, as well as the ancient tower, the only remains of the original castle which the hand of time had spared. Part of the town was burnt by the French during the revolutionary campaign in 1793; three years afterwards, General Moreau, upon re-crossing the Rhine between Breisach and Höningen in his retreat out of Swabia, left a garrison in Breisach; and the French retreat across the Rhine at the instance of Kastner, governor of Aachen. In 1806 the French government transferred it, together with the Brisgau, to the house of Baden. Breisach is situated on a circular hill on the E. bank of the Rhine, between Basle and Strasbourg; and in conjunction with the par. of Hochsteiten, which has been incorporated with it, contains about 400 houses and 3200 inha., who are engaged in mechanical pursuits, trade, and navigation. There is likewise a considerable tobacco manufactory in the town. The Minister of St. Stephen, which has survived every calamity that has befallen the town, is a building of the same architecture, contains the monuments of several old warriors, as well as of other individuals of note. 48° 1' N. lat., 7° 34' E. long.

BRISLIIA, SCIOPONE, was born at Rome in 1748, of a family originally from Germany. Cardinal Scipione Borghese stood godfather to him, and gave him his own Christian name. Brislai early distinguished himself for his application to the physical sciences, by which he attracted the attention of the learned Stai of Ragusa, who offered him a seat at their Institute and the chair of philosophy in college newly established at Ragusa. In that city Brislai became acquainted with the Abate Fortis, from whose conversation he derived a fresh impulse toward the study of natural philosophy. After remaining several years at Ragusa, he went to Rome, where he was appointed professor in the College Nazareo. He mainly contributed to form the rich cabinet of mineralogy of that institution, and he made excursions to the hills near the lake of Bracciano, N.W. of Rome, to investigate their geology and mineralogy. He published the result of his ob-

ervations. Saggio d'Osservazioni sulla Tota, Oriolo e Latera, 1786. Afterwards, going to Naples, he was employed by that government in several mining researches, and in constructing a vast distilling apparatus on the volcanic mountain called La Solfatara. His health becoming seriously affected by these labours, he was obliged to desist, and was transferred by the king to the more sedentary employment of the military college of Naples. He made frequent perambulations through the province of Terra di Lavoro for the sake of geological research; the results of his observations are contained in his 'Topografia fisica della Campania,' Florence, 1795, afterwards translated into French, with additions by M. Guerin, and published in 1828, on the volcanic formation of the hills of Rome, 'Voyages dans la Campanie,' Paris, 1801. Breislai had been driven to Paris by the events of 1799. At Paris he was cordially received by Foururoy, Chaptal, Cuvier, and the other scientific men of that capital. Having returned to Italy at the end of the war, and having been in 1802 inspector of the national manufactory of saltpetre and gunpowder of the Italian republic, and member of the Italian institute. From that time he resided chiefly at Milan. He wrote several treatises on the manufactory of saltpetre. Del Salnito e dell' Arte del Salnitro, 'Memoria sulla Fabbricazione e Raffinazione dei Nitri,' 'Istruzione Pratica per le piccole Fabbricazioni di Nitro, da farsi dalle persone di campagna. Breislai continued in his office of inspector through the various changes of government, and also under the Austrian rule till 1815. The government, however, encouraged the study of geology, which was then still in its infancy in Italy, Breislai published in 1811 his 'Introduzione alla Geologia,' which he afterwards enlarged and published in French under the title of 'Institutions Geologiques,' Paris, 1819. The work of Brislai was immediately translated into German. Breislai was elected a member of most scientific societies in Europe. In 1816, together with Monti, Giordani, and Acerr, he formed the place of a new scientific and literary journal, called 'Breislai, a Rerum Novarum et Anterarum Memoris,' the twenty years, the first rank among the periodicals of that country. Breislai was one of the original contributors. In 1822 he published 'Descrizione Geologica della Provincia di Milano,' which was printed at the expense of the Austrian government, which is continued to the present day. The province of Milan, under the reign of Charles Albert, 15, 1826, universally regretted both for his scientific merit and his personal qualities. His rich collection of minerals has passed into the hands of the Borromeo family.

BREMEN, a duchy in the N.R., part of the kingdom of Hanover, bounded on the N. by the German Ocean, on the N.E. by the Elbe, which separates it from Holstein, on the E. by Lüneburg, on the S. by the Hanoverian earldom of Hoya and Brunswick, on the S.W. by the territory of the free town of Bremen, and on the W. by the Weser, which forms the boundary of the duchy of Oldenburg. Its area is about 2020 sq. m. It was merged into the bishopric (Landdrost) of Stade in 1823, and contains two municipal towns, viz., Stade, the seat of administration, and Verden, 30 royal jurisdictions (Aemter and königliche Gerichte), and 300 villages and hamlets, holds 190,000 souls (in 1827, according to Uebelbode, 187,600). The soil, which borders upon the sea, is a rich and fertile marsh-land, on the banks of the Elbe, from 1 to 7 ft. deep. The surface of the duchy is full of heaths and moors, some of considerable extent, almost entirely extremely unproductive; it is a uniform level, lies very low, and consists either of tracts of sand or swamps, interspersed with large blocks of granite, and very sparingly sheltered by thick and still forest. Cereals are always fruitful, and useful attempts have been made to render the best parts of this dreary region available to cultivation: in 1820, for instance, 64,000 Hanoverian or 41,000 English acres were brought under cultivation, and 57 wits. were laid out upon them. This is about equal to the produce of this part of the country. The principal streams in this duchy are the Easte, Bremer, Lübe, and Schwinge, which flow through it into the Elbe; and the Aller, Wümme (called the Lusum or Lossum near its mouth), and the Gerwlo, which fall into the Weser, the latter of which is often navigable by its approach to the mouth of the Elbe. The natives of Barnem are the Oste, which rises on the Wintermoor near Tisted, traverses the country from S. to N., and is navigable almost one half of its length; and the lesser Medem, which, as well as the Oste, enters the sea at the mouth of the Elbe. The largest town is that which unites Hamburg and Oste, and thus establishes a

3 3 9
communication between the Elbe and Weser. There are seven pieces of water, but none deserving the name of lakes; nor has the Weser any principal tributaries. The weather is temperate but variable, and the districts along the coast subject to storms. The quantity of land under the plough and pasture is estimated at about 450,000 Hanoverian or 294,600 English acres, and the extent of pasture and meadow land is between 170,000 and 220,000 acres. The growth of grain and other agricultural produce is more than sufficient for the consumption. Flax and hemp and fruit in abundance, as well as vegetables, are raised; peat supplies the want of wood for fuel. Considerable numbers of horses (above 67,000) and particularly horned cattle (about 113,000), which latter are one of the main resources of Bremen, are reared; the breed of sheep, which yield a coarse sort of wool, is less attended to, and the stock does not exceed 240,000; the number of swine is between 70,000 and 80,000. The general character of the land, in which rice and sugar and wax are objects of attention. The stock of game is inconsiderable; there are no fisheries of importance on the rivers, but productive ones along the sea coast.

The only mineral productions of the duchy are clay and fine fuller's earth; pewter also is dug. There are no large manufactories, though the spinning of linen yarn and the weaving of hessen linens and sailcloth, the making of potter's ware and tiles, as well as the manufacture of brandy and the extracting of oil of rapeseed, afford employment to a considerable number of persons. The trade is in a great measure dependent on the immediate produce and wants of the country; the exports consist of grain, beans, rapsessed, peat, and fattened cattle for the Hamburg and Bremen markets, wool, rags, fruit, oil, tiles, and coarse linen. The want of a harbor on the coast has long been felt; a navigation pound, then a fortress and now the town, but the establishment of the 'Bremerhaven,' on the right bank of the Lower Weser and left bank of the Gerste, bids fair to remove it. Many vessels are built and navigated by the inhabitants of these parts, and the sea; some few are exported to other countries.

The inns are all of Low-German (Platt-Deutsch) extraction, and speak the Low-German dialect. They are exclusively Protestant, and the majority profess the Lutheran form of faith. There are 128 Lutheran and 7 Reformed churches, and the Established Church has a congregation of no less than 50,000 in the duchy, and a sufficient number of national schools.

This duchy was originally a bishopric, instituted in the year 788, and was raised to an archbishopric in 849; it was secularized under the treaty of Westphalia, made over to Sweden in 1648, conquered by Denmark in 1712, and sold, with the consent of both parties, to Hanover, or rather the Electorate of Brunswick in those days; namely, by Denmark in 1715 for 600,000 dollars, and by Sweden in 1719 for 1,000,000. One portion of it formed the earldom of Hoya, known as the Land of Oldenburg; another as the archbishopric in the middle of the 12th century; an incorporation which subsequently gave occasion to violent disputes between the peasates in possession and the dukes of Brunswick.

BREMEN, the free Hanseatic state of, in the N.W. of Germany, is situated on each side of the Weser, between 50 and 55 m. from its entrance into the N. Sea, and as an independent power, it is one of the thirty-eight constituent members of the German Confederation. Its territory, which extends from 52° 1' to 53° 11' lat. and from 8° 32' to 8° 58' long. is intersected by the Weser, and is divided into the 'domain on the right bank,' and the 'domain on the left bank,' of the Weser, together with the bailiwicks of Wesermarschen, Bremen, and Worpschau, which, after their junction with the Hamme, bear the common name of the Luesum or Lusam, and flow into the Weser on its right bank, and the Oebum, Ochunu, or Oehme, which flows into it on its left bank. In addition to those rivers, it is full of watercourses and canals. It is better adapted for rearing cattle than raising grain, and little corn is grown, except on some of the more elevated spots. Fruit and vegetables are cultivated in the more immediate vicinity of the town; but the country is destitute of woods. The pastures are remarkably rich, and the breed of horned cattle is very fine. The territory contains one

town, two m. t., Vegesack and Bremerhaven, and 58 villas and hamlets, and is divided into 14 pars. The number of inhabitants is 65,000, and the present position of 57,000 souls; in 1823 it was officially estimated to be 55,453; and of this pop. about 41,500 inhabit the town, and 15,500 the adjacent dependencies. The inh. are of the Protestant faith, with the exception of about 1,500 Roman Catholic inhabitants. A few years ago this community, in the 'saint,' which consists of four burgomasters, two syndics, and 24 senators, and in the 'convention of burgessees' (Bürger- convent), which is composed of all resident citizens who pay any considerable amount of taxes; it is called together by the burgomasters, and no session is excluded from it on account of his religious opinions. The senators are chosen out of a certain number of candidates proposed by the burgesses, and elected by ballot by the senate: the senatorship is an appointment for life. The senators also have a charge to give the vote of the people, but ministers in this capacity: they are responsible to the convention for the due administration of the finances, and constitute the highest court of appeal in judicial matters. Some one member of the senate is placed at the head of each public department, and civic deputies take their places in the executive. The rights and control exercised by the former bishops now rest in the hands of the senate. The ministers of religion are elected by the flocks, but they cannot enter upon their functions without license from the senate, which has the power of granting or withholding it; of granting pardons, administering justice, regulating the police and civil affairs, controlling public instruction, exercising seignorial rights over the territorial possessions of the commonwealth, and conducting foreign affairs. But the convention has in its power also positive measures, of imposing taxes, determining the amount and application of the revenues, directing military affairs, and especially determining all important matters which concern trade and navigation. Nothing was officially known on March 15th of the year 1833 until a vote of the senate and convention, passed in January, 1831, decreed that the accounts should be annually before them. It appears from those which since have been presented that the ordinary receipts for 1833 amounted to 2,398,000 dollars, by the export of salt, and the extraordinary of 1,644,000 dollars, or a total of 684,529 dollars, of about 119,790 dts., and the ordinary expenditure amounted to 519,512, and the extraordinary to 187,478, making a total of 766,990 dollars, or about 123,720 dts. from which data, the excess of expenditure over income was computed at about 393,272 dts.

At the close of the next year, however, the deficit disappeared, and a surplus revenue of 35,000 dollars (about 6120 dts.) was passed over the credit of the ensuing year. The capital of the public debt in 1833 was stated to be 3,508,000 dollars (about 52,800 dts.), and the public debt for public service of 4,400,000 dollars (about 64,675 dts.). After deducting this interest, and the amount of the vote proposed for the annual reduction of the capital, the remaining expenses of the state were calculated at a future average of about 375,000 dollars, or about 53,620 dts. per year. The town is garrisoned by 455 men, which the state is bound to furnish to the army of the German Confederation; besides these, there is a militia composed of 2,000 men, excepting government servants, ecclesiastics, surgeons, police, &c., between the ages of 20 and 35; it consists of four battalions, mainly composed of about 2500 officers and privates, of whom those between the ages of 20 and 25 form the light infantry battalion. It is obligatory upon them to assemble once at least in the year, on the 9th of October, the anniversary of the battle of Leipzig.

Bremen carries on a very extensive trade, both with foreign parts and the interior of Germany. In 1832 its imports by sea amounted to 31,848,628 pounds of tobacco, 22,030,000 dollars of sugar and molasses, 42,000 pounds of coffee, about 29,000,000 pounds of sugar, and 30,000 hogsheads and pipes of wine, besides other articles; the whole value of these imports was estimated at 13,313,127 dollars, about 2,329,790 dts. The exports, valued at about 13,000,000 dollars annually, both by land and sea, consist principally of the productions of other countries, particularly the states of the interior of Germany, such as lead, copper, iron and iron ware, glass, grain, oak and fir timber, bark, potashes, drugs, hemp and flax, wool, rays, paper, tobacco, pipes, and other manufactured goods. The number of vessels which arrived in 1833 was 1116, of
which 120 were from Great Britain, and 123 from the United States; and in 1835, 1855, of which 120 were also from Great Britain. The immediate supervision over such matters as affect trade is vested in the 'college of elders,' who are the gerents for the commercial body only, but are no way connected with the government or legislature otherwise than as its members may be individual members of the body or the other. Bremen, as one of the Hanseatic towns, holds its municipal rights in common with Hamburg and Lübeck in two considerable properties in foreign countries—the 'Steel-yard' in London, and the 'Hanseatic House' in Antwerp.

The town of Bremen rose to greatness in the year 787 or 788, when Ethelbert Charlemagne made it the seat of a bishopric. Its incorporation with the archbishopric of Hamburg in 858 occasioned such violent contests between the chapters of the two towns, that it was finally determined, in 1293, that Bremen should be the seat of the archbishops, who greatly desired it, and the house of the rulers, who promoted its union with the league of the Hanse Towns; but notwithstanding the archbishop's repugnance, it was recognized as a free town of the holy Roman empire so early as the reign of the Emperor Otho I. The chapter was abolished when the archbishopric was converted into a secular duchy by the Swedes, but the freedom of the town was never fully established, owing to the opposition of the dukes of Brunswick, until the year 1736, when Bremen was separated from the Duchy of Holstein. In 1810 Napoleon incorporated it with the French empire, as one of his 'good towns' in the dep. of the Mouths of the Weser. In 1813 the battle of Leipzig restored its independence; and it was afterwards admitted a member of the German Confederation. It is one of the three Hanse Towns, together with Lübeck and Hamburg, by the Congress of Vienna.

The city of Bremen is situated on the Weser, which divides it into two unequal portions, the larger of which, the Altstadt or old town, is on the right, and the other, the Nordstadt or new town, on the left of the river. The old town has large suburbs, but the new town none; the latter was begun in the year 1624, is built with much regularity, and the streets are straight and broad. The old town, though not without some handsome streets and dwellings, has none of the character of a town, and still more gloomy by the height of the houses. These two quarters are also separated by an isle of the Weser, called the Werder, the lower part of which has been built upon and included within the limits of the town. The Weser bridge crosses the isle, and unites the two towns. The ramparts and bastions round the old town have been levelled and converted into delightful promenades, with six roads of entrance intersecting them. The quays which line both sides of the river afford a fine view of the town in all its magnificence, and a perfect uniformity of solidity and height with handsome mansions, villas, and gardens. The number of houses is about 5900, independently of granaries, warehouses, mills, manufactories, &c. which, if included, would make the number of buildings upwards of 7000; and the population, 45,418, and buildings and business 15,263. They are of the reformed religion, 1500 Roman Catholics, and 1000 Jews; the remainder are Lutherans. There are no open spaces of any magnitude in the town excepting the cathedral-yard (domhof), which as well as the market-place and the street in front of the main town gate, are the only open spaces. Several deserted churchyards have been left unoccupied in both towns for the purpose of affording freer circulation to the air, and instead of them three cemeteries have been made outside of the city. Among the most remarkable buildings in Bremen are the cathedral and the 1 Roman Catholic and 1 Protestant church. They are in the old town: the cathedral, a venerable structure in the Gothic style, was built in 1160: its length is 296 ft., breadth 124, and height 40 ft. Underneath it is the celebrated Basilica, the Roman Church of St. Peter (crypt or cryptic nave). The form from having been the spot where the lead for the roof was melted and prepared; in this cell are a number of bodies in a state of mummy-like preservation, which have lain here for upwards of 200 years. The church of St. Augustin has a steeple of handsome appearance, 324 ft. in height. The old Gothic town-hall, formerly the archiepiscopal palace, has undergone complete renovation, and the piazzas round it have been thrown open for public accommodation. Here is the former town-hall, built in 1495, and below it the famed Bremen ratsherrenraum (council's wine vault), one section of which, 'the Rose,' is said to contain old hock of as remote a vintage as the year 1624; while another, the 'Apostles' Cellar, contains, we are told, Hochheimer and Rudesheimer, made in the early part of the 18th century, and preserved in a disused winevaults, called the Twelve Apostles. Along one side of this vault are a number of small apartments, for the convenience of visitors who wish to relegate themselves; at the extremity of these apartments is the acoustic-room, a sort of whispering gallery. Beyond the鼠torium stands the Exchange, with its noble concert and ball-rooms; the Schüttig, in which the elders of the mercantile body hold their sittings; the Waterworks next the bridge, the great saloon of which produces revolutions in an hour, and throws up 120 water-jets into the air at every revolution; the Arsenal, Weighing-house, and Granaries; the Museum, erected in 1801, which contains a large library, collections in natural history, mechanics, the arts, &c. and lecture rooms; the gymnasiums—rooms; the two gymnasia, and the high-school; the school for trade and commerce; the central library; Dr. Ober's Observatory, from which he discovered the planets Pallas and Vesta; the Theatre, and a variety of public works in the town. It has nine gates of which three are of the new town and six in the old. The town is divided into 30 parochial and elementary schools in Bremen and its dependencies. The principal manufactures carried on as well without as within the city are those of woolens, leather, hats, and there are 276 beer-saloons, or beer sold in various kinds, of which 79 are in the city, 300 and 400 orphanages are maintained and educated; three almshouses for widows; and many other charitable establishments. 53*4 N., lat. 8° 47' E., long.

(T. W. Streit's Free Towns: Hassel's Free Hanse Town of Bremen; Dernbach's Manual; Stein's Travels; Official Documents, &c.)

BRENNUS, thelatinised form of the Celtic brennin, 'king.' Two individuals are known in history by this name.

1. The first was the hero of an early Roman legend, which relates to the migration of the Teutons into Italy and their march to Clusium and Rome. In the account given by Dio Chrys. (xvi. 113, &c.) of this singular invasion, the name of Brennus is not mentioned; in the narrative of Livy (v. 33, &c.), he figures as the 'regular Guellorum,' or the leader of the Teutons, and of the inhabitants called on the Romans for aid. He engaged with and defeated the Romans on the banks of the Allia, the name of which river they ever after held in detestation, (Vir. x. i. 717). The whole city was afterwards plundered and burnt, and has never since been inhabited, but only for the bravura of Manilius. At last, induced by famine and pestilence, the Romans agreed that the Gauls should receive 1000 lbs. of gold, on the condition that they would quit Rome and its territory altogether: the barbarian leader, however, refused. The Gold was given to the soldiery, and the time was expired without the capitulation, and ordered him to procure 2000 men, and 3000 were defeated; there was a total slaughter, and not a man survived to carry home the news of the defeat. The date of the taking of Rome, assigned by Niebuhr, is the 3rd year of the 29th B.C. 269 (see Hist. Rom., vol. ii. p. 509—567, English Translation).

2. A king of the Gauls, who (B.C. 279; Clinton, i. p. 237) made an irruption into Macedonia with a force of 150,000 and 10,000 horse. Proceeding into Greece, he attempted to plunder the temple at Delphi. He engaged in many battles, lost many thousand men and horses, but received many wounds. In despair and mortification, he called a council of war, and advised the Gauls to kill him and all the wounded, to burn the wagons, and, returning home with all speed, to choose Claudius (or Aecarius—see Paean) king. Soon, however, in a fit of intoxication,
on horseback were to pay a penny; those on foot a half-penny. Other passengers were exempt. The state of the bridge was long a cause of complaint, and various alterations were made to adapt it to the increasing number of passengers. In 1854 the present bridge was built, which is of stone, of one arch, 94 ft. between the parapets, 50 ft. wide in the water-way under the bridge, and 15 ft. high to the summit within the arch.

New Brentford church was rebuilt in 1764. The living is a curacy subordinate to Hanwell, and was at one time held by John Horne Tooke. There are seven daily schools, of which two are national, and three Sunday schools, in New Brentford; in Ealing, which includes Old Brentford, there are 17 daily schools, one of which is endowed, and two others are partly endowed; eight boarding schools, and three near Sunday schools. At Ealing there is a labour-school for the poorer classes. Some organic remains were dug up in a field near Brentford, of which an account is given in the 'Phil. Trans.' for 1813. The Grand Junction Canal comes into the Brent a little below Hanwell, and is thus carried to the Thames at Brentford.

In 1616, Edmund Ironside, having obliged the Danes to raise the siege of London, pursued them to Brentford, and defeated them with great slaughter. On the 14th of November, 1642, an action occurred between the royalist and parliamentary forces at Brentford, in which the latter were defeated. Patrick Ruthen, earl of Fortch, in Scotland, was, for his services in this action, created, by Charles I., earl of Brentford, a title which became extinct with him in 1661. In 1689 the title was revived by King William, who gave it to Duke Schomberg; Schomberg's son, who died in 1719, was the last earl of Brentford. Six Protestants suffered at the stake in the town of Brentford on 14th July, 1558. (Lysons' 'Environs of London; Report of Middlesex Magistrates on the Bridges of the County, 1826; Population and Education Returns'.

BRENTWOOD. [Essex.]

BRENT/FD/W, a family of ooloocephrous insects, belonging to the section Rhynochophora and sub-section Retic. Distinguishing characters:—body much elongated, tarsus with the tibiae bicoloured; antennae filiform, or in some with the terminal joint formed into a club; proboscis projecting horizontally, generally long; in the male longer than in the female; palpi minute.

The insects constituting this family are among the most remarkable of the beetle tribe, and are almost entirely confined to tropical climates: only one species has yet been discovered in Europe. But little is known of the habits of these insects, except that they are generally found crawling on trees, or under the bark, and sometimes on the leaves. The body being of various bright colours, the species is black, or brown, with red spots and markings.

The four principal genera of the brentides are as follows:—Brentus, Arthrides, Ulocerus, and Cylas. The species of Brentus is chiefly distinguished by having the antennae elongated, the tarsus yellowish, the tibiae slightly enlarged towards the apex, and the body linear.

Brentus Temminckii (Klug), one of the most remarkable species of the tribe, will give an idea of their general form it is found in Java, and is of a blackish colour varied with red markings, and has deeply-striated elytra.

Brentus Temminckii (Klug)
Ulcerous has the antenna nine-jointed, the last of which forms a club.

Cyclops has the antennae ten-jointed; the terminal joint forms an oval club; the thorax is indented in the middle, and the abdomen is of an oval form.

BRESCIA, THE PROVINCE OF, in the Lombardy. - The province of Brescia is situated to the north of the city of Brescia, the government of Milan, or Lombardy Proper, extends from 45° 14' to 46° 1' N. lat., and from 9° 50' to 10° 37' E. long. It is bounded N. by the Tyrol and the day Val Camonica in the province of Bergamo, from which it is divided by a contract of the Roman Alps which runs S. between the Oglio and the Chiese, E. by the lake of Garda, which divides it from the Veronese, S. by the prov. of Mantua, and S.W. by the prov. of Cremona, and W. by the prov. of Bergamo. The river Oglio and the lake of Iseo, 19 m. in length, through which the Oglio passes, mark the boundary between Brescia and Bergamo, and also the Chiese, Cremona, and Cremona. The length of the prov is 64 m. from N. to S., and its greatest breadth from the lake of Garda to the river Oglio is about 33 m. The area is about 1300 sq. m., and the pop. 322,000. (Bollettino Statistico di Milano, 1833.)

The territory with regard to its surface and the nature of the soil may be divided into three parts: 1. the valleys and mountains N. of the town of Brescia, which are rugged and cold in winter, and little productive. 2. the W. coast of the lake of Garda called Riviera di Salò, which has a mild climate, and is inhabited by a considerable number of people. 3. the S. part of the prov., which forms part of the great plain of Lombardy, and produces corn, rice, Indian corn, flax, grass, and a great quantity of mulberry-trees. Besides the Oglio, which skirts the province of Brescia to the E., the river Iseo flows through the prov. from N. to S., and drains two branches of the Oglio into the N. division. The Mella, which has its source in the mountains 22 m. N. of Brescia, flows through the Val Trompia, then passes close to town of Brescia and W. of it, and after a course of about 35 m. enters the Oglio near the city of Verona. The Chiase has its source at the N. extremity of the prov. on the borders of the Tyrol; it then enters the lake of Iseo, which is about 8 m. long and from one to two in breadth; issuing from its S. extremity, it flows through the valley called Vansone, or Vanozzo, and passes near Montechiaro, marks the boundary between the provinces of Brescia and Mantua for about 10 m., and after wards leaving the territory of Brescia divides the provinces of Mantua and Cremona until it enters the Oglio below Come, where it divides into two branches, one called the Chiase, the other the Oglio. To the prov. of Brescia, mostly for the purpose of irrigation, which is carried on to a great extent, and also for turning mills and other machinery. The prov. of Brescia is crossed from W. to E. by the high road from Milan to Peschiera and Verona, from which branches branch S. to Crema, Cremona, and Mantua. To the N. a road leads by Salò and the W. coast of the lake of Garda to Riva and Roveredo in the Tyrol, and another mountain-road leads into Valtellina by Endo in the Val Camonica. A steam boat plies between Riva and Lambrugo, at two opposite extremities of the lake of Garda.

The chief productions of the prov. of Brescia are, silk, flax, cheese, and iron. Corn is produced enough for the consumption, the peasant living upon Indian corn. In the N. valleys numerous flocks of sheep are reared, the wool of which is used for the home manufacture, especially of blankets which are made in the district of Besano. The iron mines of Collio Bovegno and Pezze in the Val Trompia, with the foundries and forges in which the iron is wrought, are an important source of profit and employment. The manufacture of the silk industry is entirely self-supporting. Brescia has been long celebrated, employ as several hundred workmen. In the Riviera of Salò they spin a great quantity of flax, and have also many paper-mills. In the plains S. of Brescia silk is the great branch of industry, the manufacture of the silk industry being entirely self-supporting. The account of the silk-stuffs, but the greatest quantity of the silk is spun before it is exported, and is valued at nine millions of Austrian livres yearly, about 300,000 Sterling, sterling. There are also manufactories of cottons and leather. Marble quarries are.

The prov. of Brescia is divided into 17 districts, which contain 235 communes. (Sertorius, Saggio Statistico, Vienna, 1833.) The towns, besides Brescia are: Chiaro, 8000 inh.; Montechiaro, 5000; Lonato, 6000; Desenzano, 3600; Sall, 2600; Prato Veterno, 4400; there are smaller towns of between 2000 and 3000 each, such as Manerbio, Ghedi, Len, Carpenedolo, Calvisano, Verola, Novo, Orzinovi, Quinino, Rovato, Palazzolo, Iseo, Gardone, Gavardo, Tosciano, &c., and about 200 villages. On the W. coast of the lake of Iseo the fortress of Rocca d'Anfo built on a rock, is one of the stations of the Austrian artillery.

The prov. is administered by a delegate, each district by a commissary, and each commune by a municipal officer called Podesta. For the military there is a commandant at Brescia. For judicial purposes there are civil, criminal, and mercantile courts, from which there is an appeal to the upper courts at Milan. The ecclesiastical jurisdiction is vested in the bishop of Brescia. The secondary instruction is afforded by the lyceum and the gymnasium at Brescia, the gymnasium of Desenzano and Salò, the diocesan gymnasium and seminary for clerical students, besides a college for boarders and several private establishments authorised by the government. Female education is given by the Ursuline nuns at Brescia, and by the nuns of St. Francis de Sales at Salò, and by school for boys and girls, being more than one of each for every commune. The number of pupils was in 1833 17,581 boys, and 11,797 girls, being the highest number in proportion to the pop. among all the Lombard provs. in 1833.

The charitable institutions in the prov. are: 1. 14 hospitals for the sick, the insane, foundlings, &c., with a revenue altogether of about 15,300L. 2. Orphan asylums, refuge for the destitute, for invalids, and old people; revenue 41,500L. 3. Eleemosynary, or works of charity, for the poor; revenue 41,500L. 4. A house of industry, or works of charity, for the poor; revenue 700L., and with generally about 240 inmates, one half of whom are unable to work, and are kept separate from the others. Houses of industry have been established in each of the principal towns of Lombardy, in consequence of the law of 1832, which forbids the forcing of the poor to go to the charitable institutions, and it seems to be very indifferently administered. The government however has turned its attention to this subject as well as to that of the administration of charities in general, and a new plan of reform is expected. (Bollettino Statistico, 1833.)

The provs. of Brescia and Verona, and also the Venetian, assist on pledges at a small interest, and many others which lend a certain quantity of corn to poor villagers and labourers, to be returned with interest in kind. The interest is about one-sixth of the capital yearly. 6. Foundations for poor students; income 865L.

The people of the prov. of Brescia are a fine healthy race, especially in the N. districts; they furnished the finest men to the army of the late kingdom of Italy under Napoleon. They are spirited and quick, and had once the character of being very quarrelsome; under the rule of the Austrian government, the inhabitants of the prov. of Brescia was once a part of the territory of N. Italy in which the murders were committed. It must be observed however that the provinces called d'Oltà Mincio, i.e. Bergamo, Brescia, and Crema, being later acquisitions of Venice, were the worst administered, especially with regard to the judiciary system. The feudal system interfered with the administration of justice. In the prov. of Brescia alone there were 20 feudal towns or villages. The old provincies of the Republic, such as Padua, Vicenza, Verona, &c. were under a more equitable system. Things have since been changed for the better in the provs. of Brescia and Verona, owing to more equal laws, a good police, and a better education. Instead of the former deadly feuds between rival families, says a contemporary, the only rivalry now existing between country proprietors is about who can make the best wine and raise the best cattle as short as possible of their time on their estates, sporting, fishing, and hospitably entertaining their friends. (Peschetti, Vita di Ugo Foscolo.) Upon the whole the prov. of Brescia is one of the finest in Lombardy.
it was ravaged by the Goths, the Huns, and lastly was taken by the Longobards, and became one of the principal towns of their kingdom. Desiderius, their last king, was a native of Brescia, where he founded the monastery of St. Salvatore, called the Desiderius. His daughter Anspurga was the first Abbess. Across, richly ornamented with cameos, representing mythological subjects, which was given by Desiderius to his daughter, is preserved in the library. After the fall of the Longobards, Brescia passed under the control of the Saxons, and Guielminus, who gave it municipal privileges and franchises, by which it governed itself for nearly three hundred years under its own consuls. It joined the Lombard League against Frederic Barbarossa, and afterwards resisted the attacks of Robert II. Being in the hands of the Guelfs and Guibelines, it was taken successively by Ecclino the tyrant of Padua, by the Pallavicini of Piacenza, the Torriani of Milan, the Scaligeri of Verona, and other feudal lords, until it submitted to the Visconti, of whom yoke the citizens growing tired gave themselves up to the Venetians in 1426. The league of Cambrai took it from Venice in 1509, when it passed under the French, from whom having revolted in 1512, it was retaken by storm by Gaston de Foix, who gave it up to all the horrors of pillage and massacre. It was on this occasion that Bayard was severely wounded. Soon after, by the retreat of the French, Venice recovered all its possessions, and Brescia among the rest. From that time Brescia remained under the republic till 1797, when a party of nobles and citizens, dissatisfied with the Senate, overthrown by a French army, seized Brescia of the Milanese, revolted against Venice. Bonaparte annexed Brescia with Bergamo to the Cisalpine republic. By the peace of 1814 Brescia, with the rest of Lombardy, passed under the dominion of Austria. (In addition to the authorities cited, see Nuovissima guida per la città di Brescia, by F. Brognoli, Brescia, 1826.)

BRESLAU, one of the 25 government circles (regierungs-bezirke) of the kingdom of Prussia, includes the central districts of the prov. of Silesia, among which was the city, where Dr. Labus, physician and poet, was born, and where lies a large painting in the town palace represents Beccarelli's condemnation. For a full account of the learned men of Brescia, see Cozzando Liberaria Bresciana.

The Ateneo, or Academy of Sciences and Belle Lette of Brescia, publishes yearly its 'Commentari,' or Memoirs. A weekly journal is published at Brescia, 'Giornale della provincia Bresciana.' There is a handsome theatre, a cinema or assembly-rooms, a large building outside of the town for the annual fair, and a new casamento or cemetery, begun in 1843. In both the parishes there are new come about the other against the walls, after the manner of the anticent columbaria. Brixia was the chief town of the Cenomani, a Gallic tribe said to have emigrated into Italy with Belbessus, and to have settled along the Oglio. The ancient name of the city was Brixia, and the city became the capital of the stone wall. The Roman Brixia was conquered by the Romans under Cornelius Cæcillus, about 200 years a.c., and Brixia became a Roman colony and afterwards a municipium. After the fall of the empire

BRE, or BRIAC, (the Roman Brixia) the capital of the prov. of Brescia, is situated in a plain between the river Mella and the naviglio or canal which comes out of the river Chiuse, and joins the Oglio in 45° 22' N. lat. and 16° 13' E. long. The hills from the N. of Brescia are surrounded by walls, about four m. in circuit, and has a castle on a hill which is inclosed within the walls in the N.E. quarter of the town. The pop., in 1833, was 34,000 (Serriorti Saggio Statistico). It is a bustling, lively, well-built t., a busy mercantile city, and resides the seat of the bishop of the Diocese, and governor of the province. Brescia has many fine churches with numerous paintings by the great masters, principally of the Venetian school. The rotunda of the old duomo or cathedral is a structure of the Longobard princes of the 8th century. The new cathedral is a splendid building as well as the churches of Sta. Maria del Miracoli, Sta. Maria delle Grazie, del Carmine, La Pace, Sta. Afra, S. Petro, &c. They abound in paintings by native artists, among others by Moretto, a delightful painter, whose works alone, he says, are worth a journey to Brescia to see. Among the palaces, the town-house called la Loggia, the episcopal palace, and the palaces Martinengo, Avogadri, Legchi, Gambara, Fanaroli, &c., deserve visiting. Of the galleries of paintings those of Count Legchi and Count Toselli are the principal. The public library, founded by the learned Cardinal Querni, Bishop of Brescia, in the 18th century, has 25,000 volumes. Querni's voluminous correspondence with D'Aguesseau, Fleury, Montfaucun, Dom Calmet, Voltaire, &c., is preserved in the library. The rich city palace of the Carrara family has lately been described in the 'Musem Mazucchellianum,' 2 vols. fol. Brescia, next to Rome, has most fountains of any town in Italy. There are 72 public fountains in the streets and squares, besides some hundreds of private ones. The water comes from springs near the neighboring towns of the Adige, and the Po. There are many ancient inscriptions have been found at Brescia, and of late years the remains of a handsome temple have been excavated. The temple appears to have been raised by Vespasian to commemorate his victory over the troops of Vitellius near Crassum in Syria (71). The temple was of marble, of three stories, and with 17 columns on each side; and among the rest a very beautiful bronze statue of Victory have been found. (Antichi monumenti scoperti in Brescia illustrati e delineati con tavole in rame, Brescia, 1829.)

The climate of Brescia is healthy, but subject to sudden storms. Provisions of every kind are abundant, and fish is brought from the lakes of Garda and Iseo. Science and literature have been cultivated at Brescia for ages past. Among the men of learning it has produced, we may mention: 1. The philosopher and theologian, the martyr, Bartaghi, and the learned ladies, Veronica Gambara and Laura Ferrera, in the 16th century; the naturalist Father Terzi Lana, Mazucchelli, Gagliardi, Corniani, in the 18th, and in the present century the poet Areti, the archæologist Dr. Labus, and the physician Dr. Ungaretti. Dr. Labus, father of the learned Moretto, Vincenzo called il Bresciano, and others were natives of Brescia. The priest Giuseppe Beccarelli, who had been for more than twenty years at the head of a large establishment of education at Brescia, being accused of immorality and heresy, was condemned, in 1710, by the Inquisition to the galleys, which penalty the Senate of Venice commuted into perpetual imprisonment, in which he died. This was the last act of the Inquisition of Brescia. A copy of Beccarelli's interrogatory and other inedited documents concerning the proceedings is in the possession of the prov. of Silesia, and is published by Dr. Labus, who was a lawyer in the city of Brescia. The large painting in the town palace represents Beccarelli's condemnation. For a full account of the learned men of Brescia, see Cozzando Liberaria Bresciana.

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bridges, are a continuation of the same plan, completing the whole, though denominated the 'Outer Town,' in contradiction to the first-mentioned, which is called the 'New Town.' The wards of this town are divided by combinations of the width of the streets and the broad fronts and handsome elevation of the houses, gives the town a cheerful appearance; which is in contrast with the massive and more sombre aspect of the churches and public buildings. The same appears to uprightness and stability of the town having been recently rebuilt: they were burnt in order to clear the defences of the town when it was besieged in 1806. There are three of the suburbs on the same side of the Oder as the New Town, namely, the 'Nicolaï' to the W., the 'Schweidnitz' to the E., and 'Oblau' to the E., but the fortifications which divided them from the New Town were razed in 1813, and a broad ditch is now interposed between them. On the N. side of Breslau lie four other suburbs, separated from it by the Oder, namely, the 'San- denstein' and 'Dom,' or cathedral suburb, outside of the Sand Gate, and the 'Oder' and 'Bürgerwerder;' the whole of them are built on two islands formed by arms of the Oder, and connected with the New Town by one large bridge across that riv, and eight smaller ones across its arms. The ditch or canal which divides the New Town from the Nicolaï suburb, is traversed by the 'King's Bridge,' which is made of cast iron, in weight about 140 tons, and was opened on the 16th of October, 1822: at each end of it is a square, that on the Nicolaï side opening upon a handsome street and fine buildings, while the other, leading to the Sand and Schweidnitz suburbs have also handsome squares attached to them. The greater part of the town is encircled by an agreeable promenade, ornamented with trees and shrubs, and bounded by the banks of the Oder. In the suburbs, in the three or four slopes raised upon three of the old bastions. Among the numerous improvements made in Breslau of late years, is the erection of the Exchange buildings on the 'Salzring,' which is now become one of the most agreeable resorts in the town, and has changed its name into that of 'Salz Square.' A noble monument of bronze was erected here on the 26th of August, 1827, in commemoration of Büchler's victory on the Katzbach and of the Prussian army which supported him. The state of Büchler is raised upon a pedestal of gray granite, with a relief, representing the general departing from the fields, engraving the name 'War God's aid, for our King and Country.' On one of the sides of the substructure on which the pedestal rests is inscribed 'The people of Silesia to Field-Marshall Büchler and the Army.' The statue and its substructure are 26 ft. in height, and was erected in 1816. In 1816, Breslau contains 32 churches and 1 synagogue. The cathedral church, said to have been built between the years 1148 and 1170, is highly decorated in the interior, and contains 17 side chapels. The Church of the Holy Cross, erected by Hohenzollern, the Church of the Holy Trinity, and the Church of the Holy Cross, and stands upon a subterranean church of precisely the same shape and dimensions, which the same prince, whose remains were deposited in the upper church, constructed in honour of St. Bartholomew. Among the finest churches are also the church of St. Mary, on the Sand Island, begun in 1330; St. Dorothea's, the loveliest church in Breslau, founded by the Emperor Charles IV. in 1350; and the chief Protestant church, called St. Elizabeth's, in which the first sermon preached by a Protestant minister in this town was held on the 23rd of April, 1525. The present steeple of this last church was erected in 1534, and is about 330 ft. in height. The royal or public buildings of the town are about 240 in number. The 'guildhall' was probably erected in the early part of the eighteenth century, and is noted for its apartment called the 'princes' hall,' where the banquets and feasts formerly held their sittings. It is situated on the Parade, the finest square in Breslau, nearly in the centre of which is the city weighing-house, a building in shape like a tower, erected in 1791. Among the other public buildings is the town hall, and those of Frederic the Great, at the close of the Seven-year's war; the courts of justice; the public library in the Sand suburb; the Roman Catholic gymnasion; the episcopal palace near the cathedral; the arsenal; the burg, once an imperial palace, and that of the college of the bishops and property of the university; and the handsome range of buildings called the 'university building.' The university was founded by Leopold I., in 1702, for the two faculties of divinity and philosophy. Two more, for law and medicine, were added in 1811, when the university of Frankfort on the Oder was incorporated with it. The library contains 166,000 volumes, of which 11,000 are in the University, 3,700 paintings, the university has a botanical garden, an observatory, museums of anatomy, natural history, and antiquities, a clinical hospital, &c. Between the year 1826 and the present time, the number of students has increased from 2,728 to 5,234. The gymnasion here, besides a superior kind of civic school and a seminary for teachers; the Catholics, a royal gymnasion, a school for teachers, the 'Alumnat,' which is an establishment for maintaining and educating candidates for the church, and ten other schools. The Jews have a good school, founded here in 1790, and another of an inferior kind. Breslau likewise possesses a provincial school of arts, where mechanics are taught drawing and modelling; a school of architecture; an obstetric institution; an asylum for the support and education of officers' daughters; a school for the working class (Gewerbeschule); a refuge and school for the deaf and dumb, and another for the blind; a Sunday school; 30 elementary schools; a Bible society, with three auxiliary establishments in the circle; a Silesian society for promoting objects of public usefulness (Verbildlicher Culture), founded in 1803, and divided into sections for antiquities and art, history, medicine, natural history and philosophy, rural and public economy, and pedagogic; a society for Silesian history and antiquities; 14 public libraries; 9 libraries and societies for the promotion of works of art; several hospitals and infirmaries; and an establishment for faithful servants, opened in 1820; and a number of other charitable institutions. The value of the property held for benevolent purposes is little less than 300,000l., and the number of voluntary donations is upwards of 16,000l. a year. The house for the reception of the indigent infirm, and the general management of the poor throughout the circle, are under the direction of a board consisting of members chosen out of the magistracy, clergy, and citizens at large. Each of the 49 minor circles is under the control of five or six assessors, besides a director and adjutant, in respect of all matters connected with the poor. The town is the seat of an important mint, and has a royal office for mining productions, a brewery, a glass factory, and other establishments incidental to its character as the centre of provincial government. There is a theatre and opera-house, and there are several musical societies, public and private. The increase in the pop. of Breslau may be seen from the subsequent statistics.-14,939, in 1769; 21,131, in 1793; 38,752, in 1822, 74,922; in 1829, 84,504; and in 1834, 91,615, an increase of 4012 as compared with the year 1832. Of these 91,615, the number of Protestants was 61,330; Catholics, 25,192; Jews, 5086; and Greeks, 5. In the same year the number of artisans, with less than 30. Each of the 49 minor circles which were more numerous than usual, to 3238; and the marriage rate to 901. At that date also Breslau had 37 places for public worship; 278 public buildings; 3902 private houses; 279 mills, warehouses, and manufactories; and 1771 stables, barns, and distilleries. There are manufactures of all kinds at Breslau, particularly of gloves, plate and jewellery, silk, woollens, cotton, linens, and stockings; and a very extensive trade exists on the Silesian products and fabrics, as well as foreign goods, with leading commerce with other parts of Prusia, and with Russia, &c., to which linen and cotton goods are exported. The annual value of this trade is estimated at between 4,000,000l. and 5,000,000l. sterling. The fair, of which there are six in the course of the year, are the largest, with respect to the sale of wools, in the Prussian dominions; the fairs for wool however, are the most distinguished from the others, and are kept in the early part of June and October. In the first-mentioned month of the year 1827, the quantity weighed was 63,371 cwt. There is a regular communications by water. The Oder represents the boundaries of Breslau and Hamburg, conducted by an association of 100 owners and captains of vessels: the passage is never more than 32 days. By the treaty of Breslau, concluded on the 11th of June 1742, the town, together with the whole of Silesia, was ceded to Austria. In 1744 the town suffered its first bombardments, which drew upon itself the siege of 1747. 1757, 1760, and 1793. It was demolished in 1813 and 1814. It was the birth-place of C. von Wolf, the mathematician, who died in 1754, and Garve, who died in 1798. 51o 44' N. lat., 17o 25' E. long.
BRESSE, a considerable district included in the former government of Bourgogne in France, from the main part of which it is separated by different localities, has been long subjected to the treaty of the N. by the duchy of Bourgogne and by the Franche Comté, on the E. by the district of Bugey, on the S. by the government of Dauphiné, and on the W. by the Beaujolais and Lyonnais, and by the principality of Dombes, which was in the hands of Bugey. Bresse is now distinguished by vast naked plains, very productive in grain of all kinds: there are also pools abounding in fish, and much poultry is reared. Bourg, the chief town, was sometimes distinguished from other places of the same name by the designation of Bourg en Bresse. Pop. in 1832, 7626 for the town, 896 for the commune. (Chalais ou Bourg en Bresse is now divided into parts, of which one is in the dep. of Ain. The chief rivers are the Ain, Saône, and Rhône. Under the Romans Bresse was inhabited by the Ambarri, who were kinsmen of the Aedu, the predominant people of this part of Gaul. In the dominions of the province of Gaul under the later Roman emperors, Bresse was included in Viennois. It formed part of the kingdom of the Burgundians, and was included in that subsequent kingdom of Bourgogne, the sovereigns of which ascended the imperial throne. The feeble authority which these princes asserted in this extreme part of their dominion enabled the nobles of the district to acquire considerable power: the chief of these nobles were the lords of Baugé, Coligny, Thoire, Villars, &c. Bresse had subsequently its states or local government. In 1790 it was divided into parts, some of which became partly into the hands of the dukes of Savoy, who ceded it to France by the treaty of 1601, together with Bugey, in exchange for the marquisate of Saluzzo, &c.

The chief towns of Bresse, with their pop., in 1832, were: Bresse, dep. of Saône-et-Loire, pop. 888 for the whole town, 297 for the whole comm.; Pont de Vaux, 2539 for the town, 3189 for the whole comm.; Châtillon (according to the Dict. Univ. de la France, Paris, 1804). 1719; Pont du Desse, or Pont de Veyle (according to the same authority), 1364; and Baugé, or Bagé (according to the same authority), 810.

The designation Bresse was given also to a 'lièvetsance-générale' of the government of Bourgogne, which seems to have included not only Bresse proper, but also Bugey, Valromey, &c. (Map by W. and D. Lizars, Map for the Diffusion of Useful Knowledge, the principality of Dombes, which other maps assign to the Lyonnais. The country was in the archdiocese of Lyon.

The name Bresse comes from the name of a forest (Saltus Bresiarum). The roots of this word were also preserved in the greater part of this country. (Encyc. Méthod.)

BRESSUIRE, a small town in the dep. of Deyx. Serres in France, deserving notice only from its rank of chief place of an arrondissement, or sub-prefecture. It is on a small stream with a wooden bridge, which falls into the Loire; and is in 46° 50' N. lat. and 4° 29' W. long. In the war of La Vendée, which ensued upon the French revolution, Bressuire was almost entirely destroyed. Before that war it had contained eighty manufacturers of woven fabrics, besides dyers and fullers; after the war only one house and the church remained standing. Since that period it has revived: sappers and cotton goods were made, and the population rose to 1847. (Dict. Univ. de la France, Paris, 1804.) Woolens and linens are made there at present. The name is said to be derived from the great stone bridge.

BREST, a town in the dep. of Finistère, in France, the capital of an arrondissement, and well known as one of the great naval stations of that kingdom. It lies on the N. side of a deep bay, called the Road of Brest, land-locked, and entered by a narrow channel called le Goulet. It is about 310 m. in a straight line W. by S. of Paris, according to Brue's map of France, and 362 m. by the road through Dreux, ALENÇON, Mayenne, Laval, and Rennes. By passing however from Mayenne to Rennes through Fougerès instead of Dreux, the distance is considerably reduced, and can be saved. Brest is in 46° 24' N. lat. and 4° 28' W. long.

D'Anville would identify Brest with the Brivates Portus (Brovitis Portus) of the geographer Ptolomy, who has however, if D'Anville's hypothesis be correct, very much more credibility. It is said that the town was the capital of the Liger, Aiyap (Loire), and the Herius, Epyc (Vilaine).

D'Anville also considers that this place is mentioned in the Theodosian Table under the name of Gesocritre, or, as he would correct it, Gesocbroctre or brivate; a name which in its Celtic signification, 'great harbour or roadstead,' is sufficiently appropriate to Brest. However this may be, there is no desire to place of any great importance in the Roman time; and subsequently it appears to have sunk into complete obscurity.

In the war for the possession of the Duchy of Bretagne, between Charles de Blois and Jean de Montfort, in the 14th century, the castle of Brest is mentioned, and the troops for the defence of Besançon were sent to the assistance of strength and importance in a military point of view. Between 1341 and 1346 it was taken by the partisans of de Montfort from those of de Blois; and in 1373 it was defended by an Englishman, Robert Knolles, against the attacks of the French Gendarmes. The English mark the fort of Brest, having engaged in the war as the auxiliaries of de Montfort and de Blois respectively. In 1386, de Montfort having defeated his competitor and become Duke of Bretagne, besieged Brest, held by his former ally the English (with whom he had, as we have seen, broken), as security for a debt; but the attack failed, and the town was not restored till 1395, when it was given up on payment of the money for which it was held in pledge. Early in the 15th century the English were repulsed in an attempt to force an entrance into Brest harbour in order to burn some vessels that were lying there. In the war of the League, in the latter part of the 16th century, Brest was again the object of contest: it was successfully defended by de Sourdoce, in the interest of Henry IV., against an attack of the troops of the League; and in 1586 it was once more attacked and captured by them by an overwhelming armament of Spanish ships of war.

It was not however till 1631 that the real greatness of Brest commenced: hitherto it had been a mere fortress. Cardinal Richelieu, perceiving its capability for an important station, and having the means of erecting the fortifications to be erected. The favour of Louis XIV. further augmented the growth of the place: that monarch established the magnificent arsenal. In 1694 Brest was attacked by a combined fleet of English and Dutch vessels, from which a body of troops was landed in the hope of carrying the place by a coup-de-main. But the fleet was driven off the coast by a storm, and the troops, deprived of the protection of the fleet, were for the most part cut in pieces.

General Tollesmache, who commanded the English land forces, was mortally wounded.

The town of Brest is of triangular form; the sides of the triangle facing the W., N.E. and S.E., respectively. The S.E. side of the triangle lies along the roadstead or bay. The port is formed by the river Penfeld, which, entering the bay near the eastern angle of the town, is divided into the roadstead with a winding course, dividing it into two parts, that on the left bank of the stream being Brest, strictly so called, while that on the right bank is known as the suburb or quarter of Recouvrance. In Brest, just at the point where this stream falls into the sea, is the house, known as the Zouave, which is the means of commanding the entrance to the port, is the castle, the importance of which in the middle ages is evident from the particulars contained in the above brief historical sketch, and the strength of which is very much owing to its situation.

The whole town is strongly fortified. The site of the place is very uneven; and hence has arisen the division of it into the upper and lower towns. So steep is the declivity, that the communication is made in some parts by means of steps, which in wet or frosty weather are rather dangerous; these steps are of stone, and form the subject of the fifth story of others. The streets in the upper town are winding as well as steep, and improvements there proceed but slowly; in the lower town they are carried on with more rapidity. In Recouvrance modern houses are rapidly superseding the Gothic edifices of the same town. Brest had, before the revolution, two par. churches, St. Louis in Brest, and St. Sauveur in Recouvrance. In the most antient time Brest seems to have been included in the neighbouring par. of Lambeselle, which is just to the N. of the town, but not included in the ecclesiastical division, and submitted to constant changes. The Jesuits had at one time a house here with a fine garden. They conducted a seminary for training chaplains for the king's ships; but before the revolution they had been expelled; and in a map now before us (Paris, 1717) their place is occupied by a hospice of the same name. There were also a considerable establishment of the reformed or barefooted Carmelite monks, a Capuchin monastery, and several other religious establishments.

Besides the arsenal, established as already noticed by
Louis XIV, there are handsome quays, slips for building, and extensive storehouses, rope-walks, and barracks; also a building for the reception of the convicts who are sentenced to the galleys, called Le Bagné. This last-mentioned building is on the summit of a hill, and large enough for 4000 convicts. The various establishments for the navy occupy nearly the whole of the port; and the commerce of Brest is trifling compared with what it might become. It has been projected to form a harbour for merchant vessels, by cutting a canal from the naval port to the road so as to make the site of the castle an island. It is considered that this project, if executed, would supply a great desideratum; viz., a considerable mercantile harbour between Nantes and Le Havre. Brest has several establishments for the promotion of knowledge, a botanical garden, a marine library, an observatory, and a museum of natural history. The pop. in 1832 was 29,800.

The bay or road of Brest is perhaps one of the finest natural harbours in the world. The passage, Le Goulet, by which it is entered, is less than a mile in width, but within there is room for 500 vessels of the line. The road may be considered as the estuary of several small streams which flow into it, none of which however, except the riv. of Châteaulin, which forms part of the system of inland navigation connecting Brest with Nantes. There are two main arms or branches of the bay, each of which penetrates several miles inland; and several smaller inlets. Brest is the chief town of an arrondissement, containing in 1832 156,010 inhabitants.

Bretagne, or according to the English manner of writing it, BRITANNY, one of the most important of the prov. into which France was divided before the revolution, is at present divided into the five dep. of Ile et Vilaine, Loire-Inférieure, Côtes du Nord, Morbihan, and Finistère.

Bretagne is situated at the extremity of that part of France which, jutting out into the sea, forms with the Spanish coast the Bay of Biscay. On the N. and W. and S.W. sides it is washed by the sea, and on the E. side, which is towards the land, it is bounded by Normandie, Maine, Anjou, and Poitou. The length of the prov. E. and W., from opposite the Isle of Ouessant or Ushant to the neighbourhood of Fougeres is about 170 m.; the greatest breadth N. and S. from St. Malo to the neighbourhood of Mâcheaul.co.s of the Loire is about 123 to 130 m. The greatest dimension that can be taken is from N.W. near Brest to S.E. 195 m. Bretagne is usually divided into the Haute or Upper Bretagne, and the Basse or Lower Bretagne. It is traversed from E. to W. by the chain of the Méné mountains, which entering the prov. from Maine run towards the sea, before reaching which they part into two branches and enclose the road of Brest. The northern branch, called the Arrê mountains, terminates in the headland opposite Ouessant; the southern branch, the Black mountains, terminates at the Bay of Douarnenez. The highest point of this range of the Méné mountains is not more than 1300 ft. The coast of Bretagne is of great length, first extending westward from the mouth of the little riv. Coufaron (which separates this province from Normandie) to the headlands opposite the Isle of Ouessant; and then running S.E. to the neighbourhood of the Isles of Boui and Noirmoutier, which belong to Poitou. The N. coast runs parallel to and not very far from the northern slope of the Ménez mountains. This coast is very irregular in its form, being indented by a succession of bays, those of Cancale, St. Malo, St. Brieuc, &c., between which the land juts out into headlands. This coast is skirted by a number of small islands and rocks, as the Chausey Island and Les Minguieres, which are some distance from the coast towards the Isle of Jersey; the Isles of Brehat, les Sept Iles (the Seven Isles), les Molheins, and the Isle of Bat. At the western extremity of Bretagne we have the two deep bays, the Brest Road and the Bay of Douarnenez; and off the coast are the Isle of Ouessant (Ushant) and several smaller ones, as Balance, Benniguet, and the Isle of Saint or Sein. The S.W. coast has an outline as irregular as the N. coast. The bays of Audierne, Benodet, and Forest, with the points or headlands of Raz, Penmarch, and Tevennec, succeed one another; these are followed after an interval of many miles marked only by the outfall of the riv. Blavet, forming the harbours of l'Orient and Port Louis, by the pen. of Quiberon, by the bay of Morbihan, and by the embouchures of the Vilaine and the Loire. The islands lying among them are included in Groix and Belle-Ile, with the several smaller isles of Glenan, Houat, Hédict, and Dunez. The rivers of Bretagne rise for the most part in the Ménez mountains. From the proximity of the mountains to the northern shore the streams which flow from them on that side have too short a course to become of magnitude. The principal streams, enumerating them from E. to W., are the Coufaron, which rises near Fougères, and after separating Bretagne from Normandie, flows into the sea below Pornichon; the Rance, which flows past Dinan, where it becomes navigable, and enters the sea at St. Malo; the Trieux, and the Guer. The space included between the Arrê mountains and the Black mountains forms the basin of the Aulne, which passing Châteaulin (where it becomes navigable), and assuming from it the name of the Châteaulin, falls into the road of Brest. The rivers which flow from the southern declivity of the Ménez are for the most part larger than those above named. The Odet indeed is small, but it is navigable up to Quimper; the Blavet, a longer river, is navigable up to Pontorson, which is 35 m. above its outfall. The Oust, after receiving several tributary streams, falls into the Vilaine, which, though rising just within the boundary of Maine, has the greater part of its course in Bretagne. It flows W. to Rennes, where it becomes navigable, and then turning to the S.E. passes Redon and Roche Bernard, and falls into the sea a little below the latter. Its whole length may be estimated at 110 m., and the length of its navigation at 70 m. The southern part of
Bretagne is watered by the Loire and by some of its tributaries, of which the Sèvre Nantaise and the Erdre, small streams but navigable for a short distance, are all that deserve mention. Besides the facilities for navigation which these rivers afford, Bretagne has one can. (that of the Ille and Vilaine) into which domestic traffic runs, and a second which runs nearly parallel to the coast, but several m. inland, from Nantes to Châteaulin, whence the communication is continued by the riv. Aurée or Châteaulin to the road of Brest. There is one lake, that of Grand-Lieu, S.W. of Nantes. (R. of France, by the Society for the Diffusion of Useful Knowledge.)

The soil varies much. In some parts, especially on the coast, it is very fertile, but there are some vast sandhills or heaths in the interior. The produce of corn, hemp, and flax is considerable. The Sèvre Nantaise is navigable for corn-raising than can be consumed in the province, and a considerable quantity is exported. A little wine is grown, chiefly about Nantes; the common drink of the people is cider. When the quantity of wine is greater than is thus consumed, it is converted into brandy. There is much pasture land, and a considerable number of cattle are raised. The butter, especially that made in the neighbourhood of Rennes, is in good repute. The mineral riches of this province consist of an abundance of lead, also of iron, tin, antimony, and some silver; marble and coal. For further particulars of the produce of this province, the reader is referred to the several departments into which it is now divided.

The pop. of the five dept. into which Bretagne is divided was in 1832, 2,573,955. Expilly, in his Diction. (Paris, 1769), gives the population of the Brest district as 1,463,084, a fact which cannot now be much particularly noticed in treating of their history. The language of Lower Bretagne has for its basis that of the antient Celts, but of more modern form and more mixed character than the Welsh, which is another branch from the same stock. Upper Breton is spoken in this district.

The following extracts from Mrs. C. Stothard's Letters written during a Tour in Normandy, Brittany, and other parts of France, in 1818; 4to., 1820, describe the present condition of the peasantry of this province.

"... The roads are mostly built of mud; men, pigs, and children live altogether without distinction, in these cabins of accumulated filth and misery. The people are indeed dirty to a loathed excess, and to this may be attributed their unhealthy and even cadaverous aspect. Their manners are as wild as savage as their appearance; the only indication they exhibit of mingling at all with civilized creatures is, that whenever they meet you they bow their heads or take off their hats in token of respect. I could not have supposed it possible that human nature could have become so debased, or that it could have come into this province. The common people are apparently in the very lowest state of poverty. In some parts of Brittany the men wear a goat-skin dress, and look not unlike Döfel's description of Robinson Crusoe. The furry part of the coat is worn on the inside, and the hair falls nearly below the knees. Their long shaggy hair hangs dishevelled about their shoulders, the head being covered by a broad slapper straw or beaver hat. Some few of the Bretons go without shoes or stockings; but the generality wear sabots (wooden shoes) or thrust straw into them to prevent the foot being rubbed by the pressure of the wood. You frequently see the women, both old and young, Lauretching along the fields with the distaff, employed in spinning off the flax. The girls carry milk upon their heads, in a little basket, which they fasten for security during the common Roman household vessels."—p. 195, 196.

"... The Breton language appears to me, from the number of French words I continually hear spoken with it, far more corrupted than the Welsh. I imagine it probably arises from the people of Brittany holding a freer intercourse, and having mixed more with the French than the Welsh formerly did with the English: this may be accounted for, as Brittany is certainly a country easy of access, nor is it defended or insulated by those barriers more thickly occupied in Wales."

"... The Bretons do not resemble in countenance either the Normans or French, nor have they much of the Welsh character. They are rude, uncivilized, simple people, dirty and idle in their habits. . . . . The women are invariably dressed in the same fashion, and I have already described." It differs here and there, but not importantly.

* This description is not quoted here.

in some of the districts. Many of the women of the very poorest kind wear this dress till it becomes so dirty, patched, tattered, and ragged, that you can scarcely trace what it had originally been; and I have seen several children so wretchedly off for clothing, that they run about almost in a state of nudity. These people are tolerably respect- able, and are dressed decently in their singular costume, look florid and healthy; while those attired in the ragged garments, bear a squallid and meagre aspect—this arises, I am induced to believe, from the greater dirt and poverty of the latter.

... The chestnut abounds in Brittany; there are many large forests composed entirely of that tree; their produce, boiled in milk, supplying a means of subsistence for the poor during the greater part of the year. The people collect the chestnuts in sacks, and pile them up within their cabins; several families are even so needy, that they seldom taste the luxury of bread; but these are amongst the children of wretchedness in the extreme degree. I am informed that in the neighbourhood of Brest the lower orders resort to acorns as well as chestnuts for food, which have some nutritious qualities when boiled in milk. The Breton houses (excepting in the towns) are generally built of mud, without order or convenience. It is absolutely a common thing in Brittany for men, women, children, and animals, all to sleep together in the same apartment, upon no other resting-place than that of the substantial earth, covered with some straw. We once saw, near Josselin, a man drive into his cabin a cow and a horse, followed by a pig, and afterwards entering himself he shut the door."—p. 233-235.

... The Breton country, capable of rendering them prosperous and wealthy, but little cultivated by their own exertions; and they owe their chief support to the abundant forests of chestnut, and the indigenous productions of their soil. Vast tracts of country appear overgrown with the chestnut, and these parts insensibly thicken till they become wild; others, where a richly-laden harvest would simply repel the labours of the ploughmen, remain totally neglected. The Breton grovels on from day to day, arid from year to year, in the same supine idleness and dirt. If you chance to meet a Breton in his sable cloak, and ask him why, there are so many groves of apple-trees, he does not make cider (for the greater quantity is imported from Normandy), he will tell you, his father neve... so. If you say, why not grow more corn? he an... I have gathered chestnuts from a boy."—p. 256.

Bretagne possessed before the revolution a local legislature (Les États Généraux—States General), once held every year, but after 1630 only every two years. The order of the nobles and of the clergy formed constituent parts of this state. The extremists and moderate party (Les Bourgeois) had their representatives at the deputies of the following places, which may be considered as antiently of the greatest importance in the prov.

The pop. is from the returns of 1832.

**POPULATION.**

<table>
<thead>
<tr>
<th>Town</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rennes (on the Vilaine)</td>
<td>27,340</td>
</tr>
<tr>
<td>Vannes (on the bay of Morbihan)</td>
<td>8,682</td>
</tr>
<tr>
<td>Nantes (on the Loire)</td>
<td>77,992</td>
</tr>
<tr>
<td>St. Malo (on the sea)</td>
<td>9,701</td>
</tr>
<tr>
<td>Dol (near the sea)</td>
<td>3,098</td>
</tr>
<tr>
<td>St. Brioux (near the sea)</td>
<td>10,420</td>
</tr>
<tr>
<td>Quimper (on the Odet)</td>
<td>9,860</td>
</tr>
<tr>
<td>St. Pol de Léon (on the sea)</td>
<td>3,106</td>
</tr>
<tr>
<td>Trégueur (on the sea)</td>
<td>3,178</td>
</tr>
<tr>
<td>La Gouët near the Seiche, a branch of the Vilaine</td>
<td>2,100</td>
</tr>
<tr>
<td>Fourcres (on the Coesnou)</td>
<td>7,446</td>
</tr>
<tr>
<td>Hédec (between Rennes and Dinan)</td>
<td>7,677</td>
</tr>
<tr>
<td>Vitré (on the Vilaine)</td>
<td>7,602</td>
</tr>
<tr>
<td>Guérande (on the sea)</td>
<td>2,065</td>
</tr>
<tr>
<td>Le Croisic (on the sea)</td>
<td>2,452</td>
</tr>
<tr>
<td>Ancenis (on the Loire)</td>
<td>2,263</td>
</tr>
<tr>
<td>La Roche Bernard (on the Vilaine)</td>
<td>3,769</td>
</tr>
<tr>
<td>Chateaubriand (on the Cher, a branch of the Vilaine)</td>
<td>3,027</td>
</tr>
<tr>
<td>Rûlé (on the Vilaine)</td>
<td>3,020</td>
</tr>
<tr>
<td>Malétrou (on the Oust, a branch of the Vilaine)</td>
<td>3,094</td>
</tr>
<tr>
<td>St. Gildas de Rhuys (on the sea)</td>
<td>3,779</td>
</tr>
<tr>
<td>Locmaria (near the sea)</td>
<td>3,774</td>
</tr>
<tr>
<td>Hennebon (on the Blavet)</td>
<td>3,360</td>
</tr>
<tr>
<td>Pontivy (on the Blavet)</td>
<td>4,112</td>
</tr>
</tbody>
</table>

*This description is not quoted here.*
one of his lieutenants, P. Crassus, with one legion to subdue the Armoricans; and so great was the terror to the Roman arms that they submitted without striking a blow. But they revolted the next year, having seized the envoy whom P. Crassus had sent to procure corn; the Veneti taking the lead in the revolt and instigating the others. The inroads of the Veneti, according to Caesar, exceeded that of any other on this part of the coast, not only because they had more ships (in which they traded with Britain), and greater knowledge and experience in naval affairs, but also because their possession of the few harbours which lined the coast of the Britons and Armorican coast enabled them to exact tribute from those who frequented that sea. Caesar acted with his usual vigour. He ordered a fleet to be built on the Loire, and manned with seamen from the coasts of the Mediterranean; he despatched his lieutenants into different parts to co-operate with those who were to attack their enemies, and to detain them at home for the defence of their own country. He himself marched into the country of the Veneti, who trusting to the difficulties which would impede his march, to the scarcity of provision, and to the ignorance of the Romans of their coast, fortified their towns, erected into a corn that was cut in the country, allied themselves with other states as far off as the Morini and Menapii (people of Picardie and the Netherlands), sent for aid over into Britain, and prepared for a stout resistance. It is impossible to describe to ourselves how near the Roman, and as being thus better adapted for a coast abounding with rocks and shallows, while the height of the prow and stern enabled them to withstand the violence of the tempests, and the general strength with which they were built up from being anchored in the sheltered bays and banks of the Roman ships. Their sails were of hides, which they used either for their strength or because they knew not the art of manufacturing linen cloth. Their fleet consisted of 520 vessels. Caesar stormed their towns, defeated their fleet in a great battle, and forced them to placate him, and punish them for violating the law of nations by detaining the Roman envoys, he put all their senate to death, and sold the rest of the people into slavery. 

In the general rising of the Gauls, towards the close of Caesar's campaign, the different tribes sent their respective contingents to the force destined to raise the siege of Alesia, the whole of the Armoricans contributed but 6000 men; and this appears to have been the last effort they made for independence while Caesar was in Gaul. The discontented Cénomans, and others, took arms against the Romans and other Germans, forsook their native land and settled in Armoric, where the Emperor Constantius Chlorus gave them lands. A similar emigration is said to have taken place in the year 364. These emigrations were however unimportant in their character and influence, unless we suppose that from them the prov. or some portions of it received the name of Britannius, which is given to it by Sulpius Severus before any subsequent invasion had taken place. (Carp, Hist. England, vol. i. p. 6.) The next settlement, that of the Britons in一枚, takes place at the time when the cause has been the subject of much dispute. Those writers who have engaged in the controversy have had political interests to serve; the native Bretons contending for their provincial privileges, other writers contending against them on behalf of the crown, and each conceiving that the success of their cause depended on their proving or disproving the independence of the early Breton princes of the crown of France.

The account which has been received by Daru (Histoire de Bretagne, 3 tom. 6vo, Paris, 1828), though contested by many, yet is by Gibbon, and other historians, allowed. (Plutarch, viii. note 136), Turner (Hist. Anglo-Sax., c. viii.) and Vertot (Histoire Critique de l'Etablissement des Bretons dans les Gaules), is as follows:—When Maximus, in the year 383, was chosen emperor by the revolted legions of Britain, and passed over into Gaul to dethrone Gratian, who then shared the Western empire with his younger brother
Valentinian II, he took with him a considerable force of native Britons. Thus much is admitted on all hands; it is the following part which is disputed. The commander of these auxiliaries was Conan, a British prince. Maximus landed near Gaul, took the castle of the island of Grable, and defeated with great slaughter the army of Gratian at Aleth, now Quidalleit, near St. Servan, took Rennes and Nantes, distributed lands to his companions in arms, and bestowed the government of Armorica upon Conan, whom he sent back, giving him authority to act as he might think fit, to take possession of his government. Upon the defeat of Maximus by Theodosius the Great (A.D. 388), many of his soldiers took refuge with Conan, who managed to retain the government which he had received from the usurper, and even assumed the title of king. When the Vandals were on their way to the empire left the western provinces, in the possession of independence, the Armorican were released from the subjection in which they had been held; and in the year 419 the Romans recognized as their allies those who had lately been their subjects. Conan appears to be the last of the line, and we consider him till the year 421, when he died. He is usually designated Conan Meriaec, the latter name signifying, according to some, 'great king.' His successors are said to have borne the title of king till the time of Alain II., in the 7th century, and were engaged in various wars with the Franks, or with the barbarous nations, such as Alanus, and others, who had obtained settlements in Gaul. Their dominions, though the extent of them fluctuated with circumstances, were for the most part coincident or nearly so with the modern Breton.

In the history of these islands there are writers who deny that any migration of the insular Britons into Armorica took place until the commencement of the 6th century, when the pressure of the Saxons forced the unhappy islanders to abandon their native seats and retire, some to the western side of the island of Anglesey, Wallois, and others beyond sea into Armorica. These writers also assert the conquest of Armorica by Clovis; and they cite triumphantly a passage of Gregory of Tours, the eldest of the French historians, who says,—'Semper Britannia sub Francorum potentate post oblitum regis明智ii, recessit, et Graeciae ordinatam in hanc latitunt.'—'The Britons have been always under the power of the Franks since the death of the king Clovis, and have been called counts, not kings.' (Greg. Tur., I. iv. c. 4, quoted by Vertot and Daru.) But this passage of Gregory when carefully examined will not warrant the conclusion he gives of the earlier settlement of the Britons, and of their previous independence under kings of their own; for the limiting expression, 'since the death of the king Clovis,' intimates that antecedently they were independent of the Franks, which cannot be inferred by the reader from the passage last quoted. About a year or two years before the death of Clovis, which occurred in 511; and the notice, that since the same epoch their chiefs had been 'counts, not kings,' is an intimation that before that date they had possessed the regal dignity. The whole passage, though it does not fully establish the facts that are of the Breton writers, is by no means consistent with the representations of Vertot and other historians in what may be called the French interest.

If amidst these conflicting statements we may venture to give our own conclusion, we should say that the account given by Daru, though perhaps a distorted representation of facts, is not without foundation. It is likely that the British troops, who had followed Maximus into Gaul in 383, were settled by that usurper in Armorica, and were allowed, by the government of the Saxons, to remain on the lands after the defeat of Maximus. A colony of this kind was much more likely to influence the language and customs of the district in which they settled, than a number of miserable exiles escaping from the pressure of barbarian invaders, and finding their way as they could to a place of refuge in a foreign land. This infusion of a military population serves also to account for the rise of a free state in Armorica, upon the decay of the Roman power, while the rest of Gaul tamely bowed to the yoke either of their Roman masters or local conquerors. The evidence in favor of Conan's existence we see no just reason to doubt; and without placing implicit credence in the lists which the Breton writers furnish, we are led by the language of Gregory of Tours, and by other testimony brought forward by Daru, to admit that several succeeding chieftains, and perhaps Conan himself, took the title of king. The express testimony of Gregory must be admitted as sufficient to establish the fact that the power to which he refers was likely that it was not incorporated with the kingdom of the Franks, and that it retained its laws and even its native princes, though with a subordinate title.

There seems reason to think that in the confusion which may be connected with the invasion of the Saxons the Bretons recovered a precarious independence, and their princes re-assumed the titles of kings, though their dominions and authority were contracted by the usurpation of the nobles. This has probably led to the supposition that the Bretons, as a people, were divided in the year 690, as noticed above, the title ceased; and Bretagne, divided into a number of principalities, became again subject to the Franks, about A.D. 800, during the reign of Charlemagne, whose predecessors had probably made many encroachments. In the troubles of the following period, the kingdom of Bretagne was once more divested of its independence by Nomenoc (A.D. 824-851), who had been nominated governor of Vannes, by Louis le Debonnaire, son and successor of Charlemagne, and had revolted from Charles le Chauve. Enispe, the son of Nomenoc, A.D. 851-857, acknowledged the supremacy of Charles, but maintained his kingdom; and the civil dissensions among the Bretons themselves led to the extinction of this kingdom, A.D. 874. The country was divided into the counties of Rennes, Vannes, Cornouaille (Cornwall), and other portions; and civil discord between the varying states coincided with the invasion of the Northmen or Normans to affright the country. The kings of France claimed too a kind of sovereignty over the kings or other rulers of Breteche, similar perhaps to those which the kings of England claimed over the princes of Wales, Northumberland, Yorkshire, and the Marches, and which was extended over the whole of Bretagne or over a part only. This right of sovereignty was conveyed to the Northmen by Charles the Simple, when he ceded to them the country afterwards known as Normandie, A.D. 912. The dukes of Normandie undertook the regency of the kings of Bretagne, and themselves did homage for this province as well as for Normandie to the kings of France. This cession was the cause of long and bloody wars between the people of the two provinces, for the Bretons struggled fiercely against the barbarians, to whose supremacy they were thus arbitrarily consigned. They seem however at last to have acknowledged the dukes of Normandie as suzerains.

The following periods present little else than a confused series of wars, assassinations, and other violent events perpetually divided, aided by the neighbouring chiefs, the counts of Anjou and the dukes of Normandie. In 992, Geoffrey, count of Rennes, assumed the title of duke of Bretehe. Alain, his second, duke of Bretehe, was, from the year 1027 to 1060, the subject of the unwarrantable supported by the child of William the Bastard (afterwards the Conqueror), duke of Normandie. Several Breton lords accompanied William into England, A.D. 1068: one of these, Alain, count of Penthievre, built the castle and town of Richmond on the Swale, in Yorkshire, on the lands granted him by the Conqueror: this grant gave to a junior branch of the reigning house of Bretagne, at a period long subsequent, the title of Count of Richmond. Yet the Saxons nobles, who fled from England on the conquest of that island by the Normans, retained the liberty of the dukedom of Bretagne. Alarmed by the progress of the Norman power, the kings of France and the dukes of Bretagne naturally formed an alliance for their mutual support. Alain Fergent, duke of Bretehe, obtained some advantage in...
war over William the Conqueror, A.D. 1065; but he afterwards made peace with him, married his daughter Constance, and went in the first crusade to the Holy Land; not however as a prince with a military force, but as a simple pilgrim. In the divorce of the king's youngest son, in his war with his eldest brother, Robert, duke of Normandie; and the Breton forces signalized themselves at the battle of Tincchebrai, which concluded the contest by the captivity of Robert. Alain Fergent abdicated his duchy, and the Breton princes were al-
nalyzed by the establishment of a supreme court of justice at Rennes, and by the rise of two eminent men, natives of Bretagne, Robert d'Arbrissel, founder of the order of Fontevrault, and Pierre Abelard. Conan, the successor of Alain, gave to some of the Breton towns municipal constitutions. He died A.D. 1148.

A disputed succession, which led to the dismemberment of Bretagne, and to a civil war, in which the kings of Eng-
land (Henry II.) and France (Louis VII. le Jeune) took part, followed the death of Conan. The marriage of Con-
tance, daughter of one of the claimants, with Geoffroi, son of Henry II., added the duchy of Bretagne to the already vast possessions of the house of Plantagenet. Geoffroi was invested with the ducal coronet in the church of Rennes, A.D. 1169; he took a busy part in the dissensions of his family, and was killed in a tournament at Paris, whither he had gone to solicit aid against his father, A.D. 1186, aged 28. His posthumous son Artur (Arthur) came to the throne an infant; his early years were troubled by the ambition of his uncle, Fergent, during his minority, who was kept in the death of Richard, A.D. 1199, he was involved in new disputes with his uncle John, by whom he was, as it is generally believed, basely assassinated, A.D. 1203. The con-
quest of Normandie, which was declared to be confiscated, and the royal authority re-established, was the consequence of this atrocity; and Bretagne thus became immediately a fief of the French crown. The duchy came to Alix, daughter of Constance, by her third husband, Gui de Thouars; and in her right to Pierre de Breil,RV. By the marriage of Alix and the real family of France, to whom she was married A.D. 1215.

Pierre de Dreux, a restless and ambitious prince, reigned from 1213 to 1237; first as duke in right of his wife, and then, upon her death (in or near 1219), as guardian to his son, a minor. He endeavored to embroil himself with the clergy, which was excommunicated by the bishop of Nantes and the archbishop of Tours, metropolitan of Bretagne, and was only absolved by the pope upon hard conditions. Disputes with the nobles, caused by the attempts of Pierre to depress the power of the clergy, and of Gui de Thouars, a member of his family, led to a civil war; and though Pierre got a victory near Chateaubriand, in 1223, over the revolted lords and their allies, he does not appear to have gained much by the contest. The rest of his government was passed in a series of wars; he was at the side of Louis VIII. and Louis IX. (St. Louis). On one occasion the duke transferred his homage to the king of England, Henry III., whom he recognized as king of France. In 1237 he abdi-
cated his power as guardian of his son, and was intrusted by the pope with the conduct of an expedition against the infidels beyond sea: in 1248 he accompanied St. Louis in his crusade against Egypt, and was wounded and taken by the side of that prince at the battle of Mansourah. He died on his passage back to Europe in 1249, at a castle called Jean I. (1237-1286), Jean II. (1286-1305), Artur II. (1305-1312), and Jean III. (1312-1341), present few incidents of moment; but the death of the last-named prince brought on the dispute for the suc-
cession to the duchy between Jean de Montfort and Charles de Blois, and led to the war which forms so important an episode in the wars of England and France under Edward III. of England and the kings of France of the house of Valois. Jean III. left no children: he had two brothers, or rather one brother, Gui, count of Penthièvre, who died before him, and two over-manned sons, who, Mont-
fort, who, immediately upon the death of Jean III., took possession of the duchy. Charles de Blois claimed in right of his wife, who was daughter and heiress of Gui, and the

* In the earlier periods of Breton history, the bishops of Nantes, which were founded by the Normans en route to the Carolingian dynasty, and re-established the kingdom of Bretagne, he erected Du-

** The Breton archbishops appealed to the pope, who kept the dispute undecided for about 350 years. In 1190, Innocent III., at the council of Paris, deposed a bishop for the sin of simony. In 1240, the archbishop of Tours, who is still metropolitan of this part of France, decision was referred to the king of France as suzerain. The case was argued before a court of the peers and grandees of the kingdom: Montfort, who had reason to fear an unfavourable decision, fled secretly from Paris; and a deathbed confession of Charles de Blois duke of Bretagne. Montfort immediately sought the protection of the king of England, who willingly gave him his support; and, by a singular concurrence, Edward III., who claimed the crown of France through a female, supported Montfort against a female claim; while Philippe VI., the actual pos-
sessor of the crown of France, whose right rested upon the exclusion of females from the succession, supported a female in her claim to the ducal coronet of Bretagne. But interest and ambition little regard such inconsistencies.

This question of political order says Dauru, 'once left to the decision of fortune, was alternately on the point of being decided in favour of each party. In the many changes of a war which lasted more than twenty years, the two com-
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...
A second attack upon Hennebon marked the year 1542. Before the end of the year the countess of Montfort crossed the Rhine with a large fleet. She left Germany with a turning with a fleet of 46 vessels, when near Guemnitz she fell in with a French fleet of 22 great ships manned with Genoese seamen, and having on board 1000 men at arms under the orders of Charles de Blois himself. The battle was joined, but the reinforcements which Charles had been able to obtain gave the French the advantage, and four English ships were taken. The countess landed with her reinforcements, and the kings of England and France arrived in Breteagne with hostile forces; but early in the year 1543 a suspension of arms between the two potentates was agreed upon, and the Breton forces, with some mercenary companies, were left to carry on the war. In 1544 the Montfort party was strengthened by the severity of the king of France, who, without form of trial, put to death a Breton lord, Olivier de Clisson, on a charge of traitorously forming an alliance with England. The news of Clisson's death gathered some troops, surprised a castle held by the friends of Charles de Blois, and distinguished herself by her exploits in a war in which, more than in any other, women emulated the warlike fame and courage of men.

In 1545 Jean de Montfort managed to escape from the Louvre, after a confinement of three years. He landed in England, did homage to Edward as his suzerain, obtained aid and returned to Bretagne. He died however shortly after, and the rights of his son, a mere child, were bravely assumed by Jeanne de Penthièvre. In 1547 Charles de Blois, who had besieged Roche Derrien near Treguier, was surprised and taken prisoner by an inferior body of English troops. His wife, Jeanne de Penthièvre, sustained his cause with a valor equal to that of her husband, and the death of the Blois which for the English induced many of them to embrace her party. In 1556 Charles recovered his liberty by ransom, and renewed the war, which was carried on for seven years longer, during which no decisive act took place. In 1562 Jeanne de Montfort signed a treaty with Brittany in which the Montfort party was to be divided into two parts, having Nantes and Maine for the one, and the Breton coast for the other; but the death of Jeanne de Penthièvre, who told him that she had married him to defend her inheritance, not to yield up half of it, determined Charles to break it. The following year witnessed the decisive battle of Avaris, in which Montfort, Chandos, and Olivier de Clisson overthrew the army of Charles de Blois, though he was aided by the bravery and skill of the celebrated Bertrand Duguesclin. Charles de Blois himself fell in the action, and the treaty of Guerande in 1565 secured the duchy of Bretagne to the house of Montfort.

The death of Montfort (December 1566) was no competitor for the duchy, his possession of it was neither quiet nor uninterrupted. His own violent disposition precluded repose. The course pointed out to him by the gratitude due to England for past services and his present duty of fidelity to France was a failing, but not dead; and Jeanne the second of his wife, who after left her service for that of the French king, a French army under Duguesclin, now constable of France, himself a Breton, entered Bretagne (A.D. 1570), and the duke, abandoned by his subjects, was obliged to seek refuge in England, and landed at the court of Henry VIII. He was not finding a new life, and again retired to England. The ambition of Charles V. of France brought about his restoration: that prince procured the confiscation of the duchy (A.D. 1575) by a sentence of the court of peers, and afterwards had an order of conducting the process. He further seized upon the duchy himself instead of transferring it to the next heirs, and attempted to establish the Gabbele or salt tax. This violation of their independence around the Bretons, the duke, lately the object of general disdain, was recalled and received with the warmest affection (A.D. 1580). He might however soon have incurred another expulsion through his undue partiality for the English, but Charles V. might have taken advantage of the rising discontent in the Breton, but dead; and Jean made his peace with the government of his successor, yet a minor, in a treaty in which he stipulated to give aid to the French in the war against the English. Against the conditions of this treaty he broke, and the English, under the orders of Charles de Blois himself, the battle was joined, the object of general disdain; and the duchy was restored to the Blois, who had not the insinuity of the king interrupted the design. Clisson himself waged war against the duke: the contest was furious, and lasted till A.D. 1595, when peace was concluded. Jean de Montfort died A.D. 1599.

In 1568 Vincent de Blois was created Duke of Angoulême. He had been married while yet a child to a daughter of the French King Charles VI., and upon attaining his majority was involved in that perplexed scene of disturbance which marked the reign of the unhappy maniac. It would be needless to follow him through the various changes of party, from Armagnac to Bourguignon, from French to English, to which unsteadiness or perfidy led him, by which however he preserved Bretagne from war until the year 1525-26, when it was partly ravaged by the duke of Bedford, and partly scourged by forces for Charles IX. enragè at Jean for having deserted the English interest for that of the Dauphin. Bretagne derived some advantage from this war, by the settlement of many families who left other parts of France to take refuge in this, more secure territory. In 1568 the Montforts were expelled, and the Blois were brought by some Norman emigrants. Two other incidents mark the reign of this duke. In 1520 he was enamored and taken prisoner by the count of Penthièvre and his brothers, princes of the house of Blois, grandsons of Charles V. of France, and held in a manner by the late duke. Jean obtained however his release, and the event led in its consequences to the ruin of the house of Blois. In 1440 Gilles de Laval, Maréchal de Retz, a principal Breton lord, was condemned for sorcery and banished to the Ile de Louisborg, but his imprisonment was a reason for him to ruin he had sought to recover wealth by alchemy and sorcery. He was reproached with the murder of many wives whom he had successively married, and of more than a hundred children. He was burned alive in the presence of the duke near Nantes. In the year 1442 Jean V. died. Jean V. was succeeded by his son, François I. Gilles, younger brother of this prince, having quarreled with him on the ground of the insufficiency of his inheritance, attempted to call in the English. The duke procured the aid of Henry VII., and came to the assistance of his brother in arms, who in 1453 died. He wished to bring him to trial before the states of Bretagne, but not succeeding, he at last had him smothered in prison after a captivity of nearly four years, A.D. 1458. When the death of Gilles became known, a cordelier, who was his confessor, presented himself before the king, and in an awful voice summoned him, on behalf of the dead prince, to appear forty days afterwards before the tribunal of God. The impression made by this prophecy led to its fulfillment: the duke died on the very day foretold, July 26. The course of his son's reign in the period of III., presents no points of interest, save that Pierre, who was brother of François I. and of Gilles, caused the murder of the latter to be put to death, except Artur de Rueur de Nantes, who murdered the murder, who became monk, and died bishop of Bonport in 1477; still, at that time, as count of Richemont (Richmond), had served with distinction in the French army, and had become constable of France, distinguished himself by his zeal against sorcerers. Never since the days of Charlemagne has a more firmly all heresies, and sorcerers and sorceresses; the Duke of Anjou appeared, for he caused more of them to be burned in France, in Poitou, and in Bretagne than any one else of his day. Pierre II. held the duchy from 1450 to 1457; and Pierre III. from 1457 to 1488.

The first part of the long duel reign of François II. (1458-1488) coincided with the reign of the astute Louis XI., whose desire of repressing the enormous power of the great feudal nobles led him into frequent disputes and contests. In 1462 Francis entered into the confederacy of the nobles against the king, known by the title of "The
league of the public good' (Ligue du bien public). The Bretons were too slow in their movements to take part in the battle of Montébérery, but they assisted in the blockade of Bordeaux and Nantes.

The duke received several concessions from the king in the city of St. Maur which Louis was obliged to sign. The troubles of France did not cease with this treaty: hostilities and intrigues continued, and François distinguished himself by his valour, the latter part of which was rewarded with the dukedom of a very feeble character, being ruled by his mistress, Antoinette de Magneville, lady of Villerquier; by his favourite the lord of Lesun; and by his minister Landois, the son of a tailor at Vitré. This last, a man of considerable talent and boldness, might have been expected, the hatred of the nobility of Brittany, who at last rose in revolt; and the duke was obliged, by the defection of his forces, to give up the object of their hatred to his enemies, A.D. 1484 or 85.

Landois was forthwith tried on many charges, condemned, and hanged. In 1486 Francois invited himself with Maximilian, king of the Romans, who had married the heiress (since dead) of the late duke of Bourgogne; with the king and queen of Navarre; the dukes of Lorraine, Orleans (their presumptive to the throne of France, and afterwards Louis XII.), Foix, and others, for mutual protection and support against the court of France, which was now directed by Anne, lady of Beaujeu, daughter of Louis XI., and guardian of her young brother the King Charles VIII. This led in 1487 to the invasion of Brittany by the French. Henry VII. had in the meantime died; and for some time in Brittany, did not interfere in time: the occasion seemed favourable for annexing Brittany to France, the king of which country laid claim to the duchy, by virtue of the rights of the house of Blois, which Louis XI. had claimed. Several of the principal Nantes were taken prisoners on the field. A treaty was hastily contracted between St. Aubin de Cormier between the French army under La Tremouille and the Bretons and their allies, English, German, Gascons, and Spaniards: the latter were defeated with loss, and the duke of Orleans was taken prisoner on the field. A treaty was hastily contracted between St. Aubin de Cormier, defeated just after its conclusion, the 7th or 9th Sept. 1488.

Anne, daughter of the late duke, succeeded to the duchy. Her situation was embarrassing and painful. The maréchal de Bouicaut, her guardian, and other powerful persons at the court, wished her to marry the Sire d'Albe, a Gascon noble, to whom she was exceedingly averse. Some English and Spanish auxiliaries arrived to defend her against the hostile designs of France, but she feared that the English would make her a prisoner in her person, and compel her to marry the Sire d'Albe. She, however, entered into these intrigues and annoyances, she gave her hand to the Archiduke Maximilian, to whom she was married by proxy in 1489. The French wished to dissolve the marriage, which had never been consummated; and in the year 1490 hostilities recommenced between Breton and French.

The Sire d'Albe, piqued at his rejection by the young duchess, put into their hands the important town of Nantes, which he had surprised; and the duchess herself was besieged in Rennes, and reduced to the necessity of negotiating. During the negotiations a proposal was made, on the part of the French, listened to by the Breton leaders, and finally carried into effect, that the duchess and the young king of France, Charles VIII., should reconcile their discordant claims by marrying. The difficulties of the way were overcome as far as the ceremony of marriage by proxy to Maximilian, and Charles was engaged to marry the same prince's daughter, who had been sent to France being yet under the marriageable age. These difficulties were broken through; the young archduchess was sent home, Charles and Anne were married, the marriage being from the pope then solicited and obtained. This marriage took place A.D. 1491; and by the terms of it the rights of whichever party first were to go to the survivor, in default of lawful issue. The duchess was bound also, if she survived her husband, to conform to the laws of France, and if she had no children, to marry a prince of the blood of the house of Burgundy. This marriage was solemnised by the archbishop of Rouen, and the ceremony was performed with all the ceremony of the law, and the marriage was entered upon the registers of the church.

In 1498, Charles VIII. died without children: and in 1499, nine months after his decease, Anne married his successor, Louis XII., and the duchy of Brittany was acquired by unjustly and perfidiously divorcing her former wife Jeanne, daughter of Louis XI., though she had never abandoned him in his troubles. The articles of marriage between Anne and the new king were designed to separate the crown of France from the ducal crown of Brittany, by providing that the latter should descend to the second son, or in default of a second son, to a daughter, so as to give to the power of a sovereign of his own race. The duchess had no daughters; the elder was promised in marriage to a young prince of the house of Austria, afterwards celebrated as the emperor Charles V., and was to have, as her dowry, Breton, Bourgogne, the county of Blois, and several possession in Italy. Considerations of state never set aside the marriage; and Louis, to prevent the dismemberment of the kingdom, broke the treaties in which it had been arranged. The duchess Anne died A.D. 1514, aged 37 years. Her daughter Claude married a few days after to the duke of Alençon, having learned nothing to the French throne, which he ascended the death of Louis XII. in 1515, under the title of François I.; and shortly afterwards Claudio ceded to her husband her rights in Brittany during her lifetime. It was not until several years after her death, which was in 1594, that Brittany was formally united to France: this union took place in 1592. It was however little more than prospective; for Claude had bequeathed the duchy to her son the daughter, who was recognised as sovereign of the country; but the act of union provided that it should be irrevocably united to the French crown.

We might here terminate our sketch of the history of Brittany, for the events which occurred during the religious wars of the sixteenth century claim more notice. But it is amongst the warlike deeds of the old days that the duchy appeared in the husbands of two of the granddaughters of François I., king of France; and in the dukes of Mercœur, a branch of the powerful and ambitious house of Lorraine, who claimed to represent many of the chief families almost of the time. The houses of Blois and Penthièvre. The duchy had been imprudently nominated by Henry III. governor of the province, and he took advantage of his position to raise forces at once to support 'the league,' and to sustain his own pretensions. Upon the death of the duchess of Montmorency, the duchy was opened to open contest (about 1588); Nantes declared in his favour; Rennes was seized by his partisans, but recovered by the inhabitants; the greater part of the province was in his power; and the count of Soissons, who was sent to suppress him in the government, was taken prisoner by him on his road. He openly asserted his claims, and war was carried on with activity between him and the prince of Dombes, who commanded the royalists. A body of Spaniards landed to support the duchy; a body of English came to join the royalists. The duchy was sustained by partisan corps; and the war was only concluded by the approach of Henry IV., with whom Mercœur, through the intercession of Gabrielle d'Estrees, the king's mistress, made an advantageous treaty, receiving considerable sums of money and seigneories. The duchy yielded to the claims of the duchy. It was in this expedition to Brittany that Henry issued the celebrated edict of Nantes, 13th April, 1598.

From this time the history of Brittany ceases to possess importance. It became completely a province of France, and the traces of its separate existence (except always the prevalence of the Breton language), which diminished during the monarchy, have been quite obliterated in the new arrangements induced by the French Revolution. (Daru, Histoire de France.)

BRETON, CAPE. [CAPE BRETON.]

BREUGHEL, PETER, the son of a peasant, was born at Breugel, a village in the neighbourhood of Breda. He was placed under Peter Koch of Aalst (Alost), whose brother had been successively the pupil and assistant of Bruegel the Elder, and was himself practising under that master, he travelled into France and Italy. He took many views by the way, particularly among the Alps.

Returning from Italy, he fixed his residence at Antwerp, which was admitted into the academy of that city in 1551. Here he lived for a long time with a mistress, whom he would have married, but for a habit she had of lying; which so displeased him, that he transferred his attentions to the daughter of his old master, now dead, and obtained her hand upon resisting her father's intention. While painting a view on the canal which communicates with the Scholst, by order of the magistrates of Brussels, he was seized with his last illness. As he lay on
any former commission; but while serving on courts-martial, with a detachment composed only of his own regiment, he did duty as a captain, and bears the date of his commission in that regiment. Brevet rank, therefore, is to be considered effectual for every military purpose in the army generally, but of no avail in the regiment to which the officer holding it belongs, unless it be wholly or in part under a temporary commission; as for instance in Samuel's Historical Account of the British Army, p. 615.)

Something similar to the brevet rank above described must have existed in the French service under the old monarchy, for, according to Petis de la Daniel (tom. ii. p. 217 and 277), the third service warrant of a captain in the regiment of nominating subaltern officers to the rank of captains by a certificate, which enabled them to hold that rank without the regular commission. The same author states also that a bapteme d'armes commanded the regiment of another, whatever might be the date of his commission. He was placed at the bottom of the list in the regiment which he entered, without, however, losing his right of seniority when employed in a detachment composed of troops drawn from several different regiments.

The introduction of brevet rank into the British army, as well as that of the half-pay allowance to officers on retiring from regimental duty, probably took place soon after the revolution in 1688. But the practice of granting, when officers from other regiments were released for particular purposes, a nominal rank higher than that which they actually held, appears to have been of older date; for in the Soldier's Grammar, which was written in the time of James the First, it is stated that the lieutenants of colonels are captains by courtesy, and majors in a company (court-martial) as major captains of the regiments in which they served. (Grose, Military Antiquities, vol. ii.) It was originally supposed that both officers holding commissions by brevet and those on half-pay were subject to military law; but, in 1748, when the innovations of half-pay officers within the sphere of its control was objected to as unnecessary extension of that law, the clause referring to them in the Mutiny Act was omitted, and it has never since been inserted. In 1756 it was decided in Parliament that brevet officers were subject to the Mutiny Act in time of War, but that half-pay officers were not. (Lord Woodhouse's, Essay on Military Law, p. 112.) Brevet command was frequently conferred on officers during the late war; but the cause no longer existing, the practice has declined, and at present there are very few officers in the service who hold that species of rank.

BREVIA'RIUM was used among the Roman writers to denote a book introduced by Augustus, containing the accounts of the empire, the enumeration of the military, &c. Its design in the design of this breviarium was to explain to the Roman people the use of the monies levied upon them were applied; not to the emperors' private use, but for public purposes. Tibullus laid aside the breviarium, but it was resumed by Caligula. (Sueton. Cig. c. 10.) The breviaire, or breviarium, is become our breviary, being the same. Indeed some have gone so far as to introduce the half-quarter-demissiemicuvar; and among those who have been guilty of so monstrous an absurdity, we regret to mention the name of Baethune.

BREVET, in France, denotes any warrant granted by the sovereign to an individual in order to entitle him to perform the duty to which it refers. In the British service, the term is applied to a commission conferring on an officer a degree of rank immediately above that which he holds in his own regiment; without, however, conveying power to receive the corresponding pay. Brevet rank does not exist in the royal navy, and in the army it neither descends lower than that of captain, nor ascends above that of lieutenant-colonel. It is given as the reward of some particular service which may not be of so important a nature as to deserve an immediate appointment to the full rank: it however qualifies the officer to succeed to that rank on a vacancy occurring, in preference to one not holding such brevet, and whose rank is the same as his.

In the fifteenth section of the Articles of War it is stated that an officer having a brevet commission, while serving in courts-martial, bears as his rank the same as his commission date.
Adrian I., Gregory III., and Gregory VII.; and in the progress of time, in compliance with the superstition of the day, the legendary lives of the saints were inserted, full of ill-attributed and improbable facts. This gave occasion to many revisions and re-formations of the Roman Breviary, particularly, in the councils of Trent and Colonia, by popes Gregory XIII., Paul V., Paul IV.; as likewise by some cardinals, and especially by Cardinal Quignon, who carried the reformation of it to the farthest.

An additional reason for reforming the Breviary was found in the circumstances that different churches and orders of religious had their several offices, varying from each other, but still under the same name. Granoclas has separate chapters, de Ecclesiariis Orientalium Breviario—Distributio Officiorum apud Graecos—de veterum Occidentis Ecclesiasticarum Breviariis, was the title given by the Roman Breviary in the English churches. But the variety of form, as already shown, was not confined to England; there was scarcely a church in the communion of Rome, in France, Flanders, Spain, Germany, &c., which had not something particular, however inconsequential, in the form and manner of its Breviary.

Pope Pius V., who adopted the Breviary as decreed by the council of Trent, ordered all former Breviaries to be laid aside by 1567. His rescript dated at Rome 7 id. July, 1568, whether of these new forms of Breviaries of Clement VIII., in another rescript dated 10th May, 1609, recognised Pius Vih’s abolition of the Breviaries as used in different churches according to their particular forms of services, of which the Breviaries of 1568, or 1569, and the Breviary VIII. again confirmed it under a new revision 25th January, 1631. This last revision, by which the work was brought nearer to the simplicity of the primitive offices, is at present the Breviary of the Roman church in general use. It was published in 1697. under the direction of Ferdinand de Bergem, bishop of Antwerp, intitled ‘Breviarii Romainius, ex decreto sacro—sancti Concili Tridentini restitutum, Pii V. Pont. max. jussu editum et Clementinis VIII. primum, nunc denuo Urbani PP. VIII. autoritate recognitum, fol. 1569.

The obligation of reading the Breviary every day, which at first was universal, was by degrees limited to the beneficed clergy alone, who are bound to do it on pain of being guilty of mortal sin, and of refunding their revenues in proportion. It is still retained in the Breviary of 1697. In addition to Granoclas’s work already quoted, and the rescripts prefixed to the Breviary of 1697, the reader may consult Koecher’s ‘Bibliotheca Theologica Symbolica et Catechetica, itemque Liturgica,’ vol. II., 1751, p. 747–768, where he will find a critical account of the editions of the Breviary since 1549.

BREVIARY consists in the process of extracting a saccharine solution from grain, and in converting that solution into a fermented and sweet spirituous beverage called beer or malt liquor. By a process, a usual of making this beverage, nearly all its stages, has not until very lately been indebted to chemistry for any of the improvements which have been made in its details. This we may attribute to the rare occurrence of a practical chemist being engaged in the operation of brewing. However, we find that within the last few years, and even the last few months, very great advantages have been made, more particularly by the continental chemists, to our knowledge of that primary and important operation in the process of brewing, the conversion of starch into sugar, or malt, by the action of the newly-discovered principle called diastase.

This art is of great antiquity, for we find that the Germans, in the time of Tacitus, manufactured an intoxicating drink from wheats, a beverage and the Saxons also had various drinks of the same class; some made from grain, as malm; others from honey, as mead: but in Germany, in particular, they were early famed for their beer and ale. The towns of Lubeck and Rostock stand foremost in the list for their double beer or Brunswick marm, as it was called, at which places it was manufactured to an enormous extent, the latter town exporting, above 1,000,000 barrels. Heavy duties were, however, levied on this country on these imports, amounting at last, in the beginning of the reign of Queen Anne, to the enormous sum of 15s. per barrel. This heavy impost, together with the importation in the brewhouses of this country, put a stop to the introduction of this article. Within late years the manufacture of beer has increased to an amazing extent, and the following statement of the quantity of materials employed in London only, for the year 1809, will be the result of these operations which are generally carried on. The excise returns of malt consumed by the metropolitan brewers, for the year ending October, 1835, were 4,528,264 bushels, or 702,533 quarters, which we may fairly calculate would require on the average at least 63,738 cwt. of hops, and yield about 2,500,000 barrels of beer.

The process usually followed by the brewer of the present day may be divided into eight distinct parts, independent of the malleating: namely, first, the grinding of the malt; secondly, the steeping; thirdly, the operation of steeping—cooking, or malting; fourthly, the fermentation; fifthly, the cleansing; sixthly, the cooling; seventhly, the racking or vatting; and eighthly, the fining or clearing. In considering these various subjects, it will be better to go over the processes in their order, and then return to the proper place in the course of the subject, with a view of the heat and precautionary details, &c. In brewing the various beers, as ale, porter, and table-beer, these three distinct kinds of malt are employed; the pale and amber malts, the brown or boiled malt, and the roasted or black malt. The first of these alone is used for the finer qualities or higher priced malt, the drier the pale, or pale ale. This first quality of grain gives the saccharine extract; the second, or blown malt, gives the flavor to porters and stouts; and the last variety is used only as a colouring in making the malt for brown and roasted. The pale and the pale ale are employed for the same purpose, but which is not permitted by the excise laws. The roasted malt is also sometimes called patent malt. As the manufacture of these varieties of malted grain is more properly considered under the article MALTR, it will suffice for our present purpose to state the peculiarities of each, which depend entirely upon the different heats to which they are exposed in drying.

The grain being selected, we arrive at the first stage of the operation, the grinding, which is conducted either by common or mechanical means. For the purpose of getting the malt to pass between two cylindrical iron rollers, placed horizontally at a certain distance from each other, with the space between them regulated by adjusting screws according to the size of the grain (crushed or cut malt) required. As the grain passes between the rollers, the grain on the outer part of the roller, in consequence of the pressure of the grain, is crushed or cut, and the inner part of the roller is covered with the same. The object is, however, to believe that a greater extract can be obtained from a coarse one. Some parties use the millstones, others the rollers; but others again employ both, using a circular sieve called a separator, through which the grain passes from the millstones, and only the grains that may have escaped this operation are carried to the rollers to be crushed.

The gist being thus prepared is now ready for the process of mashing. The mash tun, in which this operation is performed, is usually of wood, variously grooved according to the quantity of malt to be wetted, and having two or more holes, or tap holes, in the bottom. From one to two inches above this bottom is a false bottom or diaphragm covered with a layer of mash, on which a large vessel is placed; the hot water is then admitted either, above or between the true and false bottom of the mash tun, and the gist is now to be intimately mixed with the water. For this purpose it is either worked by machinery consisting of a mechanism for horizontal or vertical rotation, and the whole, or a portion of the grist mashing, or by a hand masher, or made by a man from the grist, and the water, with a gentle movement on the vat, in a circle or spiral. This being completed, the whole is allowed to stand at rest for a certain time, and the tap or filter is then opened or set, as it is termed, at the bottom of the mash tun, and the
infusion or sweet wort is allowed to run off into a vessel called the undebuck, from whence it is pumped or other-
wise conveyed to the copper for boiling. When the taps are spent, or when the goods have drained sufficiently so that very little wort runs from them, the taps are closed, and a fresh quantity of hot water is run on for a second mash. Brewing coppers for small breweries are generally open; but in the large establishments dome coppers are employed, and on the dome of the copper a vessel is con-
structed called a pan, by which both time and fuel are sav-
ered. Distilled or fermented wort is run into the beer vessel at the same time that the boiling is going on in the closed copper below, the steam from which is also driven into the pan, so that in the course of the time required for the wort to boil, the flasks in the pan are filled to the boiling temperature.
When the whole of the worts are pumped into the copper the hops are thrown in, and the boiling then commences. Large coppers are supplied with an apparatus called a rouser, consisting of a vertical rod of iron extending to the bottom of the copper, with chains hanging from the horizontal arms which branch off from it, and which are dragged round the bottom by machinery so as to prevent the hops from settling down and burning. When the boiling is complete, the whole contents of the copper are run into the beer vessel, the beer vessel is large square or oblong vessel of wood or iron, having a false bottom for large brewing, and a sieve partition at the corners for small ones.
As the boiled wort drains from the coppers, they are allowed to run down into the coolers. These boards, when sufficiently drained, may again be boiled with a second copper of wort, or with the return wort or table beer. The coolers are large shallow vessels, placed in as open a part of the brewery as possible, so as to command a free current of air, and to be free from dust and shelves. In the bottom of either wood or iron. The latter possesses many advan-
tages from its cleanliness, and the exposure of a large radiating surface to assist the cooling. There are however many foolish prejudices against the use of the latter. Fans and fanning machines are brought into use to assist the rapidity of this process. The fans are placed in the middle of the cooler and whirl round, producing a considerable move-
ment and current; but where the copper is large, this whirl-
ing is for the purpose of assuring the surface of the wort and causing any fresh admission of atmospheric air; whereas the blower, which is situated on the outside of the cooler, and has a wooden pipe with lateral openings extending directly across the wort, is continually forcing fresh and cold air over the surface of the wort in the continuous manner, the wheel working within a box closed at all parts, except round the axle of the wheel, at which the cold air enters, and at the opening of the wooden pipe through which it is ex-
pelled. When sufficiently cool, the worts are allowed to run into the beer vessel. As great care is to be taken that the worts remaining too long in the coolers, more particu-
larly in summer, it becomes necessary to employ artificial means of cooling by refrigerators, the principle of which is this: a current of cold water flows through a main in one direction, the hot wort is made to traverse in the chains site, either in an inclosed pipe within the liquor main, or
around the exterior of the cooling surface. Various appa-
ratus of this kind have been constructed, but those of Wheel and Gregory, of which the latter, are to be pre-
ferred from the facility of cleanliness thereof.
The next operation, that of fermentation, is carried on in a vessel called a gyle, or fermenting tun, which is either of a square or round shape: the latter is preferable on account of its surface, the water in being thrown on, and is usually placed outside of the vessel in the hoops, while the square is braced together in the interior by means of knees and stays at the corners and bottom, and if of a larger size by two or three tiers of iron rods, or tiers which pass through the sides of the vessel. The liquid in the former is liable to settle, and can only be agitated by means of skimming bad yeast and dirt. As soon as the worts begin to run from the coolers, and when a sufficient quantity is in the tun, the yeast should be added, being first rendered thin by some of the wort, so as to be easily miscible when thrown into the remainder. When the fermentation has arrived at a certain point of attenuation, that is, when a certain quan-
tity of the saccharine matter of the wort has been converted into alcohol or spirit, it is to be cleansed from the yeast; and for this purpose it is either run into smaller vessels, such as casks or rounds, or the yeasty head is skimmed off from the top, and this is repeated at intervals until too beer is clean. This operation of skimming is generally confined to the cleansing of ales. The rounds or casks are simply filled with the fermenting beer, and so arranged as to be always kept quite full, with a trough or stillon to catch the yeast as it works out the cooled casks, and also to deposit care must be taken that these casks are carefully cleaned each time of using, particularly in the summer, when the yeast is so liable to become stale and putrid, and to taint the next brewing that may go into them. The beer, being being allowed to settle or clear, is then filled into the casks or kegs, directly into casks as for ale, or run into vats prepared for it. On the large scale a large vessel termed a tank is first used, into which the beer intended to be vatted is allowed to run so as to 15 or 20 gallons, and then the lower portion or bottom, or a further portion of yeast by standing. The beer is by this means also rendered flat, which is necessary for stock or store beer that is to be kept some time before coming into use.
The last operation the beer will have to undergo is the finning or clearing, which is sometimes laid by, so that the tap may sometimes by the publican. The fining material consists of isinglass of various qualities, digested and dissolved in acid beer or sour, and their operation is supposed to be this:—the gelatine or the soluble matter of isinglass is more soluble in cold acid beer than in sound, water, or any fluid containing spirit, and therefore when the finings are added to a well-fermented beer, the gelatine is separated from the medium which held it in solution, and by its separation it agglutinates or collects together all the lighter floating matter which adheres to the beer thick, and ultimately floats to the bottom of the vessel with them, leaving the beer clear and transparent.
The main thing to be observed in all the operations described is cleanliness, without which it is impossible that sound beer, be it ale or pale, can be obtained, no matter how ever so great. Whenever a vessel of any kind is emptied, it should be washed directly with sweet liquor, either cold or hot. If the latter should be found necessary, this will insure the operator against failure from this cause, and will also save the waste of a large quantity of express which is not allowed to harden or become dry. The graft should be coarse cut, or, if crushed by rollers, should have the cuticle broken without destroying or breaking in pieces in the grain; when this is done, the taps should support more freely, and a fine bright wort will be obtained; and if sparing or skimming the water over the goods should be adopted in the after operations instead of mashing, great advantage will arise from the facility with which the worts come down. These observations are especially applicable to malt very fine grinding is desirable; and the roasted malt should be ground as fine as possible, so that it will pass the stones or rollers without caking. The temperatures of the mash-
ing liquors for ale or pale grains may range from 170° to 180° according to the degree of maturity of the grain. When this is done, the worts remaining too long in the coolers, more particu-
larly in summer, it becomes necessary to employ artificial means of cooling by refrigerators, the principle of which is this: a current of cold water flows through a main in one direction, the hot wort is made to traverse in the chains site, either in an inclosed pipe within the liquor main, or
around the exterior of the cooling surface. Various appa-
ratus of this kind have been constructed, but those of Wheel and Gregory, of which the latter, are to be pre-
ferred from the facility of cleanliness thereof.

B R E

B R E

404
The temperatures for fermentation should range between 56° and 62°; not higher than 60° for ale worts, or above 62° for porter. The attenuation at cleansing will depend in a great measure upon the original gravity of the wort, and whether the beer is for present use or keeping; a very good crioculation is required for present-use ale, and 1-3d for keeping-ale, for porter one-half for present-use beer, and 2-5ths for keeping. If the ale or porter be for exportation, these attenuations should be carried lower and the beer well flattened before bringing down in the casks or vats.

The stages of a healthy fermentation are, first, a creamy scum rising on the surface: this, after a time, begins to curl and becomes frosted in appearance; it then becomes rocky, and the air vesicles which appeared frosted enlarge; it then passes to the size of small bladders, and at a small time the head begins to fall; if the beer be made, the yeasts become more abundant in the mass, the yeastiness increases, and, when ready for cleansing, it has a vigorous, rich, yeasty brown and bladders head. With respect to the yeast employed, great care should be taken to have it fresh, sound, and healthy, otherwise you will never insure a healthy fermentation; and if you have not such yeast by you, send by all means to some other brewers who are at work, and procure some. The yeast, after a time, will wear out and cease to ferment the worts healthily: under these circumstances a change of yeast must be attended, and at times one or two before you can get a change that will suit. The yeast used in setting the fermentation should be about 2 lbs. per barrel, but this will vary with the strength of the beer, the extent of attenuation required, and the quantity of worts that are to be fermented. A reasonable amount of yeast is indispensable in all these operations, and good materials are at all times more economical than inferior articles bought at a few shillings cheaper: a greater extract is obtained and a far superior article manufactured, to the credit of the brewer and the interest of the consumer. With regard to the water, this is not a matter of so much consequence as has been often supposed, provided it is sweet in itself, that is, independently of floating matter. Many persons imagine that the peculiarity of the water in different districts produces the difference in the flavour of the beer brewed; but this is entirely erroneous: good beer may be brewed from hard or from soft water, whether obtained from a well or a river.

BREWING STATISTICS. Beer was first made an excisable article by the parliament in the 15th of Charles I., A.D. 1643. In December, 1660, persons by whom it was brewed for sale were required to pay an excise of 2s. 6d. per barrel on strong beer, and 6d. per barrel on small beer. In the following year the same duties were respectively imposed upon strong and small beer in Ireland; but this duty was not in force until 1695, when the brewers paid 3d. per barrel on strong beer, 9d. per barrel on small beer (to which rates the duties in England had been advanced in 1692), and 2s. per barrel upon \'twopenny ale.' In 1697 the rates were increased in England and Scotland, i.e. 9d. on strong beer, and 1s. 3d. on small beer. A further advance in 1710 carried the rates to 5s., and 1s. 4d. In 1761 the duties were fixed at 8s. per barrel on strong, 5s. on table beer, 1s. 4d. on small beer, and 3s. 4d. on twopenny ale. In 1662 the productions of small beer in England and Scotland, and of twopenny ale in the latter country, were no longer made, and the rates of duty were fixed at 10s. per barrel on strong, and 2s. per barrel on table beer, at which they were continued until October, 1830, when the duties in Ireland and England were wholly reduced. In July, 1823, the legislature had sanctioned the sale of a quality of beer between the two kind last mentioned, to which the appropriate name of \'intermediate\' beer was given, and upon this kind a duty of 5s. per barrel was payable, until 1856.

The rates of duty in Ireland underwent the following alterations:

<table>
<thead>
<tr>
<th>Year</th>
<th>Strong Beer</th>
<th>Small Beer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1790</td>
<td>4.49, 940</td>
<td>483, 940</td>
</tr>
<tr>
<td>1791</td>
<td>4.95, 835</td>
<td>546, 835</td>
</tr>
<tr>
<td>1792</td>
<td>5.6, 836</td>
<td>576, 836</td>
</tr>
<tr>
<td>1793</td>
<td>5.6, 841</td>
<td>576, 841</td>
</tr>
<tr>
<td>1794</td>
<td>6.1, 819</td>
<td>1,770, 819</td>
</tr>
<tr>
<td>1795</td>
<td>6.1, 823</td>
<td>1,770, 823</td>
</tr>
<tr>
<td>1796</td>
<td>6.1, 823</td>
<td>1,770, 823</td>
</tr>
<tr>
<td>1797</td>
<td>6.1, 823</td>
<td>1,770, 823</td>
</tr>
<tr>
<td>1798</td>
<td>6.1, 823</td>
<td>1,770, 823</td>
</tr>
</tbody>
</table>

An attempt was made in 1866 to impose duty upon beer made in private houses, but this measure met with so much opposition, that it was abandoned by the chancellor of the exchequer, and the impost was confined, as it always had been, to beer brewed for sale by public brewers.

The quantities charged, and the gross amount of duty collected, in each of the three divisions of the kingdom at different periods since 1786, until the year preceding the repeal of the tax, were as follows:

<table>
<thead>
<tr>
<th>Years</th>
<th>Strong Beer</th>
<th>Table Beer</th>
<th>Small Beer</th>
<th>Amount of Duty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1790</td>
<td>4.49, 940</td>
<td>483, 940</td>
<td>1.314, 203</td>
<td>1.359, 293</td>
</tr>
<tr>
<td>1791</td>
<td>4.95, 835</td>
<td>546, 835</td>
<td>1.249, 125</td>
<td>1.378, 177</td>
</tr>
<tr>
<td>1792</td>
<td>5.6, 836</td>
<td>576, 836</td>
<td>1.160, 209</td>
<td>1.239, 460</td>
</tr>
<tr>
<td>1793</td>
<td>5.6, 841</td>
<td>576, 841</td>
<td>1.162, 209</td>
<td>1.245, 576</td>
</tr>
<tr>
<td>1794</td>
<td>6.1, 819</td>
<td>1,770, 819</td>
<td>1.199, 273</td>
<td>1.283, 986</td>
</tr>
<tr>
<td>1795</td>
<td>6.1, 823</td>
<td>1,770, 823</td>
<td>1.199, 273</td>
<td>1.283, 986</td>
</tr>
<tr>
<td>1796</td>
<td>6.1, 823</td>
<td>1,770, 823</td>
<td>1.199, 273</td>
<td>1.283, 986</td>
</tr>
<tr>
<td>1797</td>
<td>6.1, 823</td>
<td>1,770, 823</td>
<td>1.199, 273</td>
<td>1.283, 986</td>
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<tr>
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<td>6.1, 823</td>
<td>1,770, 823</td>
<td>1.199, 273</td>
<td>1.283, 986</td>
</tr>
</tbody>
</table>

The beer of all sorts, made in foreign countries, is liable to a duty of importation of 5s. per barrel, which amounts to a total prohibition.

The exportation of beer from this kingdom is very inconsiderable when compared with the quantity consumed. The shipments during the five years from 1830 to 1834 were:

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830</td>
<td>300,976</td>
</tr>
<tr>
<td>1831</td>
<td>350,000</td>
</tr>
<tr>
<td>1832</td>
<td>511,927</td>
</tr>
</tbody>
</table>

Nearby three-fourths of the shipments are made to British colonies and possessions. Of this proportion India takes one-fourth; an equal quantity is sent to the British North American colonies and the West Indies; the remaining one-fourth is divided between our Australasian and African settlements. The United States of America, Russia, and France are the best customers for this article; the remaining shipments are small in amount.

BREWED. [STAFFORDSHIRE.] BRIAN, surname BOORMISHE (Boru), a celebrated king of Ireland, son of Kennedy, king of Munster, son of Lorcan. He ascended the throne of both Munsters, i.e., of Ormond and Thomond, or the present counties of Tipperary and Clare. A.D. 978. His earlier exploits were against the Danes of Limerick and Waterford; but being elated by frequent successes against these invaders, he disposed O'Maelachaghlin, the supreme king of the island, and eventually became himself monarch of Ireland. He derived his surname from the tribute which he now imposed upon the provinces. The Boroihe, or tax eluted to, was levied in the following proportions—from Connaught, 800 hops; from Tirconnell (the present county of Donegal), 500 mantles and 500 cows; from Tirone, 60
loads of iron; from the Clan Rory of Ulster (the present counties of Down and Antrim), 150 cows and 150 hogs; from Orrel (the present counties of Armagh and Monaghan), 160 cows; from the prov. of Leinster, 300 cows, 300 hogs, and 300 loads of iron; from the prov. of Connacht, 60 cows, 60 hogs, and 60 loads of iron; from the Danes of Dublin, 150 hogheads of wine; from the Danes of Limerick and Waterford, 350 hogheads of red wine. On these and other revenues king Brian supported a rude but tolerably good road system in Ireland, and in 1167 his minister, King Brian, near the present town of Killaloe, in the county of Clare. He had also castles at Tara and Cashel. Brian continued for many years to rule his dominions with vigour and prosperity, reducing the Danes and subduing their native allies, building and fortifying castles, and making roads and bridges to be constructed, and enforcing the law by taking hostages from all the petty kings of the country. Having however disputed with Maelmora, the king of Leinster, Maelmora revolted, and, inviting a new invasion of Danes to his assistance, eight or ten battle lances, under the command of King Brian fell, after gaining a glorious victory over the united forces of the invaders and revolted natives, on Good Friday, anno 1014. Brian, and his son Murchogh, who fell in the same battle, were buried together in the cathedral of Armagh. Brian's funeral obsequies lasted twelve days and nights, and the possession of the heroic remains was afterwards contested by rival potentates. Brian is said to have defeated the Danes in twenty-five pitched battles; prior to the battle of Clontarf he had confined them to the cities of Dublin, Waterford, and Wexford, and the great blow which he gave their power in that engagement they never recovered. He was the founder of the numerous septs of O'Brien, O or Ua being a distinctive appellation not assumed by Irish families till after his time. This national prefix means 'descendant of' or 'of the king's line of', and was originally supplied by the more antient Mac, which means 'son.' (O'Connell, Rem. Hib. Scrip. Vet.; MSS. History of Ireland, lit. R. I. Academy.)

Briannach, a fortified town of France, and capital of an arrond. in the dep. of Hautes Alpes, is situated quite among the Alps, 7 or 8 m. from the pass of Mont Genèvre; and at the junction of the small stream the Giuasce with the Durance. It is on the road from Paris by Lyon and Grenoble, and from Paris by the N. lat. 47° 54' E. long. It is 4285 ft. above the level of the sea.

This little town, which is mentioned by Strabo, and in the Itineraries, appears in them under the name Bragiamnum. In the middle ages it was the chief piece of a district, comprehended in what is now France, and not appearing to have been of any note till the early part of the last century, when, by the cession of some parts of the Briancons to Savoy, it was determined to strengthen it as a frontier town with new fortifications.

The town of France, with narrow streets, but neither badly laid out nor badly built. There is a pretty good place or square, and a tolerably well built church. The inb. (about 2000 for the town, or 3000 for the whole comm.) are engaged busily in trade in hosieries, cotton goods, lace, etc.

Its defences, which are very strong, consist mainly of seven forts, which occupy in the most advantageous manner all the surrounding heights. The works are partly formed from the rocks on which they stand. The Durance flows in a very deep valley, and there are seven bridges over the river. The roofs of the forts: over this ravine a bridge of one arch, of about 128 Eng. ft. span, and nearly 180 ft. high, was thrown in 1734.

The surrounding districts sends out every winter into the neighbouring dep. a number of emigrants, who exercise the profession of schoolmasters; they speak and write French tolerably well, understand the four rules of arithmetic, and sometimes Latin. The kitchens of the Catholic priests commonly serve them for schoolrooms. Some coal is dug here; the malts are of good quality. The arrond. of Briançon had, in 1832, a pop. of 29,565.

Brianisk, a. t. of Great Russia, in the government of Orel, and the chief place of a circle of the same name. It is an antient and well-built town, situated at the entrance of the Oka, into the Dona, surrounded by a wall of earth, and contains 16 churches (9 of stone and 7 of wood), a monastery with a seminary attached to it, 2 poor-houses, about 690 houses, and about 5700 inh. On account of the excellent ship-timber which the neighbouring country produces, there is an admiral-office here. It likewise possesses a foundry for cannon, several tanneries, and a considerable trade with the Black Sea, Baltic, and other quarters in grain, hemp, rape-oil, honey, wax, linens, timber, castron iron and iron ware, masts, ropes, bark, tar, lime, alabaster, etc.

Some time or other a factory of arms was established in the neighbourhood. 53° 21' N. lat., 34° 19' E. long.

Briare, a small town in France, in the dep. of Loiret, on the right bank of the Loire, 98 m. nearly due S. of Paris. The town has little in it worthily of notice. It consists of one straight and tolerably handsome street. The inb. by the census of 1833 were taken at 2243 for the town, and 3730 for the whole comm.; they are mostly engaged as boatmen on the riv. or canal.

The can. of Briare deserves notice from its position and importance in the system of inland navigation in France, and from its having preceded in its formation most other works of a similar nature in that country. It was commenced in the reign of Henry IV., under the enlightenment of that great minister the work was interrupted. It was resumed in 1639 in the reign of Louis XIII., by two private individuals, M. Guyon and Boutereur, to whom the king granted the can., its works, so far as they were executed, and all the materials they might find on the spot. The can. unites the Loire at Briare with the Loing at Montargis; and as the Loing was rendered navigable from this point to its junction with the Seine, the can. opened a communication between the various towns and districts watered by the Loing and the Loire, and the capital. For a long time the tolls arising from the can. were very considerable, but they were much diminished by the formation of the can. of Orleans, which opened a readier communication between the Loing and the middle and lower part of the Loire.

Bribary, in criminal law, signifies, denoting, first, the offence of a judge, magistrate, or any person concerned judicially in the administration of public justice, receiving a reward or consideration from parties interested, for the purpose of procuring a partial and favourable decision; secondly, the receiving, by a public ministerial officer as an inducement to him to act contrary to his official duty; and thirdly, the giving or receiving of money to procure votes at parliamentary elections, or elections to public offices of trust.

By the Athenian laws the first of these offences rendered the receiver liable to a penalty of ten times the value of the bribe received, and the punishment of infamy; and the person offering the bribe was also subject to prosecution and punishment. By the Roman law there were various provisions against bribery, and by the Code Napoleon the election to the higher offices in the state, as consul, praetor, &c. This offence was expressed by the term Ambitus, against which there were very numerous enactments. By the Lex Aurelia Calpurnia (s. 69) a man convicted of bribery (where the bribe was disabled by law) was punished from entering the senate, besides being fined: these penalties were extended by the Lex Tullia (s. 64), passed in the consilium of Cicero. (See the Oration pro Murena, which is a defence of Sully; but upon the report of that great minister the work was interrupted. It was re-seen in 1639 in the reign of Louis XIII., by two private individuals, M. Guyon and Boutereur, to whom the king granted the can., its works, so far as they were executed, and all the materials they might find on the spot. The can. unites the Loire at Briare with the Loing at Montargis; and as the Loing was rendered navigable from this point to its junction with the Seine, the can. opened a communication between the various towns and districts watered by the Loing and the Loire, and the capital. For a long time the tolls arising from the can. were very considerable, but they were much diminished by the formation of the can. of Orleans, which opened a readier communication between the Loing and the middle and lower part of the Loire.

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doth offer it.' (32 Edw. III. 1381.) Sir William Thorpe, then chief justice of England, was found guilty, upon his own confession, of having received bribes from several great men to stay a writ which ought to have run in due course of law, and to be withheld against them. For this offence he was condemned to be hanged, and all his lands and goods forfeited to the crown. Blackstone says (Comment, vol. iv. p. 140) that he was actually executed; but this is a mistake, as the record of the proceeding shows that he was almost immediately released and restored to all his lands (33 Edw. III. 1346). It appears also from the Year Book (28 Ass. pl. 2) that he was a few years afterwards reinstated in his office of chief justice. The case, therefore, does not speak so strongly in favour of the purity of his conduct as many writers, following Blackstone, have supposed. In truth, the corruption of the judges for centuries after Sir William Thorpe's case occurred as notorious and unquestionable. It is noticed by Edward VI. in a discourse of his pustle and on some records and against the lawyers of his time. (Burne's Hist. of the Reformation, vol. ii. App. p. 72.) Its prevalence at a still later period, in the reign of James I., may be inferred from the caution contained in Lord Chancellor Bacon's address to Sergeant Hatton upon his becoming a judge, 'that his hands and the hands of those about him should be clean and uncorrupt from gifts and from serving of turns, be they great or small ones.' (Bacon's Works, vol. ii. p. 632, edit. 1765.) In Lord Bacon's own confession the charges of bribery were these: 'The Horrific Laws of England have been overthrown by way of palliation, to the offence of judicial corruption as being vitium temporis. (Howell's State Trials, vol. ii. p. 1104.) Since the Revolution, in 1688, judicial bribery has been altogether unknown in England, and no case is reported of any law books in which this offence has been imputed to a judge in courts of superior or inferior jurisdiction.

II. Bribery in a public ministerial officer is a misde- meanor of common law, and a person who takes and also in him who offers the bribe. Thus a clerk to the agent for French prisoners of war at Porchester Castle, who had taken money for procuring the exchange of certain prisoners out of their turn, was indicted for bribery and se- verely fined. (42 Ric. II. 1390; 47 Ric. II. 1396; 11 Ed. IV. 1472; 26 Ed. IV. 1482; 32 Edw. III. 1381; 33 Edw. III. 1346; Reports, 183.) So where a person offered the first lord of the treasury a sum of money for a public appointment in the colonies, the Court of King's Bench, in Lord Mansfield's time, granted a criminal information against him. (4 Burr. 91.)

Bribery with reference to particular classes of public officials has become punishable by several acts of parliament. Thus by the stat. 6 Geo. IV. c. 106, sect. 29, if any person shall give, or offer, or promise any bribe to any person employed in the service of the crown, he shall in any way to neglect his duty (whether the offer be accepted or not), he incurs a penalty of 500l. So also by 6 Geo. IV. c. 108, sect. 35, if any officer of the cus- tomes, or any officer of the army, navy, marines, or other person employed by or under the authority of the commis- sioners of the customs, shall make any collusive seizure, or deliver up, or agree to deliver up, or not to seize any vessel, or goods liable to forfeiture, or shall take any bribe for the neglect or nonperformance of his duty, every such officer being incapable of serving his Majesty in any office whatever, either civil or military; and the person also giving or offering the bribe, or making such collusive agreement with the officer, incurs the like penalty. By the 6 Geo. IV. c. 80, sect. 145, similar penalties are inflicted upon officers of the excise who take bribes, as well as upon those who give or offer the bribe.

III. As to bribery for votes at elections to public offices.

1. Bribery at parliamentary elections is said to have been almost unknown; and no evidence of any prosecutions for bribery of this kind until particular penalties were imposed upon the offender by acts of parliament. The operative statute upon this subject at the present time is the 49 Geo. III. c. 118, which provides that if any person shall give, directly or indirectly, or shall promise or agree to give any sum of money, gift, or reward, to any person upon any engagement that such person to whom such gift or promise shall be made, shall by himself or by any other person at his solicitations pro-
cure, or endeavour to procure, the return of any person to serve in parliament for any place, every such person so giving or promising (if not returned) shall for every such gift or promise forfeit the sum of 1000l.; and every such person receiving, taking, or accepting any such promise upon any such engagement, shall be disabled and incapacitated to serve in that parliament for such place; and any person or persons who shall receive or accept of any such sum of money, gift, or reward, or any such promise upon any such engagement, shall forfeit the amount of such sum of money, gift, or reward, over and above the sum of 500l. (Elections.)

2. Bribery at municipal elections was also an offence at common law, and a criminal information was granted by the Court of King's Bench to a privy councillor of Tiverton for giving a sum of money to a member of the corporation of Tiverton to induce him to vote for a particular person at the election of a mayor. (Plympton's case, 2 Lord Raymond's Reports, 1637.)

The 54th clause of the recent act for the regulation of Municipal Corporations in England and Wales (5 and 6 Will. IV. c. 76) provides that if any person who shall have, or claim to have, any right to vote in any election of mayor, or of a councillor, auditor, or assessor of any borough, shall take or offer any money or other reward, or any promise of money or other reward whatsoever, to give or forbear to give his vote in any such election, or if any person shall by any gift or reward, or by any promise, agreement, or security for any gift or reward, corrupt or procure, or promise or agree to corrupt or procure the vote in any such election, such person so offending in any of the cases aforesaid shall for every such offence forfeit the sum of 504l., and for ever be disabled to vote in any municipal or parliamentary election whatever in any part of the United Kingdom, and he shall be liable to be addicted to hold any office or franchise to which he then shall or at any time afterwards may be entitled as a burgess of such borough, as if such person was naturally dead.

BRICK, clay, or terracotta, and the ashes and particles of small coal sifted, and afterwards burnt in a clay oven, or clay mixed with sand, or clay alone, baked in a kiln. The antients both baked their bricks and dried them in the sun. Among the oldest specimens of bricks are those found in the ruins of the temple of Jupiter (Palatine Brink, or Antonii Palatini). The Egyptians used sun-dried bricks in the large walls which inclosed their temples, and in the constructions about their tombs. At Thebes there are true arches made of sun-dried bricks: pyramids also were sometimes built of these bricks. The Romans, as well as the Greeks, took the brick as a material, and settled in the plain of Shinar, consisted of clay and chopped straw. The Egyptian manner of making bricks is delineated in Rosellini's work on the paintings of Egypt. The Romans, according to Pliny, began to use bricks about the aediles of the 7th consulship of C. Scribonius, and it was used in the temple of the god Hadecolus, still remains, which is said to have been built on the occasion of the retreat of Hannibal. (Rosini Vista in Roma.) It has been supposed that the Greeks did not employ bricks until after their subjugation to the Romans, as none of the works erected prior to that period, the ruins of which still exist, show any signs of brickwork; yet there are Greek buildings mentioned by Vitruvius as built of brick, which may have been prior to that date. Vitruvius (lib. ii. cap. 7) mentions the wall of Athens towards the Piraeus, and a wall of brick built of the cells of the temples of Jupiter and Hercules; and indeed it would be easy to show from various passages that bricks were in use among the Greeks before the Roman con- quest. (Demosophiens, stri sophiens, c. 163.) The Greek names for bricks were diroros, penta doros, pentadroma, from the Greek doros, a hand-breadth. Pentadromas are bricks five dora, and tetradromas bricks four dora on each side. All these bricks were also made half the size, to break the joint of the work; and the long bricks were laid in one course, and the short in the other. (Demosophiens, stri sophiens, c. 163.)

Vitruvius says the pentadromas were used in public works, and the tetradromas in private. It is most probable that they were dried bricks, as Vitruvius speaks of bricks requiring two years to dry. We must, however, believe him, that the laws of Attica required that five years should be allowed for the drying of bricks. It is true they might when well dried be burnt; but when he says (vol. i., cap. 3) that 'if they are used when newly made, and moist, the plaster work which is laid on them remaining firm and stiff, and they
shrinking, and consequently not preserving the same height with the incrustation, it is by such contraction loosened and separated; we must infer that they were not made in the manner still used at Pisa, and in many parts of Germany. Vitruvius says that they should not be made of ‘sandy, stony, or gravelly loam, for such kinds of earth in the first place render them heavy; and secondly, upon long standing in the sun and rain the castellate round in the wall, swell and dissolve, and the straw which is put in them does not adhere on account of its roughness.’ The earth which Vitruvius recommends is white and chalky, or red, with a coarse grit; and the spring or autumn, according to him, is the best time for doing the thing.

The Roman brick used in the buildings on the Palatine hill, in the baths of Caracalla, and in various remains of Roman buildings in England, is more like a tile than a brick, being very thin compared with the length and breadth. The thickness of Roman bricks vary, 7 3/4 inches square and 1 1/4 inches thick, 16 1/4 inches square and 2 1/4 to 3 1/4 inches thick, and 1 foot 10 inches square by 2 1/8 inches thick; the color is red. The bricks of the small temple without the walls of Rome, on the road leading to the grove of the Esquileen, are smaller than any of these dimensions, being in size and colour more like a Dutch clinker. In the villa Diva Pamphilii at Rome, among the tombs, are several kinds of bricks not usually found elsewhere. There are large red bricks with a rough projection of small edifices; some are triangular, and others are thicker than the ordinary brick, though not so long or so wide; and a fourth sort approaches to the size of the tetra-

dorons.

In Persia bricks are both dried in the sun and baked. The sun-burnt bricks are made in wooden moulds. When formed they are 8 inches long, 6 inches wide, and 24 inches deep. The earth is tempered with the feet, and, like the Egyptian brick, is mixed with straw cut fine. While in the mould, they are chopped in a red-coated raw, mixed with chopped straw, and then smoothed by hand; the moulds are then removed, and in about three hours they get sufficient consistency to be handled, when they are placed in rows on the other to get thoroughly dry. The clay when burnt, much like the English clap-burned bricks (Chardin).

The brick used in England is made of clay mixed with sand or with ashes, and after being dried in the sun and air, is burned in a clamp or baked in a kiln. These bricks, which are moulded of one size throughout the kingdom, are 10 inches long, 5 inches wide, 3 inches thick, as prescribed by an act of Parliament. Bricks may be made of any size, but all above the standard size pay a higher duty. They are made in the following manner: The encallow, as it is called, is turned off and the top-soil, mixed with ash, is put on one side. The clay is then dug and turned over in the winter, and being prepared for the spring by this exposure to wet and frost, it separates and mixes better with the fine ashes which are afterwards added in the proportion of one-

fifth of ashes to four of clay, or 50 children to 240 cubic yards, which will make 100,000 bricks. When much sand is mixed with the clay, and the earth is what is technically called mild, 40 chaldron of ashes to 230 cubic yards of clay will make the same quantity. To burn the former, or stiff clay, the ashes (after the coal-ash left from the sitting) are required; for the latter, or for the mild earth, 12 will be sufficient. In the spring and summer, the earth, which has been in the winter, has a coat of ashes laid over it to the depth of three inches, and this coat of ashes with a foot of clay is mixed together, the digger taking care to mix his ashes equally with the clay. The clay and ashes thus mixed together are watered down, by water being thrown over them with a wooden scoop. The clay and ashes are then mixed together more and more, and a heap is made of a pile, which, when ready to be burned, is laid towards the wind. The heap is then taken to the kiln, which is then covered with straw, the kiln in the ground, and in about three hours they get thoroughly dry. The kiln (as the clamp is called) must be managed with considerable skill to burn off the bricks successfully, for if too much firing or too little is used, they become either one mass of clinkers or are all soft. They should also be carefully and closely packed, so as to leave as little air as possible, for the admission of air produces the red soft kind, called place bricks. The base of the kiln is made of brick rubbish, and laid a little inclined, in a segment of a circle from north to south. In England, N., so that the north end is higher, which is the usual and, as I believe, the most practical support. The bricks are placed in lots or ‘necks,’ very deep in each neck, and as long as may be. The erection of the clamp commences in the centre; the central neck is perpendicular, and is called the upright, towards which all the other necks incline. The bottom end is cut off, and the upper part of the barrel, that is, the upper third of the barrel, has six teeth of iron, three above and three below. At the bottom of the barrel is a small hole, through which the masticated clay is forced by the grinding of the teeth produced by the motion of the horse.

The clay has been mixed in pieces with a concave shovel, called a ‘cuckold,’ and laid on one side and covered with sacks to prevent the sun drying it before it is carried to the moulder. From this stock the clay is supplied to the feeder, who stands next to the moulder. The feeder does not lean upon the barrel, but is about the size of the brick, which the moulder throws into the mould first sanded, striking it sometimes with his wrist: he then cuts off any superfluous piece with a stick kept in a bowl of water by his side. The back and side parts of the mould are removed from the bottom piece, and the brick is gently deposited on a flat piece of wood, called a pallet-board, which is removed by a boy to a lattice-work inclined plane fixed to a barrow. When this is full, the upper surface of the bricks is sanded, and they are wheeled off to the kiln, which is at a great distance from the field, and are placed on the face of the field, and formed about two feet six inches wide. Here they are carefully deposited, the bricks being held by the workman performing this duty, who is called the off-bearer, by means of two pallet-boards. The bricks being thus brought to one of the kilns, a skilful hand they become twisted in the setting down. The bricks are placed in two rows on the edges, and are set a little apart to admit the air to dry them. At each end of the heap over every other layer of bricks is turned with the mute, which is cut at the rows and carried in rows, one on the other, to the height of seven bricks, but the average height in most fields is eight. As they are put down the workman counts them by thousands, making a dot at every thousandth in the soft brick, so that they may be included. From the top they are covered with straw, which is removed when it is not showery: they are always covered up at night in this way. Some brickmakers have their pallets covered with long shreds, but this has been found very expensive, and a very slow method. After the bricks are partially dried, another operation takes place, called ‘skilling,’ that is removing the bottom bricks to the top, and widening the apertures between each brick, placing them diagonally. This, which hastens the drying, cannot be done until the bricks have been sufficiently dry. The brick is cut off by the knife, the kiln, the soil, and the edges are burned off. In removing to the kiln. The kiln (as the clamp is called) must be managed with considerable skill to burn off the bricks successfully, for if too much firing or too little is used, they become either one mass of clinkers or are all soft. They should also be carefully and closely packed, so as to leave as little air as possible, for the admission of air produces the red soft kind, called place bricks. The base of the kiln is made of brick rubbish, and laid a little inclined, in a segment of a circle from north to south. In England, N., so that the north end is higher, which is the usual and, as I believe, the most practical support. The bricks are placed in lots or ‘necks,’ very deep in each neck, and as long as may be. The erection of the clamp commences in the centre; the central neck is perpendicular, and is called the upright, towards which all the other necks incline. The bottom end is cut off, and the upper part of the barrel, that is, the upper third of the barrel, has six teeth of iron, three above and three below. At the bottom of the barrel is a small hole, through which the masticated clay is forced by the grinding of the teeth produced by the motion of the horse.
breeze; the flies is then overpowered. The clamp when full is surrounded with old bricks, or the drier of those newly made, and on the top of all a thick layer of breeze is laid. The external bricks are coated with a thin plastering of clay to exclude the air, and if the weather prove wet, the kiln is protected by an umbrella made by a stick and broom. The fire is lighted at the mouths of the flues, which are called the live-holes. If the fire burns well, the mouths of the flues are stopped. In favourable weather the bricks will be burnt in about twenty-five or thirty days, but it is not to be noted a load of burnt past is so soon, as the bricks become speckled when the ash on. the surface is not quite consumed. Bricks only partially burnt are called burnovers, and are put into the next clamp. The bricks are now separated for sale; the hard sound stocks are the best, and are filled by the buyers. Some will be broken up into inferior soft red brick from 11 to 12 10s.; and the clinkers or burners, black-looking masses of vitrified brick, are worth about 10s. a load. When burnt they are on an average 9 inches long, 4 1/2 wide, and 3 1/4 thick. Kid-brick and marl bricks, as well as those which have differ from the bricks just described. The kiln is burnt; a baker may be either baked or burnt; they take their name from the marl originally used in them, which has now given place to chalk. The Dutch clinkers are small hard yellow bricks, not much used for building purposes. And in furnaces, boilers, cisterns, vaults, stables, and yards. Besides these kinds there is capping or coping brick, for surfacing fence walls, which is made both angular and semicircular to the other of the wall. A larger sort of brick, 12 inches long, 6 broad, and 3 1/2 thick, called wall-brick, is made in fent, the indented works under the coping of walls built with large bricks; a circular brick, called compass-bricks, is used for wells; hollow or draining bricks are flat on one side and hollow on the other; fire bricks, called also Windsor bricks, are 12 inches thick, are of a yellowish red, and are used for a long time a fierce fire; common paving bricks are of the same size as Windsor bricks; feather-edged bricks are the same size as the common brick, except that they are thinner; they are used on eddies, etc. In this brick, indented every 12 inches, have the clinkers thrown together in one mass. Bricks having a smoothed or glazed surface are sometimes made; this is done in the burning.

Mr. Lees discovered that certain proportions of chalk and loam, treated in the usual manner, made a good substitute for the clinkers. He offers the following proportions of the materials at the time since, which, having expired, his practice is now very generally adopted round London. These bricks, however, are not considered to have either the fine colour of the London marl stock, or the beautiful stone-coloured hue of the Northern clinker. The way of making them is the same as described by Mr. Nicholson:

A circular recess is built, about four feet high, and from ten to twelve feet in diameter, paved at the bottom, with a horse wheel placed in its centre, from which a beam extends to the outside of the horse to form it by. The horse is then raised to a level with the top of the recess, on which a platform is laid for the horse to walk upon. This mill is always placed as near a well or spring as possible, and a pump is set up to supply it with water. A harrow made to fit the internal part of the mill is fixed to the end of the beam, well loaded, is chained to the beam of the wheel to which the horse is harnessed. Previously to putting the machine in motion, the soil, as prepared in the heap in the ordinary manner, is brought in barrows, and distributed regularly round the edge of it. In the addition of a barrel of water; the horse then moves on, and drags the harrow, which forces its way into the soil, admits the water into it, and by tearing and separating its particles, not only mixes the ingredients, but also affords an opportunity for the air to absorb the moisture. The fine soil and water continue to be added till the recess is full. On one side of the recess, and as near to it as possible, a hollow square is prepared, about eighteen inches or two feet deep. The soil being sufficiently dry, it is spread and passed, and the siliceous, or, as it is called, the coarse, is laded out of the recess, and, by means of wooden troughs, conveyed into this square pit; care being taken to leave the sediment behind, which is afterwards to be cleared out and thrown on the sides of the recess. The fluid soil diffuses itself over the hollow square or pit, where it settles of an equal thickness, and remains till wanted for use, the superficial water being either evaporated or drained away by exposure to the atmosphere. When one of these square pits is full, another one is filled, and the first is emptied. The earth so prepared is likely to be wanted for the season.

It should be observed, that bricks burnt in the clamp have the ashes mixed with them, and the firing is actually in the brick; but those burnt in a kiln have no ashes mixed with them, and the fires are applied only on the top. Kilns for burning bricks are constructed of various sizes. They are sometimes conical or domed; some are square-built with brick piers, and covered with tiles. A kiln thirteen feet long, ten feet six inches wide, and twelve feet high, will contain about 1400 squares of bricks, and about 1500 squares of walls, in a kiln are about fourteen inches thick, and incline downwards towards the top.

About the year 1795 a patent was obtained for making bricks on a new plan. This brick was like the common red brick, except that it is liable to more or less injure the sides of the groove, each of which would be nearly equal to one-quarter of the width of the side of the brick, or to one-half of the thickness. By this improvement, a greater surface of the first course would fall into grooves of the first course, and the shoulders of the first course would fall into the grooves of the second; and so on with every succeeding course. Buildings constructed with this kind of brick will require no bond timbers, as a universal bond runs through the whole building, and holds all the parts together.

A patent, obtained by Mr. Bayliss of Manchester, for making the clay-tempering machine has lately been invented by Mr. Bayliss of Manchester. By the clay-tempering machine the clay is mixed with the water employed in the clinker by any method hitherto employed; and by the use of the moulding machine the porosity of the bricks is in a great measure destroyed, the pressure employed in the moulding being equal to three tons weight. The machine for confining the brick in a compact mass is formed of a series of thin pieces of leather, each piece being cut to produce a great pressure, the result of which is the compression of the clay into the greatest compactness and utmost accuracy of form. The mould employed opens on a hinge at one of its angles, and closes by a spring latch. (For further particulars, see The Mechanics Magazine, May 14, 1831.)

A patent has been taken out by Messrs. Rhodes for a brick in which its coke ashes are introduced, finely pulverized by means of a mill with French stones (similar to those used in a mill to grind corn), and are mixed with the clinkers by any method hitherto employed; and by the use of the moulding machine the porosity of the bricks is in a great measure destroyed, the pressure employed in the moulding being equal to three tons weight. The machine for confining the brick in a compact mass is formed of a series of thin pieces of leather, each piece being cut to produce a great pressure, the result of which is the compression of the clay into the greatest compactness and utmost accuracy of form. The mould employed opens on a hinge at one of its angles, and closes by a spring latch. (For further particulars, see The Mechanics Magazine, May 14, 1831.)

The duty on bricks was first laid in 1784, at 2s. 6d. a thousand. In March, 1794, an additional 12. 6d. per thousand was laid on bricks. On the 4th July, 1803, the duty was increased to 5s., and in March, 1825, a further duty of 12. 6d. per thousand was added. On the 4th July, 1803, a duty of 10s. per thousand was laid on all bricks of larger dimensions than the common bricks. Polished bricks are charged a duty of 12. 10d. a thousand: large polished, 24s. 2d. do. The words of the Act referring to glazed bricks and tiles were omitted. Polished bricks are charged a duty of 12. 6d. per thousand. The officers, that bricks struck with a bat or on a table to straighten them, if warped, have been called smooth and polished, and charged the extra duty. The following is a list of the account of the quantities charged with excise duties in Great Britain for the three years ending 1834. (Government Statistical Tables, 1834.)

<table>
<thead>
<tr>
<th>Quantities charged.</th>
<th>Amount of Duty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1832</td>
<td>999,348,663</td>
</tr>
<tr>
<td>1833</td>
<td>1,055,364,649</td>
</tr>
<tr>
<td>1834</td>
<td>1,180,161,228</td>
</tr>
</tbody>
</table>
The curved line at the bottom given by the camber-slip is cut by means of the bevel; every angle of each brick being different, they are copied by the bevel, and set off in succession on the mould and numbered, so that for the rest of the operation, the workman has only recourse to the mould.

A larger, or what is called an irregular segment is cut in the same manner. A semicircular arch being struck from one centre requires but one mould, without the aid of the bevel, as all the bricks are alike and have their ends at the same angle. At either end, it should be observed, are constructed on centerings of wood. In straight arches the camber-slip answers the purpose of a centre.

Elliptical arches are cut like straight and semicircular arches, the ends like semicircular arches, and the centre like camber arches.

Corbelling, or a projecting of brickwork, is often practised to gain space for flues and over corners of narrow streets.

In stepping walls it is usual to employ brickwork where the soil is loose. For this purpose a centre is required, made with circular rings of wood bored round the outside; upon these rings the bricks are laid. As the digger excavates the ground, the centre with the brickwork sinks and another is laid upon it till the whole work is completed.

Mortar is applied between the bricks, and as soon as the next segment brickwork. This cement is composed of lime, grey or white, but grey or stone lime is the better; it is mixed with river sand, sea sand, or road sand, in the proportion of one of grey lime to two and a half of sand, and one of white or chalk lime to two of sand.

In dry weather and for firm work the best mortar should be used, and the bricks should be wetted or dipped in water as they are laid, which makes them adhere firmly to the mortar. Brickwork in drains and foundations, where it is likely to be broken up, is made with a cement composed of a mixture of three parts of mortar to one of bricks, and after the first 6 or 8 inches are laid, the stone is cut with a wire and the brickwork is finished by regular courses.

When new walls are to be built to old it is usual to cut a chaise or draw a brick at every other course in the old work and tooth in the new work. When it is intended to add walls to other buildings these toothings are left. The flues for chimneys are twisted to prevent their smoking [see House, in which a drawing represents a stack of chimney flues as built in London]: they are always chalked on the wall of a house to which another is intended to be added. The following are the substances of brick walls, as required to be built in London according to the Building Act of 14 Geo. III. c. 78.

In first-rate buildings the external walls are directed to be built of two bricks' length in thickness to the ciling line of first floor, and the party walls in the basement two and a half bricks, and from these to the gutter two bricks. In second rate buildings the party walls are two bricks and a half thick in the basement, and two
Holland is very accurate. There are many curious brickfronts in Germany, especially in Hanover, and some architectural display in brickwork appears in several of the smaller Italian towns. But the most singular and beautiful brickwork is found in North Prussia, in the Marien Kirche at Brandenburg, the castle of the Teutonic knights, and a number of other places.

Brickwork was not common in London until after the great fire of 1666. There are early specimens of brickwork in some of the old baronial mansions, in which the chimneys are the most conspicuous features. But few of these houses are of greater antiquity than the time of Henry VII. and VIII.; and most of them date about the reign of Elizabeth. Hampton Court, built by Cardinal Wolsley, is a specimen of good antient English brickwork. One of the most elaborately carved specimens of English brickwork is on which was built, in the time of Elizabeth, the house of Sir Thomas Wymondham, in Norfolk, which is in the early Italian style covered with grotesque ornaments. The practice of carving cornices, &c. in brick continued till about a century ago, when it ceased, owing to the more frequent use of stone. Inigo Jones used brick moulded cornices in some of his structures.

BRIDEWELL, a name frequently given to houses of correction. The cause of its being so applied may be traced to the following circumstances. Before the Reformation, at St. Bride's, there were in the church three sepulchral monuments termed 'holy wells,' whose waters were supposed to be endowed with peculiar virtues if taken at particular festivals or other times. Some of them in reality were medicinal springs. St. Bride's was a great church and parish. It was situated at the corner of Fleet Street, and the churchyard had a long and picturesque history. The vicar of this cell Edward VI., founded a hospital, which was afterwards converted into a receptacle for disorderly apprentices, in fact, into a House of Correction. The boys were distinguished by a particular dress, and were in the habit of attending a theatre with an aggregate company of an hospital. In 1755 a report was made to the governors respecting the unruly conduct of the 'Bridewell boys.' Their turbulence in the streets had become a great annoyance to peaceable citizens. From the time their peculiar costume was laid aside, by the general consent and improvement, Bridewell Hospital is at present used as a receptacle for vagrants committed by the Lord Mayor and sitting aldermen; for apprentices sentenced to solitary confinement; as a temporary lodging for persons previous to being sent home to their respective parishes; and a certain number of boys are brought up to different trades. Houses of correction in different parts of the country which are called bridewells are so called in consequence of the hospital in Blackfriars having been the first place of confinement in which penitentiary amendment was a leading object.

BRIDGE, a construction of stone, wood, brick, or iron; consisting of piers, with either horizontal beams laid from one to the other, or with arches between the piers, on which a road-way is formed for passengers and vehicles. Pavements are elevated on each side of the road, and foot pavements, called banquettes, are raised for people on foot.

There are still remaining bridges of great antiquity built by the Romans, but we are unacquainted with the earliest history of some of these examples. Among these old bridges which may have taken their ideas from natural works similar to the bridge of Icononzo, in South America, or the Rock Bridge in Virginia, or from bridges formed by the fall of trees across small brooks and rivulets. There is no instance of a bridge in the Old Testament. Perhaps the oldest historical record of a bridge is that of the bridge of Semiramis, at Babylon [BABYLON], which consisted of piers, with beams laid horizontally from pier to pier. Some Chinese, and some South American bridges are made by the hands of natives; in the bridge over the Desaguadero, for example, are novelties in this kind of construction; the arch of the former being constructed of two pieces of stone cut to a quarter of a circle; and the latter being large suspension bridges made of rushes. There is a large number of bridges, especially in bridge-building by means of arches. The bridge of Foutcheou-fou, the capital of Fo-kien, has more than 100 arches. A Tauen-techeou-fou is a bridge with 300 stone piers built with angles to the river. The bridge at Suan-tekeou-fou, a shallow estuary, is 2500 Chinese feet in length and 20 in breadth. The road-way of this bridge is laid

<table>
<thead>
<tr>
<th>bricks</th>
<th>cwt.</th>
<th>qr.</th>
<th>lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4500</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>81 cubic feet of sand</td>
<td>3</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>6 ft. 6 in. of chalk lime</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>
horizontally with huge blocks of stone on 252 stone piers, and on these other stones are laid across. The city of Chao-king, like some of the Dutch towns, has numerous canals, and in consequence numerous bridges, for the most part of one arch, and rising very high. At Tansu there is a freestone bridge of seven arches, the centre arch of which is about 46 feet wide. Chinese bridges have pointed, semicircular, polygonal and semi-elliptical arches. Their construction, which is curious, is described by Mr. Barrow. (See also Drucker, vol. i., pp. 21, 257, and the Image of the World.) The bridges in South America called bujaco are very narrow, and from the lightness of their materials, and being suspended, they oscillate in a terrific manner. The width of these bridges often does not exceed 4 ft. 6 in. The Taribota bridge, built at the base of the Ababa, opposite the town of Simbour, in the Mibilidade, over which passed the Flaminian way; and the bridge of Hadrian. The Subicibus, an ancient bridge at Rome, was built of wood; but the most remarkable wooden bridge constructed by the Romans was that thrown by Cæsar over the Rhine. It was built with a double row of piles, inclining to the course of the stream, and joined together at two ft. from each other: forty ft. apart from these was another similar row inclined against the stream. Long beams, two ft. thick, were fixed between the piles, and laid fast at each end by two bridges. The bridge was beheld by trees of various pieces. The first double row of piles was protected by other piles beyond them, which served as buttresses, and were designed to protect the piles from timber floating down the stream. (See Cæsar’s Commentaries, translated into Italian by Balbi, with designs by Palladio, Venice, 1575; and also Commentarii, &c., Venetiis, 8vo, 1513, 1519, with a picture of the bridge over the Rhine.) The bridge built by Trajan over the Danube was the most stupendous work of the kind ever constructed by the Romans. (Cass. itin. xvi. c. 13.) It consisted of 20 piers of stone, 60 Roman ft. broad and 150 ft. without the foundations, above the bed of the river; the width between each pier was 170 ft., and the piers were united by arches. The bridge of Narni, which is a fine specimen of Roman work, is constructed over the Nera, where it flows between two precipitous hills. This bridge originally consisted of four arches, three of which are broken. The height of the arches was about 112 ft., and the width respectively 75, 135, 114, and 142 ft. 6 in. The Roman bridge of the aqueduct, now called the Pont du Gard, over the Gard or Gardon near Nîmes, consists of six arches at its base, the whole length being 465 ft.; a second series of arches, above these, extends 780 ft. to the slope of the mountains on each side; above this is a third series of 35 arches, smaller in size, extending 850 ft., which carries the water from the mountains. The entire height of this structure is 190 ft. Another ancient Roman bridge, that of the Tagus at Alcantara, in Spain, consisted of six arches raised 206 ft. above the river: the whole length was 670 ft. and the breadth 38 ft. [Alcantara.] An old bridge, near Bruiss, over the Allier, in the dep. of Haute Loire, consists of one arch, 181 ft. wide, and 68 ft. 8 in. high from the water to the intrados of the arch: the breadth of the bridge is only 13 ft. Two remarkable bridge-aqueducts have been erected in modern times: one at Alcantara, near the city of Lisbon; the other, called the Ponte Maddelenas, near the royal palace of Caserta, in the kingdom of Naples, to supply the fountains in the gardens of that edifice. The structure at Alcantara consists of 35 arches of unequal dimensions. The principal arch is 198 ft. 5 in. wide, and 227 ft. high; the other arches vary from 21 ft. 10 in. in width to 72 ft. The total length of the whole is 2464 ft. The Ponte Maddelena, like the Pont du Gard, consists of a series of arches, one above another, built between the top of two mountains. The bridges erected by the Romans in the provinces served as models for the stone bridges which were erected after the dissolution of the empire, and it is to the conquests of this nation that N. and W. Europe is indebted for the introduction of so convenient a means of internal communication. But the finest examples of bridge architecture, which equal any that the Romans have left, and surpass all others in the world, are the five principal bridges of London—Blackfriars’ bridge, London bridge, Southwark iron bridge, and Westminster and Waterloo bridges.

Many of the Russian bridges are constructed of wood, and in St. Petersburg the principal bridge is of boats. (See the Plan of St. Petersburg, published by the U. K. S.) When rivers have a rapid current, bridges of boats are commonly employed, as over the Po, in Italy. These bridges, called by the French, ponts volants, are readily constructed with a few boats attached to a rope, and moored in the middle of the stream: the bridge is moved by a rudder, and, assisted by the stream, is carried over to the other side. The oldest bridge now existing in England is the Triangular bridge at Croyland, in Lincolnshire, which is said to have been built in 1306, but in 1725 is considered too difficult, if not altogether impossible, to determine. It is obvious that utility was not the motive of the builder, though it may be allowed to claim the qualities of boldness of design and singularity of construction as much as any bridge in Europe. It is formed by three semiarches, whose bases stand in the circumference of a circle, equidistant from each other, and uniting at the top. ‘This curious triune formation has led many persons to imagine that the architect intended thereby to suggest an idea of the Holy Trinity.’ (Nicholson’s Dict.) Old London bridge, which has recently been removed, was the oldest structure of this kind in the city of London; and till about the middle of the last century, was the only means of communication, except by ferries, between Surrey and Middlesex. This bridge was begun in 1176, in the reign of Henry II., and finished in that of John, A.D. 1299. For several centuries it was covered with houses, which were at last removed. The bridge, called Pont y Pridd, over the Taff, near Llantrisant, in Glamorganshire, which was completed in 1755, is a fine work. It consists of a single arch 140 ft. wide, forming the segment of a circle of 175 ft. diameter; the height is 35 ft. A bridge over the Liz, near Dublin, built in 1783, is an example of an elliptical arch 166 ft. wide, which rises only 22 ft. Venice contains a great number of bridges, but with the exception of the Rialto, they are all insignificant. The Rialto was begun in 1588, and finished in 1591, from the designs of M. Angeli. It is 160 ft. wide, and 23 ft. from the water line; the width is 43 ft. This bridge is constructed of white marble, and the foundation is on piles. One of the lightest and most elegant bridges of Europe, the Ponte dell’ Ondine at Florence, ‘Map of Florence,’ published by the U. K. S., consists of three beautiful elliptical
Dresden has a very large bridge of 16 arches over the Elbe. (See the Plan of Dresden, published by the U.K. Society.) Paris contains numerous bridges of stone, wood, and iron; of which the oldest is the Pont Neuf, and the most modern a chain or suspension bridge. The bridges of Paris are not remarkable for their length, nor generally for architectural beauty; most of them are inferior to many of the provincial bridges in England. The longest bridge in England, that of Burton-upon-Trent, is 1445 ft. in length, and has 34 arches.

One great improvement in the practice of bridge-building, in modern times, is the construction of equal arches, by which a horizontal line of road is formed, and the inconvenient rise and fall in the carriage-way of the elder bridges is avoided. The Pont de Neuilly, built between 1768 and 1780, by M. Perronnet, over the Seine, is, we believe, the earliest modern example of this kind of bridge. It has five equal arches, 128 ft. wide, and 32 ft. in height; the piers are 14 ft. thick, and the width of the bridge is 48 ft.; the rise in 33 ft. is not more than 6½ in. In 1771 another flat bridge of 13 semi-elliptical arches was built over the Allier, at Moulins; these arches are 64 ft. span and 24 ft. high. The bridge of St. Maixence over the Oise, and the bridge of Orleans over the Loire, also approximate to a horizontal line in their roadway. The bridge of Orleans is 1100 ft. long. One of the finest flat or equal-arched bridges ever constructed is Waterloo bridge over the Thames, which was built by Mr. Rennie.

Wooden bridges are much more common than bridges of stone, from the greater facility of constructing them of this material, as well as on account of their cheapness. Bridges built of wood, unsupported by upright posts, and sustained only by abutments at the ends, have been termed pendent bridges and philosophical bridges: such was the bridge of three arches formerly in existence at Walton-on-Thames. Palladio has described three methods of constructing these bridges. The small bridge of one arch over the Cam, at the back of Queen's College, Cambridge, is of this kind. Among the wooden bridges of America, the Upper and Lower Schuykill bridges near Philadelphia, and the bridge across the Delaware at Trenton, are perhaps the most remarkable. The chord line of the Upper Schuykill bridge, called the Colosseus, is 340 ft. The Lower Schuykill bridge consists of three arches on stone piers; the centre arch has a chord of 195 ft. and the two side arches 150 ft. each. The bridge over the Delaware at Trenton is a very singular construction of five arches, supported on light stone piers. The chord of the centre arch is 200 ft.; the two arches on each side the centre, 180 ft. and the two abutment arches, 160 ft. each. This bridge was erected by C. A. Busby, in 1819. A very accurately-engraved drawing of it has been published by Messrs. Taylor, of Holborn, to which the working drawings are attached. Wiebeking, a German engineer, has constructed some fine bridges of wood. One at Bamberg is 208 feet span.

A great change in modern bridge-building has been effected by the introduction of iron and the use of chain or suspension bridges. The principles of which, should be observed, were understood as early as 1615. See Scamozzi's Del Idea Archit. [CHAIN BRIDGE.] The most remarkable bridge of this kind is the Menai or Beaumaris bridge, near Connewton, which connects the island of Anglesea with the mainland opposite. A similar bridge has been constructed over the Thames at Hammersmith, near London. Very similar to this bridge is the Chinese chain-bridge on the high-way of Yunnan, in the province of Koubchow, the work of General Pan-ho. (Duhamel, vol. i. p. 60.) Suspension bridges have also been thrown over the Seine at Paris: the first that was erected there fell down almost immediately after its completion. Numerous bridges of this description have been made in Great Britain within the last 20 years, of which the late Mr. Telford constructed by far the larger part.

The merit of having first employed iron in bridge-building is attributed to the English, but it really belongs to the Chinese. (Duhamel, vol. i. p. 60.) The first iron bridge built in England was erected in 1779 at Coalbrook-dale over the Severn: it consists of one arch upwards of 100 ft. wide, composed of five ribs, each rib formed of three concentric areas, connected together by radiating pieces. The interior arc forms a complete semicircle, but the other areas extend only to the sides under the roadway. These areas pass through an upright frame of iron at each end, which serves as a guide, and the small space in the haunches, between the frame and the outer arc, is filled with a ring about 7 ft. in diameter. On the top of the ribs cast-iron plates are laid to sustain the roadway. The interior ring is cast in two pieces, each piece about 70 ft. long, and the total weight of metal used is 376½ tons. (Nicholson's Dict.) Since 1779 many iron bridges have been constructed in Great Britain, and some few on the continent. The largest iron bridge yet made is that of three arches, from the Southwalk side of the Thames to Queen-street in the city of London. Mr. Telford proposed to erect an iron bridge of one arch only over the Thames at this place.

Bishop Wearmouth bridge, which is also of iron, was erected between 1793 and 1796. It consists of a single arch 240 ft. span. The bridge over the Severn, at Bewdley, built by Mr. Telford, is a single arch 130 ft. span and 27 ft. in height from the springing to the intrados. Vauxhall bridge over the Thames at London, is one of the lightest constructions in iron with which we are acquainted. Smaller bridges of iron are now common enough over narrow streams, and over the entrances of docks: they are sometimes of one leaf or part, and sometimes consist of two leaves. Those made of one leaf turn on a centre, or a series of balls or
rollers: those which consist of two parts turn on a number of concentric rollers, which move between two circular cast-iron rings very nicely turned; each leaf or part has a flap, which lets down by a screw, and shuts upon the stone-work on either side, forming the whole bridge, when shut, into an arch capable of bearing any weight which can possibly pass over it. (Nicholson's Dict.) A bridge of this kind at the London Docks, which weighs 83 tons, is opened and shut again in three minutes. The most recent bridge, and the largest yet constructed of this kind, is the bridge at Lowestoft in Norfolk, over the new cut which connects Lake Lothing with the sea.

The following are the dimensions of several of the principal bridges of Europe as near as we can ascertain them.

**Length and number of arches of a few of the principal Bridges of Europe and America.**

<table>
<thead>
<tr>
<th>Bridge</th>
<th>Length (Feet)</th>
<th>Arches</th>
</tr>
</thead>
<tbody>
<tr>
<td>London bridge</td>
<td>900</td>
<td>5</td>
</tr>
<tr>
<td>Southwark</td>
<td>830</td>
<td>5</td>
</tr>
<tr>
<td>Blackfriars</td>
<td>995</td>
<td>5</td>
</tr>
<tr>
<td>Waterloo</td>
<td>1326</td>
<td>9</td>
</tr>
<tr>
<td>Westminster</td>
<td>730</td>
<td>10</td>
</tr>
<tr>
<td>Vauxhall</td>
<td>806</td>
<td>9</td>
</tr>
<tr>
<td>Menai, the span of the centre arch</td>
<td>560</td>
<td>3</td>
</tr>
<tr>
<td>Suspension bridge over the Severn at Bridgewater</td>
<td>130</td>
<td>1</td>
</tr>
<tr>
<td>Sunderland iron bridge</td>
<td>236</td>
<td>1</td>
</tr>
<tr>
<td>Coalbrook Dale iron bridge</td>
<td>100, 6</td>
<td></td>
</tr>
<tr>
<td>Burton-on-Trent</td>
<td>1545</td>
<td>35</td>
</tr>
<tr>
<td>Bridge over the Liffey, Dublin</td>
<td>106</td>
<td>1</td>
</tr>
<tr>
<td>Elbe bridge, Dresden</td>
<td>1450</td>
<td>16</td>
</tr>
<tr>
<td>Schaffhausen, on the Rhine</td>
<td>390</td>
<td>5</td>
</tr>
<tr>
<td>Pont Neuf, Paris</td>
<td>1019</td>
<td>12</td>
</tr>
<tr>
<td>Pont de Neufily</td>
<td>724</td>
<td>5</td>
</tr>
<tr>
<td>Kamenskoye over the Moskva at Moscow</td>
<td>340</td>
<td>6</td>
</tr>
<tr>
<td>Bridge at Lyons, over the Rhone</td>
<td>1700</td>
<td>19</td>
</tr>
<tr>
<td>New bridge at Tarin</td>
<td>595</td>
<td>5</td>
</tr>
<tr>
<td>The Rialto, Venice</td>
<td>nearly 100</td>
<td>1</td>
</tr>
<tr>
<td>Bridge over the Garonne, at Bordeaux</td>
<td>1533</td>
<td>17</td>
</tr>
<tr>
<td>Paris</td>
<td>1300</td>
<td>1</td>
</tr>
<tr>
<td>Pont d'Austerlitz, at Paris</td>
<td>106</td>
<td>1</td>
</tr>
<tr>
<td>Ponte della Trinità</td>
<td>160 paces</td>
<td>450</td>
</tr>
<tr>
<td>Pons Senatorius, now Ponte Rotto, at Rome</td>
<td>395</td>
<td>5</td>
</tr>
<tr>
<td>The Schuykill, called Colossus</td>
<td>340</td>
<td>1</td>
</tr>
<tr>
<td>The Trenton, over the Delaware</td>
<td>716</td>
<td>5</td>
</tr>
</tbody>
</table>

Alberti is perhaps the earliest writer on bridges, and he has been followed in a great measure by Palladio, Serlio, and Vignola. The most correct and copious information on bridges the reader may consult Mr. Gautier's work, Belidor's Architecture Hydraulique, and Perronet; also Bosset and Rion on bridge-building. Mr. Telford's work on bridges, which it is understood will be shortly published, is expected to contain much valuable information, and Lord Brougham, Mr. Design, Asa, Semple, Emerson, and Dr. Hutton, have also written on bridges.

**BRIDGE HEAD, or Tête de Pont,** is a fortification covering that extremity of a bridge which is nearest to the position occupied by the enemy, in order, by securing the line of communication, to facilitate the advance of an army or protect its retreat.

When a bridge is built across a riv, which runs through or along one side of a fortified town, the ramparts of the town are taken as the foundation for the construction of any buildings beyond the riv, in the other, may be considered as constituting the bridge-head; and then the works enter into the class of permanent fortifications. In other circumstances their form depends upon the nature of the ground, and upon the importance of the pass to be protected. If a retreating army is likely to be exposed to a serious attack, when about to cross a riv, the works must be strong enough to keep the enemy in check, and sufficiently extensive to contain the whole army, till the passage can be effectually secured.

The simplest kind of bridge-head is one which has the form of a redan; that is, a breast-work, with two branches disposed on the plan like the sides of the letter A, and terminating on the bank of the riv. But when a more perfect defence is required, the bridge-head may have the figure of a horn-work, or of a fort with bastions; the area to be occupied by the defenders being inclosed, except at the gorge or riv, by the rampart or breast-work. When however the bridge-head is to be sufficiently capacious to serve as an intrenchment for the whole of an army, it may consist of a series of redoubts flanking each other reciprocally, and defended by lines of advanced works on the riv.; and whatever be the nature of the work, when its capacity is considerable, it is recommended to have a redan or small fort immediately covering the bridge, with its faces so disposed that the fire from thence may defend and dismount the assailants. This small fort will also serve as a retrenchment in which, after the main body of the army has passed over the riv., a small division may be stationed to protect the retreat of the troops employed in defending the principal works. The passages by which an army or detachment, in retreating, may escape the bridge-head consisting of a continuous parapet, should be situated in the re-entering angles of the work, if such there be, where they may be well flanked by crossing fires from the collateral faces: and they should be defended by a direct fire from traverses in the interior.

To prevent the enemy from advancing towards a bridge along the bank on which the works are situated, that bank both on the right and left of the bridge should be well defended by a fire of musketry or artillery; consequently the parapets adjacent to the riv. should be as nearly as possible perpendicular to its direction. And it is evident that the most favourable situation for a military bridge is at a bend of the riv., where the concavity is towards the enemy's position; for the fortifications will thus conceal the bridge from his view; and on either side of the work the batteries are placed to defend the adjoining banks, the fire from which, when attacked; a traverse also should be raised on the same side of the riv. perpendicularly to the length of the bridge, in order to enfilade the latter in the event of the enemy attempting to force a passage over it before it can be destroyed.

When there are islands in the river it is advisable to establish the bridges so that they may connect the islands with the opposite banks, for thus the bridges, being shorter than if they were to extend quite across the river, may be better and more cheaply defended. When numerous information on bridges the reader may consult Mr. Gautier's work, Belidor's Architecture Hydraulique, and Perronet; also Bosset and Rion on bridge-building. Mr. Telford's work on bridges, which it is understood will be shortly published, is expected to contain much valuable information, and Lord Brougham, Mr. Design, Asa, Semple, Emerson, and Dr. Hutton, have also written on bridges.

**BRIDGE, MILITARY.** [PonToon.]

BRIDGNORTH, a bor. and m. t. in the S.E. part of Shropshire, 19 m. N.N.E. from Shrewsbury, and 139 N.W. from London. The town lies on both sides of the Severn, which are connected by a bridge; but the larger portion is on the W. bank, built on a hill which rises 69 yards from the bed of the river. The bor. and town were co-equal, consisting of the parishes of Ludlow, Leon and St. Mary Magdalen, but certain liberties were also under the jurisdiction of the bor. magistrates. The parliamentary bor. was extended by the Reform Bill, and now includes the parishes of Quatford, Olney, Tasey, and Army-Abbey. In 1831 the return was 6171, that of the old bor. 5998. Bridgnorth, anciently Bruges, is stated to be of Saxon origin. The first known charter is one of the 16th John, confirmed by subsequent grants, by which special privileges are secured to the inhabitants. By the Municipal Reform Act the town council consists of 4 aldermen and 12 councilors, but the town is not divided into wards. The bor. returns two members. In the par. of St. Leonard there...
are four daily schools, one of which is an endowed grammar-school, and two boarding-schools; in St. Mary Magdalen's there are four daily schools and three Sunday schools; and there is a daily school in Quatford parish. The appointment of the two schools with the two boarding-schools will produce a source of profit to the inhabitants. The market day is Saturday. There are four annual fairs, on the Thursday before Shrove Tuesday, 20th June, August 2nd, October 29th (which latter lasts three days), for cattle, sheep, butter, cheese, bacon, etc.

The prosperity of Bridgnorth renders it airy and healthful. Charles I. is said to have considered it the most pleasant place in his dominions. The prospect from the top of the hill is delightful. There is a curious walk made from the high part of the town to the bridge, being bawn to the depth of 20 ft. through the rock; the descent is great, but it is made easy by steps and rails. Until 1797 the corporation maintained the bridge out of the proceeds of certain estates and tolls. In that year, the bridge having fallen into decay, an act was obtained by which commissioners were appointed who, with a jury, were to repair the bridge at the cost of the trust. A new groyl was built in 1833. In Leland's time, the castle, on the S. side of the town, was of considerable extent; but when Grose visited the place, there was nothing left but what seemed part of a tower, which by undoubted evidence is said to be the base of the perpendicular. It is uncertain when or by whom the castle was built.

In 1102 Robert or Roger de Belesme, Earl of Shrewsbury, strengthened Bridgnorth and defended it against Eustace, Earl of Boulogne; and in 1311, when his life is stated to have been saved by a knight, who stepped forward and received in his own person an arrow aimed at the king. The inholders sided with Charles I. during the civil war; and Bridgnorth endured a siege of nearly a month without being surrendered.

The inholders of Bridgnorth are very little connected with it. They are separated from the town by a tract of hilly and thinly-peopled country, and their chief market is Wolverhampton. (Beauties of England and Wales: Boundary Reports; Municipal Corporation Report; Education Returns.)

BRIDGTEOWN. [Barbodors.]

BRIDGWATER, a port, bor., and m. t., situate on the banks of the riv. Parret. Parret, in the bund of N. Petherton, and on the estuary of the Bridgewater at Bridgwater West Wells, and 125 W. by S. from London, and in 51° 7' N. lat. and 2° 59' W. long. The limits of the bor. are co-extensive with those of the par., the area of which is 3580 English statute acres.

Bridgwater, in ancient charters called Brugia, or Brugis. Bradg-Walter and Burgh-Walter, derives its name from Walscine or Walter de Douay, on whom it was conferred by William I. Prior to this it belonged to a Saxon Thane, named Merlesin, as appears from Domestacy Book, in which it is thus surveyed: 'Walscine holds Brugis, Merlesin in the time of King Edward, and gaded for five hides. The amble is ten carucates, in demesne are three carucates and five servants, thirteen villanage, nine bordars and five cottagers, with eight ploughs. There is a mill of 50 acres, and ten acres of meadow and 100 acres of pasture. When he held it, it was worth one hundred and seventy pounds.'

William de Briwere, to whom the manor had been granted by Henry II., built a castle at Bridgewater of considerable strength, and through his interest with King John obtained the town a market and a fair. This William de Briwere also founded the hospital of St. John, for the benefit of the souls of Kings Henry II., Richard I., and King John, consisting of a master, brethren, and thirteen poor persons of the orders of St. Augustine. This hospital house, which was confirmed by Bishop of Bath, in the year 1219. Leland, who visited it in 1538, describes it thus : 'In the Est part of the Town is only the House, late College of St. John, thing notable, and this house standeth partly without th'est gate. This college had prettes that had the apparel of secular priests, with a cross on their breste, and to this house adjoined an Hospices for poor folks.' It appears from the Harleian MSS. in the British Museum, that William Lord de la Zouch and Seymore, and Richard Duke of York and Earl of Ulster, and Lord of Wigmore and Clare, were patrons in 1457. Its revenues at the time of the dissolution of the monasteries amounted to 1201. 19s. 10d. In the W. part of the town there was a priory of Minorits or grey friars, dedicated to St. Francis, founded by a son of William de Briwere, the site of which was given to one Emmanuel Lukar by Henry VIII. The palace, which was a stately building, was at one time an hospital for lepers. The founder of St. John's hospital also commenced a stone bridge with three arches across the riv. Parret, but it was only completed in the reign of Edward I., by Sir Thomas Trivet, whose arms being a trivet, says William of Worcest. "were alluded to the coping of the structure."

Bridgwater is the birthplace of the earls of Bridgewater by the barons during their revolt against King Henry III. In the civil wars it stood out a long time for the king. The castle was strongly fortified, having forty large guns mounted on the walls, and a most of great depth and 30 ft. wide, which every tide filled with water. Colonel Wyndham, the governour, defended it a long time against the rebels; but at last, on the 22d of July, 1645, he was compelled to surrender. Upwards of 1000 prisoners, 44 barrels of powder, 1360 arms, 44 pieces of ordnance, and a great quantity of ammunition, was made in the castle. The powder was sent to the castle for safety (it having been declared impregnable), were taken by the besiegers, amongst whom the booty was divided. The castle was completely dismantled, and the only remains of it are the sally-port and some small detached buildings of the fortification.

The inhabitants of Bridgewater supported the claims to the throne of the Duke of Monmouth, a natural son of Charles II., and he was proclaimed king by the mayor and corporation.

The electoral franchise was conferred on Bridgewater by Edward I., in the 32nd year of his reign, since which time it has returned two members to parliament. Its first charter was granted by King John, on the 26th of June, 1200, and twelve other charters were granted to it between that time and 1853. The borough, from the first, has been in the county court of the hundred of Brook, in the jurisdiction of which extends to all personal actions and to any amount. The court sits from Monday to Monday; but as the expenses are very heavy, very little business is done. There are also petty sessions every Monday. The July county sessions are held here, and the summer assizes alternately with Wells.

The town is pleasantly situated, about 9 m. from the sea, in a level but well-wooded country; to the N.E. are the Polden and Mendip Hills, and on the W. the Quantock Hills. The town is situated on a large and deep estuary, and a stone bridge, divided the town into two parts. The W. part is the more recently inhabited; the streets are well lighted with gas and paved, and the houses are generally good; some are built of brick, and others of a good, durable stone; the most of the houses are found in the ruined part of the town, called Eastoverer, is little more than a suburb, and is meanly built. The town hall is a good building, and well adapted for business; over it is a cistern with an engine by which the inhabitants are supplied with water. The grammar-school is very convenient, and has separate divisions for the male and female prisoners.

The interior of the parish church dedicated to St. Mary is handsome, consisting of a nave, chancel, and two side aisles. The outward part of the structure is mean and ill-built; there is no tower, and the very plain receding interior is surmounted by an unproportioned spire. The altar-piece, which is much admired, was presented by the Honourable A. Poulett, many years member for the bor. It represents the descent from the cross, and was found on board a captured French privater. The painter of it is uncertain. The living is a vicarage, united with the rec. of Chilton Trinity, in the archdeaconry of Taunton and diocese of Bath and Wells.

The crown is the patron of the living, the net income of which is 342s. 2d.

The riv. Parret is navigable as far as Bridgewater for vessels of 200 tons; but it is subject, like some other rivs. in the Bristol channel, to a rise of nearly six fathoms at spring tides. The flow of the tide is preceded by a head water commonly termed the ' bore,' (Bore) which often produces much inconvenience to the shipping. The principal imports to Bridgewater are coal, lime, hemp, tallow, and timber. Coals are imported from Wales, and conveyed into the in-
terior of the country by means of the riv. Parret and a can. The former is navigable as far as Langport; the canal runs to Taunton, and thence to Devonshire. The foreign trade is principally with the U.S., Canada, Newfoundland, and the W. I. The number of vessels belonging to the port (as stated in the census of 1821) was 204, with a tonnage of 26,500 (an average burden of sixty tons). Many of the inb. are occupied in the fabrication of a peculiar sort of white brick, which is made of all sizes, and the common brown. The great market-day for provisions, and especially for cheeses, for which the neighbourhood is celebrated, is on Thursday. There are also smaller markets on Tuesday and Saturday. The market-house is a fine building, surmounted by a dome and a lantern. Fairs are held here on the first Monday in Lent, the 24th of July, the 2nd of October, and the 27th of December. The second of these, called the Fair of Matthew's Fair, was heretofore the mart of Somersetshire and the adjoining counties, and is still of considerable importance.

The pop. of Bridgewater in 1831 was 7807, of which 4124 were females.

There are places of worship for Baptists, Quakers, Independents, Wesleyan Methodists, and Unitarians. The free grammar-school was founded in 1561, and endowed by Queen Elizabeth with £6 13s. 4d. per annum, charged on the brickworks, to which £200 was afterwards added. It is under the control of the corporation, who appoint the master, and under the immediate inspection of the bishop of the diocese: four boys are taught gratis in the classics and four in English. In 1723 Mr. Joule re-built the old school house, and erected in its place a new school house (Booth's system), and endowed it with lands to a considerable amount. The management of the school is vested in the hands of trustees, amongst whom are the archdeacon of Taunton and the vicar of Bridgewater: in 1816 a spacious school house, and a house for the master were erected. The present number of scholars is about thirty, some of whom are clothed. A school was also founded by Mr. Edward Tackerell, and endowed by him with the dividends of 3000l. in the funds, and the rents of certain messuages, amounting to £102 5s. 6d. yearly, for the educating and apprenticing the children and grandchildren of certain of his relatives. The management of this school, which was the subject of a Chancery suit, is now in the hands of trustees, whose accounts are annually audited by a master in chancery. Several sums appear from the 'Reports on Charities' to have been left by will for the instruction of poor children: 52l. by Richard Holworthy; 41l. 10s. by Dorothy Holworthy; Richard Castleman left 2614l, and James Stafford 40l.,—all for the like purpose. Some almshouses in the town, inhabited by indigent persons, are now in the possession of the parish and the town which have been erected and endowed by persons of good will. The object of the parish is to provide some furniture and to maintain a master; the fund for the educational purposes is 100l.

Bridgewater was the birth-place of Admiral Blake, and he was educated at the free grammar-school there.

In the neighbourhood of Bridgewater is the Isle of Athelney. [ATHELNEY.]

8 'Reports on Charities: Correspondence from Bridgewater; Leland; Harl. MSS.; Corporation, Ecclesiastical, and Charity Reports, &c. &c.'

BRIDGEBRIDGE, FRANCIS EGERTON, DUKE OF, born in 1736, was the youngest son of Sercoop, fourth Earl and first Duke of Bridgewater, by Lady Rachel Rus- sel, daughter of Wriothesley, second Duke of Bedford. He succeeded his brother, the second duke, in 1748. He was the heir of the Lord Chancellor Ellesmere in the sixth degree of descent. In his youth he was extremely thin and delicate. He recovered from a predilection to pulmonary consumption; the doubts and anxieties which resulted from his education were early abandoned. He never got the better of this early tendency, which proved very fatal to his body, but became a very strong man and extremely corpulent. As his health took him entirely out of society, he contracted habits of extreme shyness, which made him avoid company, especially that of ladies. But though the defects of his early education and the singularity of his character were not unfrequently exhibited, his mind was naturally of a most powerful and determined character, bordering perhaps occasionally on obstinacy; indeed it was owing to this quality, and his extraordinary enterprise, sagacity, and pru- dence, that he laid the foundation of that situation in the world which he derived from the accident of birth. One of the estates which he inherited, situated at Worsley, near Manchester, contained a rich bed of coal, but it was comparatively of little value, in consequence of the heavy expense of land carriage and the inadequate means of communi- cation afforded by the Irwell, which, though rendered navigable, was a tedious and imperfect medium for carrying on an extensive traffic. In delivering on the best means of supplying Manchester with coal from his pits at Worsley, the Duke, in consultation with his attorney, called Sir Matthew's Fair, was heretofore the mart of Somersetshire and the adjoining counties, and is still of considerable importance.

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In the neighbourhood of Bridgewater is the Isle of Athelney.
of the canal is at first N.W. and afterwards due W. until it enters the tideway of the Mersey at Runcorn by the bridge built in 1823-8 over the Trent and Mersey Canal. It crosses the River Runcorn at the lock at Newton-le-Willock, every part of the canal was executed, under the direction of Mr. Peacock, in about five years. The aqueduct at Barton was opened July 17th, 1761, and soon afterwards the whole line. It cannot be computed what the total expense incurred by the Duke of Bridgewater in completing this great undertaking amounted to. The duke's canal however has done as much to promote the public prosperity as to increase the wealth of the noble projector's heirs. Before its construction costs were returned to the poor at Manchester at 7d. per hundredweight and in the town of Manchester at 3d. per hundredweight. These duties were given to the estate. The carriage by water from Manchester to Liverpool was 12s. per ton; by land it was as high as 40s.; on the duke's canal the charge was 6s. per ton. The wealth which he was the means of creating was thus diffused among every class of his countrymen. When the line of his canal had been tripled in length, the duke never demanded larger tolls, but contented himself with the profits which the increase of traffic fairly brought him. The Duke was also one of the most zealous promoters of the Great Western Railway, and had the Marquis of Stafford, being at his head, they mutually aided each other. In the construction of his great work he had exhausted his credit to the utmost; he could not raise 5000l. on his bill in the city of London, and his agent, Mr. Gilbert, had recourse to the sale of the estates of the Marquis of Stafford, Lancashire, from door to door, to raise sums, from 10l. and upwards, to enable him to pay the Saturday night's demand. At the same time the Duke restricted himself to the simplest fare, and lived with scarcely a servant to attend upon him. But the great achievements of railway in one, with the increase, was then unencumbered, but no persuasion would induce him to resort to the easy method of relieving himself from difficulties by borrowing money upon them. When in London he would not undertake the trouble of going into society; he made an allowance of 2000l. to a friend of his, (Mr. Carvill,) whom he dined, when not otherwise engaged, and to whose table he had the privilege of inviting his intimate friends.

The Duke of Bridgewater never took an active part in politics; but he was a decided friend to the Pitt Administ- ration, and a strong supporter of the Loyalty Act. He died March 8th, 1803, and never having been married, his great wealth was distributed among the collateral branches of his family. The canal property, with the Lan-cashire, Cheshire, Yorks., and Derbyshire estates, he left to his nephew, the late Duke of Sutherland. The large sum of 10,000l. a year to the son of Lord Francis Egerton, who had just (Feb. 1836) intimated to the authorities of Manchester his desire to erect a public monument in that town to the memory of the Duke of Bridgewater.

(Phillips’s History of Inland Navigation; Priestley’s Historical Account of the Navigable Rivers and Canals, &c. of Great Britain.)

BRIDGLINGTON, formerly written B RELington, but now commonly pronounced Burlington, is a port and market town, the county town of the large and ancient city of York, noted for the discovery of the source of the River Ouse, and for the many ancient buildings which are still extant. The town is situated on the west bank of the Ouse, near the confluence of that river with the Wharfe, and is about 24 miles N.E. from York, and 26 miles N. from Hull. The county town of the ancient and extensive county of York, is a city of considerable importance, and is the chief market town of the eastern part of the county. The town issituated on the west bank of the Ouse, near the confluence of that river with the Wharfe, and is about 24 miles N.E. from York, and 26 miles N. from Hull. The county town of the ancient and extensive county of York, is a city of considerable importance, and is the chief market town of the eastern part of the county.

No. 324. THE PENNY CYCLOPEDIA.]
monks of Bridlington are often mentioned in early histories; and several of them were eminent for piety and learning. Mr. Whitaker, the historian of Craven, speaks of 'the religious' as attendants at the great annual fairs held in different parts of the country. He says, 'the canons of Bridlington repose in the church at Botany, and in their burials at 1290 and 1325. In the computus of the priory at Bridlington, a yearly account of wine, cloth, grocers, &c., bought a spud sanctum Botolphum. The last prior, William de Wode, was installed in 1351; having taken an active part in the dissensions between the Barons and the King, he was attainted of high treason and executed at Tyburn, A.D. 1357. William de Newburgh was a native of Bridlington, though a canon of Newburgh. His Historical Chronicle commences with the Norman conquest, and is now a perpetual calendar of 1454. per annum.

The monastery existed for centuries; when it was dissolved its revenues amounted to 500l. per annum, an immense income at that day. In 1539 it was demolished, and the manor and rectory became the property of the king, by whom they were granted on lease to various individuals, eight pounds a year being assigned to be paid by the lesse for the maintenance of a parish priest. In the time of Charles I. the manor and rectory were separated and sold to different persons; the latter passed through several hands, and is now a perpetual calendar of 1454. per annum.

History.—In 1643, during the differences between Charles and his parliament, Bridlington became the scene of temporary hostilities. The queen, who was bringing a supply of arms and ammunition from Hellevoetsluis, under the command of Admiral Batten, was narrowly escaped the squadron under the command of Admiral Batten, who had been stationed to intercept her. After her landing, Batten entered the bay with two of his ships, and for some hours the town was subjected to his cannonade. This foundation was saved for the tide would have left him in shoal water. A lively sketch of this transaction, from the pen of the queen, is given in Thompson's Historical Sketches of Bridlington, which is taken from the Gentleman's Magazine for August, 1744. A committee visited the town in celebration of this event. Bridlington on the 20th September, 1779, soon after his descent upon Whitehaven. On the following night by moonlight an action commenced, so near to Flamborough Head, which was crowded with spectators, that some of the balls grazed the cliffs. The conflict was between the four ships of Jones and the convoy of the Baltic fleet, the Serapis and the Countess of Scarburgh. The action, which was very sanguinary, lasted several hours, when the two convoy vessels struck. Jones reached the Texel safely before night.

The Priory Church.—This venerable and splendid specimen of ecclesiastical architecture has been well judged worthy of a description and illustrations. A few general observations and extracts from Mr. Pickett's work may be necessary. This church was built of stone on a solid foundation of granite; the materials of the ancient part remain or of their former beauty. The nave and an arched gateway leading to it are the only parts now left of the once spacious monastery. The W. front has had two towers, of which the lower stories only remain. This front still retains a great degree of architectural magnificence, and is in the style of the beautiful collegiate church of Beverley. 'The date, 1106, preserved on a stone placed very conspicuously over the entrance, is supposed to mark the year of its foundation.' (Bigland's Yorkshire.) 'The grand western entrance is a splendid specimen of the archetypal spirit of Henry VII.'s time; excepting however the northern-western tower, which belongs to a much earlier period.' 'The style of the northern-western tower is early English, as is also the whole of the northern side of the church. 'The west window is 65 ft. in height from its base to the crown of the arch, and 27 ft. in breadth. The head is filled with good pen-and-pencular tracery; the lower compartment below the transom is the only portion at present glazed, and is 15 ft. high. Along this there is a gallery connecting the two western towers. The fine arch which supports the arcades is 3 ft. 4 in. high. 'The window is 2 ft. wider than the part below the transom. 'The north porch is a truly splendid specimen of architecture, and perhaps better worth preservation than any other part of the fabric; but it has been sadly neglected, as the entrance is seldom used, and it has been supposed that the stone accumulates so much against the whole of the north side of the church that there is now a descent of several steps into the porch. 'The length of the present church is 185 ft., and the distance of the farthest pillar from the east wall of the church, whose foundation has been taken up, 152 ft.; so that the ancient church seems to have been nearly of the same length as Beverley minster, about 333 ft. 'The height of the distant tower with its leaden cupola, which was erected (for the reception of the bells) on the top of the basement of the south-west tower is as anomalous and disfiguring as can well be conceived.' About one-third of this church is fitted up for public worship, and will contain most of the inhabitants. (An Historical and Architectural Description of the Priory Church of Bridlington. By the Rev. Marry-Muir Pickett.)

The dissenting congregation in Bridlington are two of Wesleyan, one of Baptist, one of Independent, one of Quakers, and two of Primitive Methodists. A chapel called 'the Union' is used by persons of different denominations. The Wesleyan Methodists have two Sunday schools which contain 300 children; the Independents' Sunday school contains 80 children; and there are other Sunday schools of minor importance.

Education, Charities, Commerce, &c.—In the year 1636 William Hustler, an inhabitant of Bridlington, left a sum of 40l. to be paid annually out of his estates for the maintenance of a schoolmaster and usher. The children of the par., were to be taught grammar and other useful kinds of learning. For some time the office of schoolmaster was held by the minister or curate of the par., and that of usher by the parish-clerk. By a decree in chancery in 1819 the present plan was established. The present master is the office of master had become a sinecure in consequence of the non-residence of the minister. The present master is also the parish-clerk: he instructs 20 boys, children of poor parishioners, in grammar, reading, writing, and arithmetic, and the girl of the parish 8 others, who takes paying pupils. Another school was founded by William Bower in 1781, with 20l. per annum for ever for maintaining and educating the poor children of Bridlington and Key in the art of carding, knitting, and spinning of wool. Twelve children of poor parents receive education in this school. By will dated April, 1696, left the rent of certain lands for charitable purposes: these lands at present let for 170l. per annum. (Thompson's Historical Sketches.) In 1734 Timothy Wolfe bequeathed by will the sum of 500l. to purchase land, the rent of which is to be distributed among the poor for ever; and in 1795 Isaac Wall bequeathed the interest of 1000l. 3 per cent. consols to be distributed amongst the poor for ever. (Pickett's Description, Appendix.) The national school was commenced in 1818. In the year 1822 the sum of 2l. 12s. 6d. had been raised by voluntary contributions in the inl. raised a sufficient sum for the erection of two school-rooms, one for boys and one for girls, each capable of containing 200 children. The schools were opened in 1826, and nearly 300 children are educated in them. An infants' school had been opened in 1829. The object of the establishment is the advancement of education in the village of an occasional resident, which is well managed and contains 100 young children. In addition to these schools there are about 20 others, including day and boarding schools. There are two public subscription libraries and a small museum. The market extends across the priory gateway; the lower rooms of the gateway are used as a prison; the corn-exchange is in the market-place. The town was first lighted with gas in the year 1833.

The streets are narrow and irregularly built, and the windows are supported on pillars and columns, with a considerable variety of style. The streets are generally built chiefly in corn, and was formerly very extensive: large quantities were brought hither from the great agricultural tract bordering the Wolds and from Holderness, and it was conveyed from this port coastways to London. The opening of the navigable can. from Driffield, has considerably increased the corn-trade of Bridlington to decline. It is one of the places which has an inspector of corn-returns, and weekly accounts of the quantity and price of grain sold are transmitted to the general inspector in London. Malt and ale were formerly the staple trade; in 1706 there were 60 malt-kilns in constant use: this trade has very greatly declined. Soap-boiling and bone-grinding for the purpose of manure [Boxs] are now carried on, and the manufacture of hats employs a few persons. These occupations, in the retail business of the town, are confined to the agricultural district, and the influx of summer visitors, are the chief means which contribute to the support of the inl.
The import is chiefly coals from Sunderland and Newcastle, timber from America and the Baltic, and general merchandise from London and Hull: the port is a member of the port of Hull. Two fairs are held annually in a large open area between the priory gate, called also the Baye Gate, and the tide walls, called the ancient market-place. On the S. verge stands the par. poor-house, a large old building, said to be 'unhappily crowded with inmates.' At a short distance are two circular mounds of earth 184 yards across, called 'the old hearths,' where the practice of archery before the introduction of fire-arms. (Historical Sketches.)

Bridlington Quay is a small modern town in the recesses of the bay on the sea-coast, the principal street of which runs directly to the har. and is very wide. The N. pier and breakwaters were commenced at 26th Aug., 1811, in the absence of the Earl of Scarbrough, afterwards chancellor of the exchequer, the Earl of St. Andrews, Sir John Newenham, and the Secretary of State for War. (ibid.)

Bridlington has a good anchorage in this bay, particularly when the wind is unfavourable for coasting-vessels proceeding round Flamborough Head N. The amusements of Quay during the bathing season are chiefly those of riding and sailing. The beach has a fine hard sand, which affords a good walk at low water. There are warm and cold seawater baths for invalids and rooms which possess all the requisite accommodations. At a short distance there is a chalybeate spring of reputed efficacy, resembling the waters of Flaxfield in Surrey. The town is supplied with fresh water by a dyke from the fresh-water bayed back, and at the ebb of the tide discharged with rapidity, in order to scour the sand. Until 1822, the corporation were the exclusive trustees of the harbour; but in that year a new act was obtained for its improvement, by which, besides the buildings and barges, many individuals were made commissioners for the execution of the act. This act fixed a maximum of tonnage dues on vessels, and of dues to be received on exports and imports. A sum of 17,800l. was borrowed, and together with a sum of 1000l. paid in 1817, it has been applied to the expenses of the dock, which has thereby been rendered safe and commodious for shipping not exceeding 250 tons burthen. The trade of the port is rapidly increasing. In 1844, the number of vessels which entered was 128, their tonnage 9926, the harbour dues 496l. In 1853, the number of vessels was 143.

Inwards. Outwards.


Foreign trading vessels. 27 2,404 | 15 422
Coasting trading vessels. 233 21,042 | 117 11,524

Bridport was made a bonding port in 1832. The total amount of harbour duties in 1833 was 5224l.

The staple productions of the town are twine, lines, and fishing-nets. Of late years the manufacture of sail-canvas and shoe-thread has become extensive. The exports consist mainly of woollen goods, which are carried to various parts, of which the county of Dorset is celebrated; and the imports of hemp, flax, deals from the Baltic, wines, spirits, skins, coals, culm, and slates. The town is also celebrated for the skill of its ship-builders.

The pop. of the bor. and par. of Bridport, which were formerly co-extensive, has considerably increased since the beginning of the present century. The pop. of the new bor. created by the Reform Bill, which is more extended than the old one, cannot be ascertained with certainty, but is probably about 7900. The borough returns two members to Parliament.

The old mail road from London to Exeter passes through Bridport, and forms the main street. The principal streets are spacious, and tolerably wide. The church of St. Mary's, near the lower end of South-street, is a neat square building, in the form of a cross. There are four dissenting chapels. There were several religious foundations and chantries, few relics of which now appear. In the bor. and par. there are sixteen daily schs., one of which contains eighty-two children, and is supported by an endowment. There are four Sunday schools, all supported by voluntary contribution. Within the last two years a mechanics' institute has been established, and handsome and commodious rooms erected for its uses. (Hutchins's Dorset, corrected by Gough and Nichols; Boundary Reports; Municipal Corporations Report; Education Returns.)

Brie, a district in France, comprehended partly in Champagny and partly in the île de France, is bounded from the banks of the Seine toward the N.; its dimensions were, greatest length N.E. and S.W. nearly 70 m.; greatest breadth measured nearly at right angles to the length about 65 m. (Atlas to Encyclop. Method.) It was divided on the N. by the île de France (proper), Valois, and Soissonois, on the E. and part of the S. by G. and Brie, proper, on the remainder of the S. by Senone, and on the W. by Harpoix; from which it was divided by the Seine. The chief towns within its limits (with their pop. in 1832) were as follows:—
very early periods of the history of the church, were given as creditable to mendicant friars, who collected money from country to country, and from town to town, for the building of churches of advowson. Such pious uses of the pope's example, and as soon as the authority of the pope ceased in England, these briefs began to be issued in the king's name. They appear to have been always subject to great abuse; and the statutes of Anne, c. 14, after reciting that 'many inconveniences arose and frauds were committed,' enacted the following: 'any person collecting charity money upon briefs, enacted a variety of provisions for their future regulation, and, among others, prohibited, by heavy penalties, the practice, which had previously prevailed, of farming briefs, or selling, upon a kind of speculation, the amount of charity money to be collected. Still these provisions were evaded, and heavy abuses arose; and the collection by briefs in modern times was found to be most inconvenient and expensive mode of raising money for charitable purposes. According to the opinion given in 'Brock's Ecclesiastical Law,' tit. Brief, the charges of collecting 614. 12s. 3d., for repairing a church in Westminster, amounted to 330l. 16s. 6d., leaving therefore only a clear collection of 283l. 16s. 3d. This expensive and objectionable machinery (in the exercise of which the interests of the charity are promoted) were almost overwhelmed in the payment of fees to patent officers, undertakers of briefs and clerks of the briefs, charges of the king's printers, and other contingent expenses) was abolished by the stat. 9 Geo. IV. c. 4. This is, indeed, in many ways to the advantage of the church, building, rebuilding, or repairing, of churches and chapels in England and Wales, all contributions so collected shall be paid over to the treasurer of the Incorporated Society for promoting the enlargement, building, and repairing of churches and chapels, and shall be available for the purchase or building of churches and chapels, and for the aid of the society in executing its objects, to the nature of the case in which the briefs were granted, and the signs of the society to effect.' This statute does not interfere with the authority of the crown as to granting briefs; its only effect is to abolish the machinery introduced by the statute of Anne. Under the provisions of the 'Briefs of Erection,' 3 Will. IV. c. 22, a brief was granted and collected, in the year 1834, in aid of the funds of the church building society: and, under the common law authority of the crown, a brief was issued, in 1835, to increase the funds of the 'Society for the propagation of the Gospel in foreign parts, with a view to the conversion of pagan races and the emancipation of Negroes in the West Indies. The brief in the latter case recites that similar letters had been at various times granted, in aid of the Society's funds, by previous kings.

BRIEF, commonly called CHURCH BRIEF or KIRKBRIEF. The instrument consisted of a kind of open letter in the king's name, and sealed with the privy seal, directed to the archbishops, bishops, clergymen, magistrates, churchwardens, and overseers of the poor throughout England. It recited that the crown thereby licensed the petitioners for the brief to collect money for the charitable purpose therein specified, and required the several persons to whom it was directed to assist in such collection. The origin of this custom is not altogether free from doubt; but as such documents appear to have been issued by the crown, previous to the Reformation, they may possibly be derived from the papal briefs, which, from
A storm crosses the Oder at this place. Briel is about 465 ft. above the level of the sea, and about 26 m. S.E. of Breslau.

BRIEL, or BRIELLE; sometimes also called the Brill; a sea-port town on the N. side of the isl. of Voorn in the province of Zeeland; is situated near the mouth of the Maas in 51° 54' N. lat. and 3° 22' E. long.

The confederates, having been driven from the Netherlands by the duke of Alba, equipped a fleet in England and entered the harbour of Briel, which surrendered to them, and thus became the eastern seat of the independence of the Dutch republic. Thus the independence of the Dutch republic was in 1585 this town was given up to Elizabeth, queen of England, as security for advances made by her to the States of Holland, and it continued garrisoned by English soldiers until 1616, when it was restored to the Dutch.

The town is well built and strongly fortified. The bar is commodious, and capable of containing 300 vessels. The inh. consisted, in Jan., 1630, of 2000 males and 2195 females; the men are principally occupied as fishermen and pilots.

Briel was the birth-place of the Admirals van Tilloop and De Witt. The town is 6 m. N. of Helvoetsluys, 12 m. W. of Rotterdam, and 24 m. W.N.W. from Dordrecht.

BRIENNE. [Bonaparte and Aube.]

BRIENNE, JOHN OF, third son of Erard II, Count of Brienne sur Aulnois, a small town in Champagne near Troyes, and of Agnes of Montbeliard, was married by the recommendation of Philippe Auguste, to Mary, daughter of Isabel, wife of Conrad, marquis of Montferrier. Isabel was youngest daughter of Amaury king of Jerusalem, an emigrant from France, who had spent a great part of his life in his Scottish inheritance. The early life of John of Brienne nothing is known, but he was named by the king of France as the most worthy champion whom he could offer for the defence of the Holy Land, "as good in arms, faithful in war, and prudent in counsel." On the 14th Feb. 1196, he was confirmed in all his privileges; it was raised to the rank of a royal free town in 1655. There are 18 adjacent villas. within its jurisdiction, which, with the t., contain about 820 houses and 6300 inhab., of whom Briess itself contains about 3500. There are extensive pastures in the vicinity. and the breeding of sheep and sale of wool are carried on to a great extent. This is also the case with the articles of honey and wax, the produce of which is occasionally much diminished by the havoc which the bears from the adjoining woods contributed to its destruction. The best honey is made from sheep's milk. In the neighbourhood are several iron-works and quarries; precious stones, particularly rubies, are found in the beds of the mountain-streams, as well as in the rivulets in the Vale of Michalof. The t. has a Catholic cathedral, founded in 1206, and a public school for elementary instruction, and two churches. 49° 49' N. lat. 10° 40' E. long.

BRIEUC (SAINT), or BRIEUX (SAINT), a city in France, capital of the dept. of Côtes-du-Nord. It is situated very near the coast of the Manche or Channel on the small bay of St. Brieu, and on the high road from Paris by Rennes to Brest; 278 m. W. from Paris; 48° 30' or 32° 54' N. lat., and 5° 45' W. long.

This city owes its origin to a monastery built in the fifth or sixth century by Irish monks, and raised in the ninth century to the rank of a bishopric. It is near the little river Gouet, over which is a handsome granite bridge, and in a bottom surrounded by hills sufficiently high to intercept the view of the sea, although so near. It is one of the oldest, and one of the most celebrated cities of Legueu-Saint-Briex, which forms the port of the town. Saint Briex is a neat town, tolerably well laid out and built, with streets sufficiently wide, and well-looking places or squares. It has a cathedral, a Gothic building of the thirteenth century, and before it was celebrated there for a collegiate church of St. Guillaume and several parish churches; two monasteries (Cordeliers and Capuchins) and several nunneries. The garden of the Cordeliers is now a public promenade. Of the present commerce of the town we have little worthy information. Among its manufactures may be enumerated linens, serges and other similar woollen stuffs, unbleached thread or yarn, leather, paper, earthenware, and beer. It is engaged also by means of the port of Legueu the French colonial trade, and in the Newfoundland cod fishery. The pop. in 1832 amounted to 10,420. The town does not appear to have been walled. St. Briex is remarkable for its literary establishments. Its public library contains 24,000 volumes, which has a collection of books for marine phrenology, and an agricultural society. A theatre and a fine hospital are among its establishments; and there are horse-races at the beginning of July every year. —(Malte Brun; Balti; Dictionnaire de Bretagne, by Ogé.)

Briex is the bishopric seat; it includes the dept. of the Côtes du Nord, which has a pop. of 598,872. The bishop is a suffragan of the archbishop of Tours.

The arrond. of St. Briec is the most populous in the dept. It had, in 1832, 171,730 inhabitants.
BRIG, BRIGANTINE. [Shrt.]

BRIGADE. This term is generally applied, in military affairs, to the union of two or more battalions or regiments in one corps; but sometimes to the union of a certain number of men or guns in one subdivision. Thus from two to six battalions of infantry constitute a brigade, and one of cavalry may consist of two or three regiments. The British rifle brigade is composed of two battalions. A brigade of Sappers consists of 8 men, and is divided into two demi-brigades of 4 men each, one demi-brigade only being employed in the execution of a trench by single spar. Six pieces of ordnance form a brigade of artillery; and the horse artillery consists of 12 troops, to each of which one such brigade of guns is attached. According to Pére Daniel, command- ers and subordinate officers of several regiments, and the title of brigadiers, were instituted, in France, by Louis XIV. In the British service the commander of each brigade is entitled brigadier-general: his rank is immediately above that of colonel; and, to assist him in the performance of his duties, there is a brigadier-major, with his own staff, or a subaltern, he holds in the brigade the rank of junior captain. An effective field-officer of a regiment is not eligible to this post.

To a heavy brigade of artillery there are attached about 140 men, and as many horses, and to a light brigade, 100 men and 90 horses. Six-pounder and nine-pounder guns are employed in the field, but the latter kind seems now to be preferred.

During peace the British army is dispersed over the country, and brigades occupying each district. The commanders of regiments make their reports to the brigadier-general; the latter transmits them to the general of the district, and through him they are communicated to the adjutant-general or to the commander-in-chief. The number of battalions which are united to form a brigade, but also the number of brigades which constitute a division, is various; both brigade and division depending upon the strength of the several regiments and upon the nature of the service. If many sufficient troops, the battle of Corunna, where the British army consisted of about 25,000 men under arms, the first line was formed of three divisions, the division constituting each wing consisted of three brigades, and the centre division of two; some were composed of one, and one of them of three. The infantry in the second line was, in like manner, unevenly divided; the centre consisted of two brigades of cavalry, one of three regiments, and the other of two; and there were eleven brigades of horse and eighteen of foot.

As the separation of an army into two or more principal divisions permits the greater changes of disposition in the line to be effected with a unity of design which is essential to their utility, so the secondary evolutions are accomplished with less confusion, and the division in battle is so much greater in the battalions. The head of the army, having communicated the general plan of the action to the officers who are immediately under him, reposes on them with confidence for the diligent execution of the orders he may transmit, and is thus relieved from the necessity of following with his own eyes the movements of each particular battalion; while those officers, having the power of distinguishing themselves, either by a faithful adherence to the orders they may receive, or by the exercise of their judgment in modifying such orders, or in varying circumstances, are thereby prompted to display all their energies in making the necessary dispositions, and subsequently in animating the troops who are to execute them.

BRIGANTES, a tribe of ancient Britons who occupied that part of England which includes the counties of York, Lancaster, Cumberland, Westmoreland, and Durham, with the exception of the S.E. corner of Yorkshire between the Humber and the sea as far as Flamborough Head, which was inhabited by the Parisii (Camden's Britannia). The Britons of this tribe distinguished themselves during the reign of Claudius, when, having partially risen against the Romans during the war between the latter and the Iceni, they were defeated by the Praetor M. Ostorius, when some of their leaders were killed and the rest submitted and obtained peace. (B.J. II. 32.)

BRIGANTIS, the Roman province in Britain, which the Britons revolted against their Queen Cartimandua, who was an ally of the Romans, and who had forsaken her husband Venutius for a lover. Cartimandua escaped with great difficulty and by the assistance of some Roman cohorts, and Venutius remained master of the country of the Brigantes, and at war with Rome (Tacit. Hist. iii. 45). Under Vespasian the Brigantes were totally defeated by the Praetor Petius on the banks of the river Ribble, near a place named in the Roman records, Ribchester (Pausan. viii. 43.), which was subject to the Romans, for which they were attacked and defeated by Lollius Urbicus, and part of their territory was taken from them. In the division of Britain made by Severus, the Brigantes were in the prov. civ. 1. (A.D. 197). The prov. of Cartimandua (York) was the capital, and afterwards in the new division under Constantine they were in the prov. called Maxima Cæsarissia.

We find in Tolemy a tribe of Brigantes in Southern Hibernia between the rivers Brigus (Barrow) and Daborus (Nore) and according to the speckled map of the modern counties of Waterford and Tipperary. They are supposed by some to have emigrated from Britain.

The Brigantes must not be confounded with the Brigantii, a tribe in Vindelicia near the borders of the lake of Constance, who, according to Pausanias, were a terrible robbers, whose name was the dread of the neighbouring countries, and who in their incursions into Italy used to commit the greatest cruelties, killing all the men and male children and even the pregnant women. Whether it is from a common tradition of the ancient Britons of Britain, or that the word itself meant in its original language marauders, or free hands, as some have interpreted it, the name appears to have been held ever after in disrepute, and we find it in the French middle ages using the word Brigants savages, and in modern times it has become synonymous with the English also used to say of a bold lawless fellow, he plays the Brigants. (Carmen.) In the wars of the French revolution and of Napoleon the appellation Brigands became common in the French, being applied to signify all those who resisted them without being regular soldiers, whom accordingly they did not consider as entitled to any of the courtesies of modern warfare.

BRIGGS (HENRY). Most of the accounts of him are taken from his own letters and an account of 'the Grasmother' he published, where we shall also follow as to dates and personal facts. Mr. Ward cites Dr. Smith, Vita Henrici Brigeti, and Wood's Athenae Oxonienses. Briggs was born at Wareleywood, near Halifax, probably about 1556. He was sent to St. John's College, Cambridge, in 1574 or 1575, where he graduated B.A. in 1575, B.A. in 1591. M.A. in 1585, fellow in 1588, and reader in natural philosophy, on Dr. Linacre's foundation, in 1592. In 1596, on the establishment of Gresham House, London, (not then called College,) he was chosen the first reader (not professor) in the French letter, and afterwards the first reader in the science of geometry at Oxford, Sir Henry Savile himself having preceded him in the delivery of thirteen lectures. Briggs began where Savile left off, namely at the ninth proposition of the first book of Euclid. He entered himself of Morton college, but continued to hold the Gresham readership till 1620, when he resigned it, and continued to hold the Savilian professorship till his death, which took place January 26, 1630. He was buried in the chapel of Morton college. It is customary to record of him that he once called astro- nomers 'a crew of nimble-bebis,' which is the only saying of his we can find preserved.

The history of Briggs is that of his connexion with the improvement and construction of logarithms. When Napier, in 1614, first published his invention of natural or hyperbolic logarithms, Briggs was so struck with the invention, that he resolved to pay the author a visit in Scotland. He writes in a letter to Archbishop Usher, dated March 10, 1615, 'Naper, Lord of Markinth, hath set his head and hands a work with his new and admirable logarithms. I hope to see him this summer, for he is a good man and a good book which pleased me better, and made me more wonder. He went into Scotland accordingly, both in 1616 and 1617, and stayed some time with Napier. It must be observed that the first logarithms of Napier are a table of the values of e to every value of 0 for all the civil units of the quadrant, in the equation (as it would now be expressed)
How this apparently complicated system is more natural than any other is explained in Logarithmica. In 1615, Briggs, in his lectures at Gresham college, publicly explained the superior convenience of calculating the following table, on which he wrote to Napier, before his first journey to Scotland:—

\[
10^x = \sin \theta \quad \text{or} \quad x = \sin^{-1} \theta
\]

These are both on the supposition that the whole sine, as it was then called, or the sine of a right angle, is 1. Both Briggs and Napier made it such a power of 10 as left no decimals in the table, and therefore of course depending on the number of places in the logarithms contemplated. But Napier himself (according to his own writings) had been struck with the convenience of adopting a decimal system, and (according to Briggs's account) mentioned to him that he (Napier) had long thought that the system should be amended by what we should now call the tabulation of \( x \) from the equation

\[
10^x = \sin \theta \quad \text{or} \quad x = \sin^{-1} \theta
\]

if the whole sine be unity. The difference between the two last systems has nothing to do with the principle of the improvement in question. In the first two systems the logarithms of increasing sines diminish; in the third, the logarithms of increasing sines increase. Briggs, as he informs us, immediately admitted the merit of Napier's improvement, but was all the difficulty in laying in making the calculations: probably both Briggs and Napier thought little of the step as an advance in the theory, compared with the merit of actually carrying it into effect.

This latter part was done by Briggs (Napier died in 1616, while writing the first six pages of his log), who in 1618, (having printed them the year before,) his Chilias Prima Logarithorum, containing the first thousand numbers, with logarithms to nine places: and in 1624, his Arithmetica Logarithmica, which contains the logarithms of numbers (not of sines) from 1 to 20,000 and from 90,000,000 to 100,000,000, in places written with so much accuracy that he gives logarithms of integers and fractions.

It was fully done by Visard, who, in an edition of the work just cited, Gouda, 1628, gave (to eleven places) the logarithms of all numbers from 1 to 100,000, together with a corresponding table of sines, cosines, &c., for every minute of the quadrant. During this time Briggs was labouring at a logarithmic table of sines, &c., of which he did not live to complete the preceding explanations, but which was completed and published by his friend, Henry Gelibrand, whom he had associated with himself in the task some years before his death. This was published in Gouda, 1633. It is of fifteen pages of figures, and to every hundredth of a degree. Gelibrand states, in the preface, that, as about 30 years before his death, Briggs had calculated a canon of sines (natural sines of course) by algebraic calculation, and that the Logarithmorum is fully treated of in Dr. Hutton's preface to his Logarithmica, we shall content ourselves here with citing the passages which constitute the evidence:—

1. Napier, Rabdologia, 1616, published after Briggs left him, and in which he explained und Mr. Gooden estrud the exposition to Briggs as follows: 'Logarithmorum speciem alicum multo praestantiorum nunc etiam invenisse, et creandi methodum una cum eorum usum, si Deus longiorem vitam et vacuolitiam usum concesserit, evulgare statusum. Ipsa autem novi Canom supputationem ob informam corporis nostri valutudinem viris in hoc studi genere versatius relinquens; imprimis vero D. Henrici Briggs, Londini, publico geometrii professori, et amico mili longe charissimo.'

2. Briggs, in the preface of "Chilias Prima," &c., written 1618, after Napier's death, shows that the table of Napier (then announced by his son), justice should be done him, as follows: 'Quod autem hi logarithimi diversi sint ab ipsis, quos clarissimus inventor, memor me sor semper colendae, in suo edidit Canone mirifico, sperandum ejus librum posthumum abunde nobis proprie satisfacturum.'

3. Briggs, finding the above hint not attended to, makes the following statement in the preface of the "Arithmetica Logarithmica," 1624: 'Quod logarithimi isti diversi sunt ab ipsis, quos eloq. vir, baro Mercistonii, in suo edidit Cano mirifico, non est quod mereri. Ego enim, cum meus audiri videro by Anal. Londin. Lincolni, &c., non dubito, quod in nostris operibus nostris, et nostrorum autem, et quam primum per annos temporum, et vacationem a publico docendi munere licuit, profectus sum Erilburgum, ubi humanissime ab eo acceptus haei per integram sentem. Cum autem inter nos de haurimatione sermo serius et littere, ille ex idee dudum sensisse et nunprouo dubitavisse, verutamento istos, quos jam paraverant, edendos curasse, donee alios, si per negotio et valetudinem liceret, magis commodos perfecter. Itam autem mutationem ita facienda censebat, ut esse logarithmus unitatis, et ita 100,000,000,000, sine qui, quod ingerendos commodiorum esse, non potui non agnosce.'

The algebra of Vieta does not appear in the writings of Briggs, not even in the preface to the 'Trig. Brit.,' which must have been written many years after Vieta's death. For his first view of the coefficients of the Binomial Theorem, see that article. Briggs made considerable use of interpolation by differences, but his symbols and methods in general are like those of Stevinus. It must, however, be observed that the history of the introduction of Vieta's symbols into England is very scanty, and that there is of it so confusion that it would be quite impossible to make any comparison of Briggs's methods with his means. It is evident from the first page of the first book of the 'Trig. Brit.,' that Briggs was acquainted with one of Vieta's writings (the 'Rel. Ver. Cal. Gregori'), and from the rest that he had some of his methods; but it seems to us that there is throughout the whole a general suppression of his notation, and even of his name; particularly in the following sentence, which will surprise those who know what Vieta did: 'cudos inniendi subessas ab antiquis usitatus traditur a Procopiano, Copernico, et a reliquis, qui sunt et ante hos ab Hipparcho et Menelaou; sed ista alium modum invenit magis copiosius, et non minus certum.' While speaking of the introduction of the specious algebra, we should like to draw attention to the following question—What is the book described in the 'Cat. Briggii. Reg. Nespaliani Musaei' as 'Vietae Fr. Opera Math. Londini, 1592'? (See Hutton's Preface, above cited; Masae's Script. Log., vol. vi., Montaquila, &c."

BRIGHTON HOUSE, commonly written and pronounced BRIGHTON, a parliamentary bor., m. t., sea-port, and fashionable watering-place in the hundred of Whaleros, rape of Lewes, Sussex, 46 m. S. of London, direct distance. It is chiefly in the par. of Brighton, of which it forms the vestry, both from W. by the road and from W. by the coast, W. into the adjoining par. of Hove. The barracks and a few detached houses are in the parish of Preston, which lies on the N. of both Brighton and Hove. It is bounded on the E. by the parishes of Rottingdean, Ovingdean, and Falmer, none of which contain any houses connected with Brighton. The town occupies only a part of the par. of Brighton, but it comprises nearly the whole of the population. The government is vested in a chief constable and headboroughs, to whom are added commissioners for roads and other local matters. The town is gradually improving, and managing the town. It was constituted a parliamentary bor. by the Reform Act, and returns two members; the bor. consists of the parishes of Brighton and Hove. The pop. within the boundary in 1831 was 41,994. Brighton stands near the centre of the curved line of coast of which the E. and W. points are respectively Beachy Head and Selsey Bill. The town is built on a slope, and is defended from the N. winds by the high land of the South Downs, which from Beachy Head as far as the centre of the town is elevated, and presents fine views of the sea. In the W. part of the town is a high chalk cliff. From the central part of Brighton W. the hills recede farther from the sea, leaving a level coast. Thus the town of Brighton in the E. part presents a high cliff to the sea, and in the W. part a sloping low beach. The soil on the South Downs is calcareous, and the chalk cliffs on the deep slopes and some of the flat tops of the town are very thin; in the hollows and occasionally on other parts it is a pretty good loam, capable of producing profitable
crops. From the nature of the ground and the superior advantage of a sea-frontage, the town has not increased towards the N. so much as along the coast; but it has run up to N. 2½ miles, including the parishes of Knowlton and Lewes respectively are formed. The entire sea-frontage of the par. of Brighton, a space of near 3 m. in length, is occupied with houses, and the line is extending W. into the par. of Hove. The pop. of the town has increased rapidly, mainly owing to the rapidity in the 19th century: in 1801 it was 7393; in 1811, 12,012; in 1821, 24,429; in 1831, 40,634. At present the number of residents during the summer occasionally amounts to 70,000. The number of houses within the town in 1831, taxed at 10s., was 27,731; in 1841, 43,580, and within the boundary 35,580. The place is rapidly and daily increasing.

The range of Brighton is uncertain. Its name is commonly derived from a Saxon bishop supposed to have resided here, named Brighthelm; but this is mere conjecture. Roman coins have been dug up in the vicinity. At the Conquest the lordship of the manor was included in the possessions of Harold, and was given by the Conqueror to his son-in-law, William de Warren. About this time a colony of Flemings are supposed to have established themselves for the purpose of fishing. From the exposed nature of the coast the town has occasionally suffered from hostile inroads, as recorded by the Freemen's Chartel in 1513. During the reigns of Henry VIII and Elizabeth fortifications were erected to protect it. The town has also suffered from storms and the encroachments of the sea, by which the cliffs have been undermined, and at different times houses desolate, the Ward, Bramhams have lately been formed, running from the cliff to low water mark, within which the loose shingle is deposited; the shingle in this part of the channel is always driven eastward. A sea wall is also partly built and still in progress along the E. cliff. During part of the 17th century Brighton is stated to have contained upwards of 600 families, chiefly engaged in fishing. It was from Brighton that Charles II. effected his escape to France after the battle of Worcester, being conveyed across the channel by the captain of a coast brig, who afterwards enjoyed patronage for his services.

About the middle of the 19th century attention was directed to Brighton as a suitable watering-place, and chiefly by Dr. Richard Russell, an intelligent medical man, whose work on the use of sea water created considerable interest. But the progress of the place was slow until it was Romania by Lord Curzon, V. of Evesham, who selected it as his summer residence. In 1784 the foundation of the Marine Pavilion was laid. This royal palace may be regarded as the nucleus of modern Brighton. It is a singular structure. The original design has received many modifications. The inner court is surrounded by colonnades, the exterior is rather fantastic than striking, presenting an assemblage of domes, minarets, and pinnacles. The furniture of the interior is of a very expensive character. The pleasure grounds attached occupy upwards of seven acres. Adjoining the palace is the fashionable promenade of Brighton termed the Steine, which, prior to 1793, was a piece of common land used by the inh. for repairing and drying their boats, nets, &c. It is now a spacious lawn, surrounded by fine houses. On the N. side of it is a bronze statue of George IV.

The rapid increase of Brighton caused the want of a suitable landing-place to be strongly felt. A company was accordingly formed for the erection of a suspension or chain pier, which was begun in October, 1822, under the direction of Captain Brown, and opened in November of the following year. It is composed of four spans or chain bridges, each 255 ft. in length, and at the end, on a framework of strong oak piles, is a platform paved with blocks of granite. The main chains, which are eight in number, are carried on 20 cast-iron towers, which rest on clusters of piles. The entire length of the pier is 1136 ft., the breadth of the platform being 13 ft. This structure, which stood several severe storms uninjured, was seriously damaged in a tremendous gale on the night of the 15th October, 1823. In the third wave, or spume, was broken down, the suspension rods and chains being snapped and dislocated. It has been since repaired.

On the E. side of the par. of Brighton is Kemp Town, a magnificent assemblage of private houses erected on the estate of Mr. Kemp. When first built, a few years ago, it was quite detached from the town, but is now united with it by a bridge over the par. of Hove, in the Brunswick square, one of the best parts of Brighton: beyond this a crescent named Adelaide crescent is in the course of building. Indeed the best part of Brighton may be briefly described as composed of ranges of splendid houses, formed into crescents, built and planned by the architect's precept. The par. of Hove, an ancient edifice, stands on a hill N.W. of the town; the living is a vic., in the archdeaconry of Lewes, and diocese of Chichester; the rec. of West Blatchington, a par. N.W. of Brighton, is annexed to it. The town-hall, begun in 1830, and not finished until 1842, is a large but ill-designed edifice. The places of worship belonging to the Establishment and to the dissenters are numerous. The royal chapel stands on the site of the former assembly rooms or rather the building has there erected to its present use; its internal parts are very fine, particularly the seats appropriated to the royal family. St. Peter's Church, erected in 1827, is a handsome Gothic structure, of Purbeck stone, situated near the entrance of the town by the London road. There are several chapels of ease subordinate to the pariah church. Some of the dissenting chapels are handsome edifices.

The charities consist principally of the poor-house, a well-regulated establishment on the top of Church Hill; the Dispensary and County Infirmary, founded in 1809, under the direction of Dr. John Fothergill, W. of the town; the almshouses near Kemp Town, founded by the earl of Egremont and T. R. Kemp, Esq.; the United Fishermen's Society, for the relief of the fishermen of Brighton; with several other institutions of a benevolent character. Of charity schools there are several, for boys and girls, as well as the Union charity schools, founded by Edward Goff, Esq. in 1805, who left 460l. to the boys' school, and 200l. to the girls', are supported by voluntary contributions; and there is a school founded by Swan Downer, Esq. in which fifty girls are educated, and to which is added a boarding school, for girls to give 158 daily schools, 43 boarding-schools, 14 Sunday schools, and three infant schools. The number of private schools at Brighton is very considerable, a circumstance owing to the salubrity of the place, and the desire of many parents who live in London to send their children out of the metropolis.

The inn, hotels, and baths of Brighton are numerous. There is a chalybeate spring in the par. of Hove, which has been inclosed, and has considerable celebrity. The water has been analysed by Professor Daniel, and is held in high estimation for its medicinal qualities. An establishment, comprising 300 beds, has been established by the Union charity schools, for the benefit of working females, through the agency of artificial mineral waters. Brighton contains several places of amusement; a theatre, an assembly room, a club house, and about a mile E. of the town, on the summit of a beautiful part of the Downs, a fine race-course, at which the take-place on the first Tuesday in July.

The trade of Brighton is confined exclusively to the supply of the wants of a rich population. There is an annual fair on September 4th; the principal market days are Tuesdays, Thursdays, and Saturdays. At the market, which is excellent and abundant, all kinds of fruit, vegetables, meat, and fish are sold. The market was originally a weekly one, held under charter; in 1773 an act was obtained for a daily market. A fish market is also held by the fishermen on the open beach.

There are several promenades erected in the 16th century. The present battery was originally erected in 1739, and rebuilt in 1830.

The gas with which Brighton is lighted is supplied by two gasometers; one to the E. of Kemp Town, the other to W. of Brunswick square. The gas is excellent, and the fire is not suffocating.

About 5 m. from Brighton, by a pleasant road across the Downs, is the Devil's Dyke, an extensive entrenchment, about a mile in circumference, of an oval form, which is conjectured, from the finding of an urn filled with coins of the time of Edward the Confessor, to date back to the Bronze Age.

It is separated from one part of the Downs by a natural chasm, which appears to have been made deeper in order to form a high rampart called Poor Man's Wall. From this height there is a fine view of the Weald of Sussex, and the counties of Sussex, Surrey, and Kent. The ground around Brighton is rough, a number of fine drives and walks.

Since the establishment of steam-boats and the erection
of the chain-pier, Brighton has become a packet station, which is much used by those who prefer going and returning from Paris or London to Dieppe and Rouen, instead of the old route of Dieppe and Calais. The canals of the Grand Trunk road have been projected, and are now (March, 1826) before the public. (Luce's Leves and Brightstonecliff; Dr. Rollan's Nat. Hist. of Brighton; Boundary Reports.)

BRIGNOLES, a town in France, capital of an arrondissement, in the dept. of Var. It is on the river Calami or Calanis, whose waters flow ultimately into the Argens; and on the road from Paris to Draguignan, 513 m. S.S.E. of Paris, 42° 14' N. lat. and 6° 4' long. The town is situated in a hollow, surrounded by wooded-crowned heights. The number of the air was such esteem formerly, that the countesses of Provence were accustomed to resort hither for the purpose of lying-in, and had their young children brought up here. The trade of the town in the early part of the present century, was considerable; it was especially famous for the manufacture of leather. The Dictionnaire Universel de la France (1804) gives the number of tan-yards at forty-two, and adds, that there were seven soap manufactories, seven brandy distilleries, besides manufactories of silk goods, woolen cloths, wax, hats, glue, starch, candles, earthenware, and liquors.

But the trade of the town has probably been much reduced, for there has been a remarkable diminution of the population.

In the work just cited it is given at 9060: in 1832 it was only 5492 for the town, or 3940 for the whole commune.

The country around Brignoles is exceedingly fertile: the wine and the olive are cultivated on the surrounding hills; and the fruits, especially the dried plums, are in high estimation. The population of Brignoles was in 1832 a pop. of 71,662.

BRIMSTONE. [SULPHUR.]

BRINDISI, the Roman Brundisium, and Greek Brennesium (Brynnthion), a town in the prov. of Terra d'Otranto in the kingdom of Naples, 40° 38' N. lat. and 18° 11' E. long. of Greenwich, in Italy. It is situated on the coast of the Adriatic sea, and is a great safe harbor, which was the chief port of embarkation from Italy to Greece. The origin of Brundisium is lost in the obscurity of the ante-Roman times. Tradition spoke of a Cretan colony having early settled here. It was one of the chief ports of the ancient Peloponnesian League, and called Calabria by several ancient geographers. The name of Brundisium or Brundisium is said by Strabo (p. 282) and others to be derived from a word, which in the old Messapian language signified a stag's head, a shape somewhat resembling the double horns of deer. The town is of which forms two horns which half encircle the city. The Brundisians and the other Messapians were often at variance with the Greek colony of Tarentum, before the Romans extended their conquests into Apulia. After the war, the town became the duke of Apulia. But the Brundisians, under the consuls M. Attilius Regulus and Lucius Junius Libo, turned their arms against the other towns of Messapia and seized Brundisium among the rest, about 227 B.C. Brundisium was made a Roman colony.

The Via Appia terminated at Brundisium. (Rome and its Environs.)

The poet Pausanias was a native of this town, and Virgil died here. Pompey, having left Rome at the beginning of the civil war, repaired to Brundisium, where he was besieged by Caesar, who endeavored to prevent his escape to Egypt. The country, young and vast, was the scene of his retreat, on which he was raised, on each side of the entrance. But however he could accomplish his object Pompey embarked his troops in secrecy and sailed away for Greece. To these two piers raised by Caesar the beginning of the deterioration of the inner harbor has been attributed. The harbor, now one of the town, has become very narrow, the sands carried by the sea accumulated and formed a bar across which gradually choked up the entrance, and an isthmus was created separating the inner from the outer harbor, or roadstead. This however was the result of the work of Brundisium after the fall of the Roman empire, when it was taken and retaken by the northern barbarians, the Greeks and the Saracens, contributed to the deterioration of the bar, by preventing the in from attending to its repair. From this it is supposed the bar formed by the town, which is composed of the Angelaeus the inner harbor, was already become a stagnant pool separated from the sea. Other marshes formed themselves in the neighbourhood, and the air of the town became seriously affected. Attempts were made by the Aragonese kings to re-open the communication between the two harbours, but they failed. In the 18th century the pop. of Brindisi was reduced to less than 3000, and was threatened with total destruction by the pestilential state of the atmosphere, when King Ferdinand IV. in 1755 ordered the communication with the inner bar, to be restored. A cut was made across the isthmus, and the sea water being thus let in, and the other marshes at the same time partially dried up, the air of Brindisi evidently improved. (Pigonatti, Memorie del regno di Napoli, p. 492.)

A deep channel has been kept, the current is considerably clear and to cleanse the inner bar, of the mass of sea weeds which accumulate very fast, and by their decay corrupt the atmosphere. (Afan di Rivera, Considerazioni sulle due Sicilie.)

[Coin of Brundisium. Copper. Brit. Mus.]

The present town of Brindisi occupies but a small part of the site of the ancient city. It is surrounded on the land side by walls and ditches, and has a castle called Forte di Terra, commanding the north-east of the inner harbour. Outside the town and not far from the castle is a plain said to be of Roman construction, with a niche on each side, from which flow two rills of very good water, probably the fountain mentioned by Pliny from which the ships were supplied. The water in the town is very bad, but the only well is ill built and looks miserable, and the air is still unwholesome in summer. The pop., which is 6000, carries on some trade by sea; part of the oil of Puglia is shipped off at Brindisi. The principal object of antiquity is a pillar about 50 ft. high, which forms a conspicuous object. Another, which stood near it, has been removed to Lecce, and the pedestal alone remains. The cathedral is a large but not handsome building of the Norman times, with a mosaic pavement. Brindisi is an archbishop's see. It lies about 200 m. E. by S. of Naples, or m. N.E. of Taranto, 40 N. of Gallipoli, and 20 N.W. of Lecce.

BRINDLEY, JAMES, was born in 1716, at Thornsett, a few miles from Chapel-en-le-Frith, in the county of Derby. The great incident of his life was his introduction into the principles of the new system, and the completion of the system to the promotion of artificial navigation. (BRIDGEWATER.)

But he had previously acquired reputation by his improvements in machinery; and at an early age, although deprived of the advantages of even a common education, he acquired a mind fruitful in resources far above the common order. Brindley followed the usual labours of agriculture until about his seventeenth year, when he was apprenticed to a millwright named Bennett, residing near Macclesfield. This individual being generally occupied in distant parts of the country, and not living at home with few or no children, he was enabled to exercise, and to frequently assist his employer by the ingenious improvements which he effected. Mr. Bennett, on one occasion, was engaged in preparing machinery of a new kind for a paper-mill, and although he had inspected a mill in which such machinery was in operation, it was reported that he would be unable to do the work himself, as he had contracted with Mr. Bennett for the work on Monday morning. He had marked the points in which Mr. Bennett's work was defective, and by enabling him to correct them, Bennett's engagement was satisfactorily fulfilled.

When the period of his apprenticeship had expired, Brindley engaged in business on his own account, but he
did not confine himself to the making of mill machinery. In 1752 he contrived an improved engine for draining some coal-pits at Clifton, Lancashire, which was set in motion by a wheel 30 feet below the surface, and the water for turning it was supplied from the Irwell by a subterraneous tunnel 6000 feet long. This was the commencement of skill and ingenuity steadily increased. In 1755 a gentleman of London engaged him to execute a portion of the machinery for a silk-mill at Congleton. The construction of the more complex parts was intrusted to another individual, who, though evidently wanting in the example of performing his portion of the work, treated Brindley as a common mechanic, and refused to show him his general designs, until it became necessary to take Brindley's advice. Brindley offered to complete the whole of the machinery in his own way; and, as the capitalist trusted to the acknowledged abilities of the contractors, he was allowed to do so. The ability with which he accomplished his undertaking raised his reputation still higher. In 1756 he erected a steam-engine at Newcastle-under-Lyne, which was calculated to effect a saving of one half in fuel.

Shortly after this time, Brindley was consulted by the duke of Bridgewater on the practicability of constructing a canal from Worsley to Manchester. Brindley's success in this undertaking was the means of fully awakening public attention to the possible application of steam-power to works of less ability undertaken the work, it is not improbable that it might have turned out a failure, and the improvement of our inland navigation might have been deferred many years longer. The duke of Bridgewater's canal was refitted to the present prospects of a new railroad. Within forty-two years after the duke's canal was opened, application had been made to Parliament for 165 Acts for carrying canals across the Granta Bridge at an expense of above 12,000l. All the ingenuity and resources which Brindley possessed were required in accomplishing the duke of Bridgewater's noble scheme; and it may be fairly said that where there were most difficulties to be met, there Brindley's genius was most manifest. With the greatest exactness and in his expedients for overcoming difficulties that his talents were displayed; he made use of many new and ingenious contrivances for conducting the work with the utmost economy.

In 1766 the Trent and Mersey Canal was commenced under Brindley's superintendence. It is 93 m. long, and unites the navigation of the Mersey with that of the Trent and the Humber. It was called by Brindley the 'Grand Trunk Navigation,' owing to the probability, from its great compass, that a great number of manufactory vessels would be induced to join it. The Grand Trunk Navigation, by means of a tunnel 2880 yards in length, passes through a hill at Harecastle, in Staffordshire, which had previously been considered an insurmountable obstacle to the completion of a canal. The tunnel at Harecastle was 830 feet long; but the work was not completed at Brindley's death; but his brother-in-law, Mr. Henshall, successfully finished it. Brindley next designed a canal 46 m. in length, called the Staffordshire and Worcestershire Canal, for the purpose of connecting the Grand Trunk with the Severn. He also planned the Coventry Canal, but owing to some dispute he did not superintend its execution. He however superintended the execution of the Oxford Canal, which connects the Thames with the Grand Trunk through the Coventry Canal.

The Thames and the Mersey was a work of the first magnitude and establishment on the Thanes, the Humber, the Severn, and the Mersey, and united the great ports of London, Liverpool, Bristol, and Hull, by canals, which passed through the richest and most industrious districts of England.

The canal from the Trent at Stockwith to Chesterfield, 46 m. long, was Brindley's last public undertaking. He also surveyed and gave his opinion on many other lines for navigable canals, besides those mentioned; among others, on a canal from Liverpool to Runoon, where the Duke of Bridgewater intended to carry the Mersey over the ridge of land that rises to the height of 14 ft. He formed also a scheme for uniting Great Britain and Ireland by a floating road and canal, from Port Patrick to Donaghadee; and like most other impracticable schemes of ingenious men, it became a favorite speculation. Phillips, in his 'History of Inland Navigation,' says that Brindley pointed out the method of building walls against the sea without mortar; that he invented a mode of cleansing dock-yards, and for drawing water out of mines by a losing and gaining bucket. Phillips states that he had been in the 'employ of the great Bridley.'

Brindley's designs were the resources of his own mind alone. When he was beset with any difficulty he seduced himself, and worked out unaided the means of accomplishing his schemes. Sometimes he lay in bed two or three days; but when he arose he proceeded at once to carry his plans into effect, without the help of drawing or model. A man like Brindley, who was so entirely absorbed in his own schemes, was not likely to partake much of the pleasures of society. A hectic fever, which had hung about him for several years, at length terminated his laborious labors. He died and was interred at St. Chad's Church, on September 27th, 1772, aged 56, and was buried at New Chapel in the same county.

The principal events in Brindley's life were first commenced to the public from materials furnished by Mr. Henshall, his brother-in-law, and other friends, who spoke highly of 'the integrity of his character, his devotion to the public interests, and the vast compass of his understanding, which seemed to have an affinity for all great objects, and likewise for many noble and beneficent designs which the multiplicity of which, in the opinion of sagacious men, was at one time too much for his life prevented him from bringing to maturity.' No man was so entirely free from jealous feelings. A letter, written while the Grand Trunk Navigation was proceeding, thus describes Brindley's personal appearance:—'He is as plain as a turnip, and almost as useful. The turnip of the year is his own carters; but when he speaks all ears listen, and every mind is filled with wonder at the things he pronounces to be practicable.' The reply which Brindley is said to have given to a committee of the House of Commons, when he was asked whether he was not rather possessed of the art of making men work, viz. 'To teach navigable canals, is characteristic, and very probably authentic; but it was made public by an anonymous writer in the 'Morning Post,' whose communications respecting Brindley were stated by some of his friends to correspond much with what he had said.

(Phillips's History of Inland Navigation; Priestley's Canals of Great Britain; Communications to the Biog. Brit.)

BRINE SHRIMP, or BRINE WORM. [BRANCHIOPODA.

BRIONIC ISLES. These three isls. lie on the N.E. coast of the Adriatic, near the port of Tassano, and N. of Pola, in the Austrian circle of Trieste. They contain the quarries from which the Venetians obtained the ash-grey and white marble which was used in building the walls of the thrones are constructed. The largest of the isls. is called Brioni; the names of the other two are Coseda and San Girolamo. 45° 3' N. lat. 13° 53' E. long.

BRIOUDE, a town in France, capital of an arrond. in dep. de Haute-Loire. The pop. is 1473. From Paris to Le Puy, 271 m. S. by E. of Paris; in 45° 17' N. lat. and 3° 24' E. long.

This town is situated near the left bank of the Allier, and derives its name from an old Celtic word broe, a bridge, or ford (compare Samara). This name however appears to have belonged originally to Old Brioude, which is close upon the Allier, while the modern town is a little removed from the bank. At Old Brioude is a magnificent bridge of one arch, of about 160 ft. span, supposed to have been built by Charlemagne. It was afterwards restored, once much venerated as containing the relics of St. Julian, an early martyr, who was put to death here or at Old Brioude. There were also before the Revolution several religious houses. There are some woollen stuffs manufactured in this town; and in the neighbourhood marble is quarried and coal dug. The pop. in 1833 was 3022 for the town, and 5099 for the whole commune.

Brioude suffered much in the middle ages from the ravages of war. It was laid waste in the fifth century by the Vandals under their king of Meta, and in the ninth by the Saracens, and again successively by the nobles of Auvergne, by the English, and in the civil wars of the sixteenth century by the Huguenots.

The arrond. of Brioude had, in 1831, a pop. of 80,992.

BRISGAI, THÉ, or BRISGAI, in the S.W. part of Swabis, is bounded on the N. by the Orneaux, on the E. by the Black Forest, on the S. by Switzerland, and on the
W. by the Rhine, and is now included in the circle of the Upper Rhine, in the Grand Duchy of Baden. It was originally a landgraviate belonging to the dukes of Zähringen: it then passed into the possession of the dukes of Hochberg, and in 1567 was sold to the house of Habsburg. Rudolph of Habsburg, in 1536, married the daughter of the Landgrave of Hessen-Cassel. The town, deriving its name from the forest, which, in the French language, signifies "bush" or "thicket," was born in the castle of Limbourg, in this territory. It comprised an area of about 1260 sq. m., and contained about 14,600 inh., inclusive of a district called the Ortenau, which had a pop. of about 16,000. The Brisgau is traversed by numerous streams, and is traversable by the Rhine, which, adjacent to the Rhine, where the surface is level and the soil highly productive: here large quantities of grain, flax, hemp, fruit, vegetables, wine, &c., are raised. In the other parts flocks and herds are reared to a considerable amount, much iron is smelted, and metal is manufactured in abundance. Paper, and lead, are worked. The inh. of the forest-districts are celebrated for the manufacture of wooden clocks and other articles of wood. The revenue which the Brisgau yielded amounted to about 58,000£. per annum. By the treaty of Luneville, in 1801, Austria ceded a small portion of this possession (the Frickthal, on the left bank of the Rhine) to France, which afterwards relinquished it to Switzerland; and gave up the remainder to the Duke of Modena as a compensation for the loss of his territory in Italy. In 1802, the Duke, by this law, the Archduke Ferdinand of Austria, as Duke of the Brisgau; but in 1805, by virtue of the peace of Presbourg, it became the property of the then Elector of Baden, with the exception of a small tract assigned to Württemberg, which had been acquired by that kingdom. The county, consisting of fourteen towns, including Freiburg the capital, Old Breisach, Waldkirch, Kehlingen, Eningen, Staufen, and St. Blasien; and 450 villages and hamlets.

BRISSON, BARNABÈ, was born at Fontenay-le Comte in 1727. He was first a seaman, several years he had distinguished themselves at the French war. Brisson applied to the same profession, in which he attained the highest honours. He was made king's advocate in 1757, afterwards counsellor of state, and lastly president a mortier in 1783. He was a man of great abilities, and his writings could boast of having in his service so learned a man as Brisson. He sent him on several missions, among others to Queen Elizabeth of England; and he commissioned him to collect and edit the ordinances of his predecessors and his own, which appeared under the following title—"Code de Henry III. Roy de France et de Pologne, redigé en ordre par Messeire Barnabè Brissone, fol. 1687, afterwards republished with additions under Henry IV. by Le Caron, 1699, and commonly called Code Henri Brissone. He was well versed in all the natural sciences then known, and the result of his studies. 1. 'De verborum quae ad jure pertinent significations,' a useful glossary of words and sentences of the Roman law. This work went through several editions; the one by C. J. Citer, fol. Frankfurt, 1683, contains many additions. 2. De sollicitudini et sollicitudinis legis et legum, lib. viii., fol. 1583, a work of more general use to scholars. The author explains the proper meaning and application of certain established forms of words which had a fixed meaning, and were used by the Romans in their public acts, in their religious ceremonies, in the senate, in the consuls, in the forum in their contracts, testaments, funerals, &c. An improved edition of this work was published by F. C. Conrad, fol. Leipzig, 1781, with a life of Brissone prefixed to it. 3. 'De regio Persarum principatu,' lib. iii., in which he treats of the code of Persia, especially the political institutions of its laws, the religious aspect has, of the theophrastians, their military establishment. An edition with notes and corrections was published by Professor Lederlin, Strasbourg, 1770. Several other works of Brissone, chiefly connected with the Roman laws and institutions, are found in his Operae Variae, Paris, 1688, and his Commentarius, Leyden, 1749, with the title of 'Opera Minora,' which contain 'Selectarum ex jure civilis antiquitatum,' lib. iv.; 'De ritu nuptiarum,' 'De jure coniubiorum; 'Ad legem Juliam de alienis; 'De solutionibus et libertationibus; 'Ad legem Dominico de matrimonii, lib. vi., and 'Historia verborum liber singularis;' all works of considerable erudition. The end of Brissone's life was remarkably unfortunate. When Henry III. was obliged to leave Paris on account of the facts of the League in January, 1688, Brissone stayed behind, in the hope, as it would appear, of bringing about a reconciliation between the king and the people of the capital. After the murder of the Guises, the leaguers being now in open revolt against the king, arrested, Jan. 1589, the President de Harly, and put Brissone in his place as first president of the parliament, which he accepted, as he did to his friends, in order to save his life and that of his wife, to which end he afterwards pressed privately before two notaries against any interdiction on his part. Henry III. having by an edict of February, 1589, transferred the parliament to Tours, Brissone did not obey the summons, but remained in the capital. After the arrest of the mayor of the same year, Brissone proclaimed the duke of Mayenne, called of the League, lieutenant-general of the kingdom. But he resisted the intrigues of Mendoza, the Spanish ambassador, who wanted to obtain the regency for his master, as well as the pretentions of Carondelet, the pope's legate, who on presenting to the parliament his bull of indulgences wished to take the seat reserved for the king. However Brissone soon after became suspected by the faction of the Sixteen who ruled in Paris, and who thought that he was favourable to Henry IV. Availing themselves of the absence of the duke of Mayenne, they arrested Brissone, and sent him to Tours, on 15th Nov., 1591, at 9 o'clock, and banged them at 11 o'clock the same morning. The Duke de Mayenne on his return to Paris hanged four of the most violent of the Sixteen, that is, of the cabal. (See De Thou, and Dauze sur la mort du President Brissone, par Denaye de Vigny, etc., au seigneur, Paris, 1595.)

BRISSON, MATTHURIN JACQUES, whose zoological and philosophical works have rendered his name dear to France, was born at Fontenay-le-Comte on the 30th of April, in the year 1723. Educated at school, he is said to have been, under Reaumur (for his youth was passed in aiding the labours of that accurate observer of nature, and in superintending his cabinet), he imbibed, at an early age, a love for natural science, which only left him with his life.

His progress must have been rapid; for we find him selected as the tutor in physics and natural history to the 'children of France,' and filling the office of 'Censeur des Sciences.' He possessed in a high degree of other qualities, such as talent and eloquence, and endeavoured to pull down Priestley; but he, notwithstanding, fairly stated to his class, in his capacity of professor, the new theory which had taken the place of that of the Abbé, explaining and discussing the facts on which it rested.

The government charged him with the care of providing lighting-conductors for the protection of many public buildings, and appointed him to examine those which other projectors might bring forward. On 13th July, 1775, he resigned his post at Broisi, near Versailles, on the 23rd June, in the year 1806, at the age of eighty-three; but some months before he died he was a melancholy example of the body surviving the intellect. An apostate aesthetic had defaced all his ideas, depriving him of the knowledge which he had so laboriously acquired, and even more agonizing from his memory the French language. It is a painful but striking proof of the endurance of those earliest impressions which are stamped upon the infant mind, that his only recollections in this distressing state consisted of a few words of the proper names with which he had heard from his nurse and from his first accents.

His works are numerous: among the most important are his on the comparative gravity of bodies. The first appeared at Paris in 1760, in 6 vols. 4to., in Latin and French. The second, under the title of 'Faune d'Europe,' was published in quarto in 1767.

BRISSOT, JACQUES PIERRE, was born on the 14th of January, 1754, in the village of Ouarville, near Chartres. His father, though only a poor pastry-cook, contrived to give his children a good education, with the intention that Jacques Pierre, who as a boy gave signs of great talent, should be brought up to the bar, but the youth's early passion for literature defeated this project. Brissot was particularly fond of the study of languages, and made himself a perfect master of English: he eagerly devoured the best authors, turning his attention more especially to
the historians, economists, and political writers. On retaining
the age of manhood he quit the study of law and went to the
Netherlands, where he became a member of the States of
the 'Duchy of the Eron.' This liberal journal was
soon arbitrarily suppressed by the French government, and
Brisot was thrown upon the world with no other resources
than his acquirements and abilities.

This was the dawn of the Liberal era. Brisot's Treatise on
Criminal Laws; and the next year two eloquent discourses on the same
subject gained him the prizes in the Academy of Châlons-sur-
Marne. Between the years 1782 and 1786 he put forth ten volumes
of 'The Philosophical Library' on criminal laws. At the same time he studied the institutional law, and was de-

volumented as part of his time to metaphysical pursuits, in which
latter department he published an essay, entitled 'On
Truth, or Meditations on the Means of Reaching Truth in all
branches of Human Knowledge.' During part of this time he was imprisoned, and was wounded, on the occasion of
the massacre of the March 1784, where about the year 1783, that he undertook a periodical work, called 'Universal Correspondence on all that concerns
the Happiness of Men and Society.' The laudable object
of this work was to disseminate in France all such political
principles as were based on reason. The constitutional laws
and usages of England formed a leading topic. The French
government seized and suppressed the book. His next
works were 'A Picture of the Sciences and Arts of Eng-
land,' and another on British India.

During the ministry of the day arrested, he threw him into the Bastille. His imprisonment
was not of long duration, but in obtaining his liberty he
was compelled to give up an Anglo-French work, which was
to have been written partly by Englishmen and partly by Frenchmen, in defence of the

dissections inflamed his hatred of arbitrary power. In 1785,
during the insurrection of the Wallachians, he published two
letters, addressed to the Emperor Joseph II., 'On
the Right of Emigration,' and 'On the Right of Insurrection.'
It is common to the Englishman and the Frenchman,
both in his works possessing only a temporary interest, have long
since fallen into oblivion. He warmly favoured the revolu-
tionary party in the English North American colonies, and
wrote a good deal in support of their cause. He was an
eminent and powerful leader of the French society called
'The Friends of the Blacks.'

The freedom of his pen brought him again into difficulties,
and on learning that a lettre-de-cachet was signed for his
arrest, he fled and took refuge in England. After a short
stay in London he disembarked in the Atlantic to the United
States, where his love of republican institutions was in-
creased by seeing their operation in that country.

In 1789 the progress of events in France enabled him to
return home, and use his pen without any fear of the Basti-
ille. In 1787 he was elected to the first municipal council of
the city of Paris, and in that capacity received the keys of the
captured Bastille, on the 14th of July. Soon after he was
elected by the citizens of Paris to be their representative in
the Convention of the 13th August. He joined the party called
the Girondins, and co-operated with Vergniaud, Guadet, Gen-
doncé, the Provençal Isnard, and others, who were weak
and imprudent politicians, but among the most eloquent and best
men in France. 'The opinions of Brisot, who desired a com-
plete and absolute revolution, were, as is well known, those of
re-producing himself in the journal called 'The Patriot,'
at the tribune of the Assembly, in the club of the Jacobins;
his precise and extensive information respecting the situa-
tion of foreign powers, gave him a great ascendency at a
moment of struggle between the Jacobins and the nation or
the Girondists, as the Girondists had gone farther than the
Feuillants. The Girondins were nothing more in the revolu-
tion than a party of transition from the power of the muddling
colossus of society to that of the mob. The members of it
put themselves and their country in a position from which
there was no escape except through seas of blood. During
the fearful struggle Brisot incurred the deadly hatred of
Robespierre, which was equivalent to a death-warrant. On
the 20th of June 1793, he was placed in a cell of the Presi-

dence of arrest was passed against him. Brisot was calm and firm, and at first not
inclined to do anything to escape death, but on the entreaties of his family and friends he attempted to get
back to Switzerland, where the Swiss government con-


BRISTOL, a sea-port town in the West of England, is
in 51° 27' 6" N. lat., 2° 35' 28' W. long., 108 m. from
London and 313 from Edinburgh, direct distance, between
the counties of Gloucester and Somerset, and at the junction
of the rivers Avon and Severn, 150 m. by the course of the
water, or 7 m. in a straight line from the
spot where the Avon enters the Bristol Channel.

Etymology of its name.—The most ancient name of
Bristol on record is Caer Odor, the city of the gap, or chasm
through which the Avon flows, but the form of it,
and to this was added the local description of Nant Baddon,
in the valley of the baths. Much diversity of opinion has
existed with regard to the etymology of its present name,
Bristol; and much of this uncertainty probably arises from
the looseness of its orthography in ancient documents.
Seyer, in his history of Bristol, has enumerated 47 varia-
tions, mostly from different, some from the same authorities;
and even these are not all. But the only modes of writing
the name that are material, as serving to lead to the ety-


mology, are those which are derived from the Celtic
words 'brach,' 'breach,' 'branch,' 'bridge,' 'bank,' 'brea,'
't'au,' etc., a stream: a derivation entitled to some credit.
With regard to Bristow, Chattevon derives it from Bristoce, the last king of Wessex,
who commenced his reign a.d. 764, and died by poison a.d.
800, supposing it to have been originally called Britectrius.
It appears also that Bristow, or a similar name,
prevailed from 1064 to 1204; and it is remarkable that a Britric
was Lord of Bristol at the earlier of these two dates. But,
notwithstanding this instance of the name, the etymology of
the name seems by far the most probable. The Saxon
word 'bric' signifies a break, a breach; and 'bric' would be
thus a literal translation of Odor; dropping then the
British prefix 'caer,' and substituting the Saxon suffix
of 'stow,' we should have Bristow. 150 m. in the origin of
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of Cornwall, whose jurisdiction extended over all Somersetshire and part of Gloucestershire. It is recorded in Ellis's 'Specimens of Early English Romances,' that 'a vast army of the Northumberland country was led by the Duke of Northumberland, and defeated with 30,000 men, in which they were so completely defeated that not five of them escaped.' Whatever may be thought of this tale, or rather of its authority, it is impossible that Bristol could have escaped from a strife which raged for 11 years. The Normans maintained its independence until the invasion of Crida, who in 584 totally subdued the country upon the Gloucestershire side of the Avon, and erected upon the ruins of the ancient governments the Saxon kingdom of Mercia, of which it is to be presumed that the Brictians formed the principal fortresses bordering upon the neighbouring Saxon state of Wessex, and divided from it by the Avon. Caer Odor had now become Bric-stow; and in 996 Jordan, the companion of Augustine, in his mission for the conversion of the Anglo-Saxons, sailed up the Avon river. The bishops' palace at Bristol, which subsequently became the site of the monastery, built in honour of the chief missionary, and now the cathedral church of Bristol. In 936 Bristol was held under Athelstan by Ailward, as Lord of the Honor. Ailward was a Saxon nobleman of considerable power and wealth in the adjoining counties; he was succeeded (980) in his lordship by his son Algar. Upon the coins of Canute the name of the town first appears as Bric and Bricstow; so that at this date (1017) it must have possessed some importance. Indeed in reference to the purpose of the Agincourt Expedition, the coins of this time and of the confluence of the Severn and Wye are to be dated; for we find that upon the condemnation of Earl Godwin (1053) his sons Harold and Leofwine escaping to Bristol, thence embarked for Ireland; and that after their reconciliation with the king, and the employment of Harold by the Normans as a body of men on board his ship from Bristol, the body of men on board his ship from Bristol. We gather also from the life of Wolstan, who was consecrated Bishop of Worcester A.D. 1062, that Bricstow was, from its convenience as a port, especially for embarkation for Ireland, used commonly for the purpose of exporting slaves: a practice which Wolstan denounced to the Conqueror, who forbade, but failed utterly to extinguish, the inhuman traffic by a royal edict. On the accession of William, Bricstow then held the honour in succession from his father Algar; but his son Eadwulf, who was killed in the battle of Wedmore, in Winchester Castle, where he died. The profits of the Honor the king gave to his queen, and resumed them at her death. To the early part of the Norman period the addition of the second wall around the town is ascribed; probably it was built together with the castle by Godfrey bishop of Coutances, in Normandy, and of Exeter, in England, who followed the Conqueror to this country. The castle is not mentioned by name in the Domesday Book, compiled 1086; and the first historical notice of it occurs in the Chronicles of John, 16th year of Henry II. It was held by Godfrey on behalf of Robert, the Conqueror's eldest son. It must at that time have been a place of considerable strength, for the insurgents in the west made it their head-quarters, bearing thither all the plunder accumulated in foraging the adjoining counties, until, on the final success of Rufus, Godfrey retired into Normandy, and the king, in whom the honor then was, conferred it upon his cousin Fitzhamon. By referring to Domesday Book, we shall be enabled very readily to trace the actual position of Bristol in the 11th century; but the correct elucidation of the complication the burgesses of Bristol are repeatedly referred to; Bristol then was a burgh or walled town: it is also recorded that the burgesses paid to the king in reserved rents, fines, customs, and tolls, 57l. 6s. 8d. It follows that it was a royal burgh, the tenants in which held for the most part immediately under the king. [Borough, p. 195.] The local government of the city was vested in a preposito or chief magistrate, who acted under the custos of the castle, the capital honoriae, the constable of which was either the lord of the place or of the castle. It is his individual holding under him or the king. It does not appear that the preposito was a salaried officer, although, as he was de virtute officii esclusor to the king, his reasonable charges on that head were defrayed; but the town was charged with the manor of this last time. Last of this commune, as it is recorded in Domesday Book as paid to the king, there is this item,— And to the Lord Bishop [Godfrey] £28, which was the precise sum annually paid by the town to the constable of the castle for several subsequent reigns. The preposito, at the accession of William I., was Hardying, a wealthy merchant of the town, and the founder of the Berkeley family. He was continued in his office by the commonalty, and assented to the first conquest of Wales, and was rewarded there, as was his son Robert, with the Castle of Monmouth, and the Marcher barony of Hereford, and assented to the first conquest of Wales, and was rewarded there, as was his son Robert, with the Castle of Monmouth, and the Marcher barony of Hereford, and seems to have acknowledged the nearly-separate jurisdiction and a preposito of its own. It was called the Vill de Radcliffe, and was in every respect the rival of the neighbouring town until the two were incorporated. The estimated number of houses contained in Bristol in the 11th century was 960, and it is said that the city could not have far exceeded 3000. To Robert Fitzhamon the grant of Rufus appears to have been absolute. Robert founded the abbey of Tewkesbury, conferring it on the church of St. Peter at Bristol, and a tithe of the rents of the town; but the church of the ancient map attached to the Honor, and bearing somewhat onerously upon the townsmen, who were charged with checking the turbulent Welsh, he conquered the co. of Glamorgan, making Cardiff his capital. He died 1107, leaving his three daughters to the wardship of Henry of Antioch, to which he had, on the death of Rufus, transferred his allegiance. Henry gave the eldest daughter, Mabille, in marriage to his natural son Robert, on whom he conferred the Honor, creating him first (Norman) Earl of Gloucester: the annual revenue of the Honor was £300, the revenue of Cardiff £200, the money of the time. Robert Earl of Gloucester has been justly esteemed the first man of his age; and to his care, after the capture of Duke Robert of Normandy (1125), Henry confided his unfortunate brother, whom the earl for a time sheltered at his castle. Cardiff, where a body of men on board his ship from Bristol. We gather also from the life of Wolstan, who was consecrated Bishop of Worcester A.D. 1062, that Bricstow was, from its convenience as a port, especially for embarkation for Ireland, used commonly for the purpose of exporting slaves: a practice which Wolstan denounced to the Conqueror, who forbade, but failed utterly to extinguish, the inhuman traffic by a royal edict. On the accession of William, Bricstow then held the honour in succession from his father Algar; but his son Eadwulf, who was killed in the battle of Wedmore, in Winchester Castle, where he died. The profits of the Honor the king gave to his queen, and resumed them at her death. To the early part of the Norman period the addition of the second wall around the town is ascribed; probably it was built together with the castle by Godfrey bishop of Coutances, in Normandy, and of Exeter, in England, who followed the Conqueror to this country. 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find that the burgesses were exempted from pleading or being imprisoned without the walls of the town, except in cases of foreign tenure, in which the town had no jurisdiction; from the fine levied by the lord in the hundred, in which case the burgesses were not liable; from the payment of dues levied in the town on the sale of wines, which were not less appealed to on the death of a stranger killed within the walls: that no one could take an inn (hospitalium) within the walls without leave of the burgesses; that they were exempt from toll, lassage (privileged portage), pontage and all other customs throughout the lord's land; and that they could not be condemned in money above 40s.; that the hundred court was held once in the week, and that the burgesses had power of recovering all debts, &c., throughout their lord's land; that lands and tenures within the town were to be held according to the customs of the place, and that pleas with regard to all debts contracted in the town must be there held; and that in case of tolls taken against the charter, the prepositus could enforce restoration by seizure; that strangers within the town could not buy leather, corn, or wool, but of a burgess, nor sell wine except from a ship, nor cloth except at the fair, nor remain in the town to sell goods longer than 40 days; that no burgess could be elsewhere detained for any debt except of his own or of one for which he had become surety; that he could marry without the license of his lord, and that the lord had no wardship only so far as regarded the lands in his own fee; that no one could take tene (a tax levied in kind in those primitive times ad libitum) except for the use of the lord; that the burgesses could grind their corn where they chose, and could buy wine in their own vessels, and sell it to their servants; and that they were allowed to have all their reasonable guilds. These existing privileges the charter confirms: it grants in addition the privilege of holding property in free burgage on land-gable service (payment of service); of buying, selling, and keeping fish upon the banks of the river and upon the other void places of the town. This may serve to show us what the feudal system was, as well as to indicate very nearly what was the social position of Bristol at the time the whole of these privileges were confirmed to the burgesses.

On the accession of Henry III. he was crowned at Gloucester, and the barons being then in arms against the tyranny of the late king, Henry came with his retinue to Bristol for greater security. Here a reconciliation was effected, and an important altercation took place in the municipal government of the town. Hitherto the only local magistrate appears to have been the prepositus, who also seems to have acted as the king's manorial steward; but now the privilege of choosing a mayor and two prepositi was granted to the burgesses. At the same time the burgesses themselves, for eight years, at the advanced rent of 24s. per annum, saving to the king certain bailiffs in the suburbs, and of the pruning of beer so much as should be necessary for the use of the constable of the castle and his people—except for his men and the burgesses. But the rents and profits so leased did not comprise the whole of the revenues of the town; for in the charter roll for the 11th of this king's reign, preserved among the records of Chancery, it is written that the king had granted to Jordan Lawrance and his wife and all the burgesses and freemen of the town and for the weighing of wool and merchandize) in the town of Bristol, for the 'service of 10s. per annum.'

In the 26th of his reign the king again farmed the town to the burgesses for a term of twenty years, at a rental of 24s.; and at the termination of ten years the leases was renewed for a term of sixty years, at a rental of 26s. 13s. 4d. The course of the river Frome within the town had previously been to the E. of its present channel, so that it passed through a part of the town called Baldwin Street, jutting down below the level of the ground, until those parts now occupied by Queen Square and the quay were converted into a marsh; and the anchorage was confined to a small stretch of quay above the bridge, where the vessels lay on a rough and stony bottom, with a very strong current. The river, therefore, the port had now however outgrown the extent of this quay, and the burgesses resolving to cut a new course for the Avon, the ground necessary to the purpose was ceded to the mayor and commonalty by the abbot of St. Augustine's for the sum of ten marks. The work was commenced in 1339, and completed about the year 1247. The extent of quay obtained by this spirited proceeding was about 40 feet deep and 40 yards wide, at a cost of 5000l. For the completion of this undertaking, which for its day well deserves the title of great, the burgesses of Bristol obtained a writ of mandamus from the king to the burgesses of Bideford, requesting permission to send a man to them to be shown at their city hall, to receive the said writ, and its completion both vies, were by royal charter incorporated into one. A stone bridge was immediately commenced for the better means of communication between the united towns, the wall of the town was extended so as to embrace the new district, and to us up all the customhouses which, from the thirteenth to the sixteenth century, almost supplied England with cloth, glass, and soap. In the year 1243 it is recorded that the latter article of Bristol manufacture was first sold in London.

During the unsettled state of the kingdom in the reign of Edward II., consequent upon the quarrel of the king with his barons, the town was for some time held by the citizens against the sovereign, and the royal authority completely set aside. This rebellion originated in an alleged attempt of fourteen of the principal citizens (de magnificis) to usurp the management and disposal of the corporate funds, to the exclusion of the burgesses at large, in whom the right was a usurpation which was resented by the burgesses, who complained also that a custom called cocked was levied by the sheriff often and to their great cost, and made no appeal to the king, a special commission of Oyer and Terminer was issued to inquire into the case; but the commission was objected to by the popular party, on the ground that foreigners (that is, persons not burgesses of Bristol) were put on juries, and that any proceeding arising during its sitting in the Guildhall, the commissioners narrowly escaped with their lives. The parties indicted for this offence, refusing to appear before the king's justices at Gloucester, were outlawed; and the burgesses declined to pay sums exacted from the town, seizing upon their property, and collecting the king's rents and customs to their own use. The rebellion began in 1311; and the town 'held its own' for the space of four years, during which time it continued to exist, a little republic in the heart of a great monarchy, if a sovereignty so torn with dissensions can properly be termed great. The local government was carried on according to its ancient form, with this exception: the burgesses held the authority of the castle at defiance, and, for their better security, built against its foundations of stone. The castle, with its immense thickness, have been recently discovered in making excavations on its site in Dolphin Street, antiently, from this fact, termed Defence Lane. In the spring of 1314 the city was invested on the part of Edward by the earl of Gloucester and the earl of Surrey, and the chieftains of the shire and castles of Somerset and Devon, under the command of John, earl of Warwick and John, earl of Gloucester, and Sir John de Walworth, and the archbishops of Canterbury and York, and the sheriffs and chieftains of the adjoining counties of Somerset, Gloucester, and Wilts, under wriis issued in the midsummer of the preceding year; but the townsman, encouraged by their mayor, John le Taverner, stoutly resisted his besiegers, and the king requiring men for his Scottish wars, the siege was raised. About the latter end of 1316, the burgesses refusing to submit without a full admission of their ancient privileges and exemption from the obnoxious tax, the town was again besieged, and, after a few days' resistance, surrendered, and the town was punished for its rebellion. The mayor was reinimated, and a general pardon was procured from the king on the payment of a considerable fine and the arrear of the cockett. The only charter of this king to the town was one granted in the 15th of his reign, in confirmation of 28th of Edward I.

In 1237, the year succeeding the succession of Edward III., the castle and borough of Liverpool were together taken to be worth 30s. 10s. per annum; while three years afterwards the town of Bristol was farmed at a rental of 24s. In the 34th year of his reign the king granted to his burgesses, without the payment of receiving, for the term of four years, a custom on goods coming to the town for sale, in aid of repairing its walls. The articles taxed will show the nature of the traffic at that time: they consist of live stock, agricultural produce and wine, wool, and cloth. To this time also belong 'Irish Galway cloths,' salt, ashes, honey, iron, lead, alum, brass, tallow, millstones, copper, leather, oil, and wood. The copy of this grant is still preserved among the records.
of the Court of Chancery. In the 5th year of his reign Edward granted a charter to the burgesses, confirming 31st of Henry III. and 15th of Edward II., and providing, that to prevent waste and fraud the mayor should have ward over the manufacture of cloth, and the burgesses should have view of frank-pledge in the suburbs of the town; a privilege of some importance, as the right of the town to hold court in Redcliff Street was contested by the lords of Berkeley. For the encouragement of the home manufacture of cloth, the use of the foreign articles was, in 1337, expressly forbidden; and of the promise of golden profit which the prohibition held out Bristol appears to have availed itself with great spirit. Some of the principal townsmen erected looms in their dwelling-houses, and on a tax being levied on the new local powers, it was relieved from so impolitic an impost on petition to the king. In the 13th of Edward III. the parliament having granted a subsidy of 30,000 sacks of wool, London was rated at 503 bags, Bristol at 63, and York at 49; and in the 27th of the same reign a wool staple was fixed at Bristol, and the trade was prosecuted with such activity, that the suburbs of the town became peopled with the makers of cloth. The trade continued to prosper until the reign of Henry VIII., when cloth of Bristol was held in high esteem; and it lingered about the city till 1739, when the electoral body of freemen, in number 3899, then residing within the town contained 300 weavers: the trade has since altogether retired into the adjoining counties.

Reverting to the history of the town during the reign of Edward I., we see that in 1338, the king requiring vessels of the several ports for the defence of the kingdom, Bristol was commanded to furnish 24 vessels, and Liverpool one small bark. In the war with France, which commenced in the spring of 1344, 645 men were embarked in 114 ships, and also, in 1346, a detachment of 20 vessels with 600 mariners, and London the same number of vessels with 562 mariners.

A most important step in the municipal history of the town was taken at this time. A charter was granted in the 47th of Henry IV., 1399, to the mayor and burgesses, a new chartal, in which was confirmed all the rights and liberties of the future mayor, by virtue of his office, be escheator, that the burgesses should annually choose three persons, out of whom the king should select one to be sheriff; and that these might account at the king's exchequer for the issues out of the office, and that the mayor and sheriff should hold their monthly court, and to collect the profits therefrom to the use of the commonality; it was also provided that the new mayor might be sworn in before his predecessor instead of the constable of the castle as heretofore, and the sheriff before the mayor; that the burgesses might hold the gaol, and the mayor and sheriff have cognizance of all pleas, and hear and determine all felonies, saving all fees, and the jurisdiction of the Tolsey Court to the crown; that the mayor for the time being should have the power to make laws and regulations for the peace and quiet of the town, and the security of the burgesses and other persons, and to put them in execution; that the town should not be burdened to send more than two burgesses to parliament; and that in cases to which existing privileges and customs did not apply, a remedy should be provided by the power of local taxation be possessed by a council of 40, to be elected from time to time by the mayor, sheriff, and commonality of the town, the money so to be raised to be expended for the necessities and profits of the town, by two honest men chosen by common consent for the purpose, and the mayor and others so elected for the purpose by the commonality of the town. By this important charter the jurisdiction of the castle was confined to its own precinct; and the independence of the town was at once established.

These charters were granted to the burgesses by Richard II.; the first two are merely confirmatory of preceding privileges, and were given in the 1st of his reign (1377), in which year also a royal grant for manure, for the space of ten years, was made. The new articles of traffic on which imports are granted in this document, a copy of which is still preserved in the records of the Court of Chancery, are timber, coal, bark, flax, hemp, pitch, tar, wax, pepper, fruit, and sugars. It is to be observed that in the 19th year of the king's reign, provides that, on royal visits, the king's steward and marshal shall not exercise their offices in Bristol. The value of this privilege will be understood when the reader is informed that the jurisdiction of these offices within the verge of the king's residence was superseded all others. In the previous year (1395) the town was granted to the mayor and commonality, for the space of twelve years, at a rental of 100l., chargeable in addition with certain expenses for the support of the castle and the keeper of the gaol and forest at Kingswood.

A charter granted in the 24th year of his reign by Henry VI. exempted Bristol from the jurisdiction of the Admiralty in consideration of 200l. freely granted to the king in his necessities. The value of this privilege will be understood when it is explained that the Court of Admiralty was claimed to determine all cases occurring super altum mare, and that at this period the trouble and expense of prosecuting a suit in the metropolis were infinitely greater than at present: by the charter an admiralty jurisdiction was granted to the local municipal body. In 1397, in the reign of Henry VI. Clement Bagot, the then mayor and escheator, rendered in an account to the Exchequer, still preserved among its records, which enumerates the various sources of revenue which constituted what was called the exchequer of the town of Bristol, which was such as what was the state of commerce. The most important part of this revenue arises from a custom on merchandise. It appears that Bristol had at this early date extended its commerce along the whole W. coast of England, to South Wales and Ireland, and to the Low Countries. The trade of the town, the collection of vessels attempted is into ships and boats; of the former are reckoned 66, of the latter 64; but many of them, from the amount of their cargoes, must have been of large tonnage: 13 ships and 10 boats are distinctly stated to be weighed, and the cargoes of goods which they have had parts of cargoes on board having the same destination. The exports by this account appear to have been 500 dozen of cloths, 7 tons, 6 cwt., 4 pipes, and 1 cask of iron, 400 pieces of glass, and 10 gross of cutlery, with various quantities of honey, meath, alum, pitch, wine, salt, fish, and cardys (corndryfis). The imports are infinitely more numerous; and among the most material are 12 tons of iron; 10,600 bales of linen cloths (Irish); 829 pieces of tin, averaging 2 cwt. to the piece; 10,575 lamb-skins; 2539 goat skins; 865 calf skins; 693 calf hides; 7360 leather; 3380 ox hides; 1340 aurei; 900 barrels of hides; 39,000 fish in bulk, and 1197 packages, principally barrels and pipes of salmon and herrings; 110 barrels of salt; 12 ton of wine; 43 pickers of leather and some others, including oil and about 200 packages of food. These were the quantities counted for on these exports and imports is 212. 1s. 10d.; for merchandise entering in and going out through the gates of the town, 8l. 17s. 10d.; for the fines and amortizations of the following: and for the mills, 9l. 14s., which, with the landgages and rentals of tenements, give a royal revenue from that source amounting to 60l. 14s. 4d. But this income appears to have been very unequal; for in the three successive years these rents and lifts severally amounted to 62l. 3s. 2d., 116l. 8s. 5d., and 104l. 14s.

Custom was the autentick toll or customary payment at the port and gates of a town; and as there can be no doubt that here it was identical with the present town dues, from which, if the borough be exempt, it would follow that these imports and exports were levied as a tax on the trade only which lay in the hands of individuals not free of the town. This may account for the absence of many articles in the list known to have been then imported, and for the charge of these we must refer to the king's accounts. It is certain that a more productive tax was collected under a similar name, and probably payable alike by citizen and stranger; for when at this same date parliament granted a sum for defraying the expenses of the king's household, 212. 4s. 4d, it was directed to be paid at Bristol. In the 20th of the same knight the Commons ordered 8 ships, having each 150 men, to keep the sea continuously, of which number Bristol was directed to furnish 2; and 12 years after, when a fleet was ordered for the
protection of trade, London lent towards its fitting out £300, and Bristol £150.

At the time of Edward IV's succession to the crown, 1461, he came, in his progress through the western counties, to Bristol. William Canynges, the most celebrated merchant of his day, the (reputed) founder of the church of St. Mary Redcliff, and his mother's brother, was an important figure in the city, and was supported by William of Worcester, a contemporary authority, that he paid to the king 3000 marks for his peace, 'pro pace sua habenda.' This must be understood to refer to the whole fine levied on the Lancastrian party in the town, and which Canynges would have had, in his official character of escheator to the king, to pay into the exchequer. The king appears to have been well satisfied with the transfer of allegiance on the part of the burgesses, and with the ready service rendered on their part; for he immediately remitted the heavy fine levied on the city by Hen., re-granted the town to the burgesses for ever on payment of the same annual rental: this charter bears date 12th February, 1461, and it was accompanied, or nearly so, by a grant in fee of the customs for murage, koyage, and pottage, and by two charters confirming of privileges previously enjoyed. The fame of Canynges requires some further notice. It is recorded by William of Worcester that he employed for the space of 6 years 800 seamen, and every day 100 artificers. The same writer furnishes a list of his vessels, 10 in number, and including one of 500 tons burthen, one of 500, one of 400, and two of 220; and though some doubts have been entertained as to the then existence of a vessel so large as the largest here specified, yet when it is considered that it would not necessarily follow that it should have equalled the size of a modern vessel of the same registered burthen, there does not seem any legitimate reason for disturbing the text. The wealth of Canynges was certainly considerable: in his old age he became a priest in the college of Westbury, which he had founded. Resistance has been made above to Canynges as the reputed founder of Redcliff Church; but the honour has been claimed for Simon de Bourton, previously advertised to, for the grandfather of William Canynges, and for William himself. It is certain that a church previously existed on the site, and that it continued to exist as the chapel of the Holy Spirit contemporaneously with the present edifice for a considerable period: it is also certain that Simon de Bourton did found a church of St. Mary, Redcliff; and it is no less certain that to the wealth of the Canynges we are indebted for much of the beauty of the present structure. The difficulty may be got over by concluding, not with Mr. Dallaway, that three distinct churches of St. Mary, Redcliff, have from time to time existed on the same spot, but with Mr. Britton, that Canynges completed what De Bourton began. Mr. Britton has traced in the architecture of the church three distinct eras, which, with considerable ingenuity, he refers to the ages of the three individuals whose claims have been here alluded to. Of the general character of the edifice (one of the finest specimens of parochial church architecture in England), the view given in No. 165 of the 'Penny Magazine' will serve to convey a tolerable idea; and the sketch opposite of the North Porch, the grand though disused entrance, may furnish some conception of the labour bestowed in the architectural decorations. It is a splendid specimen of its kind, but unfortunately hidden from general observation by the near approach of the surrounding buildings.

In 1486 Henry VII. came to Bristol, and the burgesses, through the medium of a pageant of king Brennus, complained in the presence of the body of the town that the king was made to say that he had left the town in possession of 'riches and wealth manifold,' but that since that time 'Bristol had fallen into a decay,' from which there was no hope of recovery without some remedy at the hands of the burgesses, which was accordingly prayed for. Mr. Britton reports that 'after envoys the king sent for the mayre and sherif, and part of the best burgesses of the town, and demanded of them the cause of their poverty; and they showed his grace that it was by reason of the great loss of shipping in the whole.' The king heard them, and was accordingly prayed for. The king comforted them, that they should set on and make new ships, and exercise their merchandize, as they were wont to do; and his grace would so help them by divers means, like as he showed unto them; so that the mayre of the town told me they had not heard these hundred years from any king so good a comfort.' The follow-

From the temporary stagnation of trade Bristol was now recovering, and entered with spirit upon voyages of discovery under Sebastian Cabot, a native of the town, and the most experienced navigator of his age. The name of the vessel which first touched the shores of the vast continent of America was the Matthew of Bristol, and the earliest letters patent on record for the discovery and colonization of new lands were granted to three merchants of Bristol in conjunction with three Portuguese. The history of Bristol during the reign of Henry VIII. is principally a history of the Reformation within its walls. Among the suppressed religious houses of the greatest note were the monastery of St. Augustine, now the cathedral church, and the hospital of the Gaunts, now the mayor's chapel, originally founded by the Berkeleys after their intermarriage with the Gaunts, barons of Folkingham. Henry VIII. founded upon the ruins of the abbey lands a bishopric, thus first erecting the town into the dignity of a city and a bishop's see; it originally formed part of the diocese of Salisbury. The abbey he converted into a cathedral church,
erecting a dean and chapter therein. The Gaunts chapel and lands he sold to the corporation. Speed, in the list of suppressed religious houses, contained in his Chronicle of England, gave the value of this hospital, which was a charity for orphans, 1400l. The last reference to the monastery is when he states it was destroyed in 1567 by 15th. 3d.; and of Westbury College, which to Canegy was so large a benefactor, and wherein, as has been stated, he ended his days, 232 f. 14v. In the year following, 1568, the corporation set up a new chantry in one of the chapels of the castle. On the accession of Elizabeth she granted (1558) a charter confirming of antient privileges; and in 1561 the city was finally exempted from the charge of keeping the marches of Wales.

In 1567 the corporation granted that the Aid, a vessel of 200 tons came into Bristol, bringing with her an Esquimaux, his wife and child. The Aid had returned from an unsuccessful attempt to discover a North-West Passage: the name of her captain was Martin Frisibier. In 1581 the queen granted new chantries, confirming that of Henry VII, granted in the 15th of his reign, and increasing the number of aldermen to 12. When preparation was made to oppose the Spanish Armada, Bristol contributed 3 ships and 1 pinnace; London, 16 ships and 1 pinnace. A return of ships belonging to the United Kingdom in this year gives, of ships above 100 tons, to London, 62; Bristol, 9; above 80, London, 23; Bristol, 1; and under 80, London, 44; Bristol, 27: in which there appears either to be some mistake, or that the commerce of the kingdom had materially declined. The number of vessels during the reign of Elizabeth was at all the ports, London excepted, 77,000l, of which sum Bristol paid 5000l.

Six years after the accession of James I. (in 1609), Newfoundland was colonized from Bristol. In 1630, in connection with the island, 60,000l. Charles I. granted the whole of the lands, buildings, and hereditaments connected with the castle to the burgesses and commonalty of the town, to be held by them and their successors for ever in free socage at a rental of 4l. per annum. In 1631 the merchant adventurers of Bristol fitted out the Hemispheres, Maria, of 80 tons, under the command of Capt. James, who sailed from Kingskape on the 3rd of May in that year, purposing the discovery of a North-West Passage to China, to which enterprise the merchants of this country were then excited. The report of the immediate benefit accorded by the Spanish, the Portuguese, and the Dutch, in their traffic with the East. Capt. James's crew consisted of 20 men and 2 boys; he proceeded as far as lat. 56°, where, finding his course further impeded, and the winter setting in with alarming severity, he resolved to cast锚 himself; he had the good fortune to find a dient of sinking her in the bay named after himself, and wintered on shore. In July 2, 1632, the vessel was raised again, and the adventurous crew proceeded as far as lat. 65° 30', when, finding further perseverance useless, they shipped their cargo for England, and arrived in Bristol in October.

In 1634 the customs at Bristol produced annually about 10,000l.; for several years following the receipts exceeded 15,000l. From this time may be dated the commencement of that struggle between Charles and the people. It began in the demand for ship-money; and on Bristol was at once assessed the sum of 2163l. 13d. 4d.; in 1636 the assessments between Bristol and Liverpool were, according to Rushworth, thus distributed: Bristol, 1 ship of 100 tons, 40 men, and 1000l. charges; Liverpool, 2 ships of 200 tons, 200 men, and 1000l. charges. The struggle continued with increasing bitterness for the possession of the town, and the parliament were severe. Fiennes reports that the 'riches of Bristol since the stop of trade, and many malignant withdrawing their estates, is much otherwise than it was.' To this state of things Col. Fiennes, who held Bristol for the parliament, contributed his share. It was his custom to levy contributions on individuals by a written demand for the supply of the garrison; and during his ascendency some citizens were executed on charges of being estranged or deserters; and from which source he admitted the receipt of 3000l. During the royal occupation of the place, the weekly cost of its garrison, and of Bath, Berkeley, and some others, amounted to about 2000l., which was assessed upon the neighbouring townships, and laid on them, 3000l.; the proportion borne by the hundreds of Redcliffe and Bedminster was 200l. per month. Under the parliament the sum of 300l. per month was ordered to be raised for the defence of the city and its castle; of which sum Bristol paid 200l., and the surrounding counties of Gloucester, Somerset, and Wilt the remainder.

In the year 1636 the castle was demolished by order of parliament, their last and best act with regard to Bristol under the control of its corporation.

Three years after the Restoration, Charles II. visited Bristol; and in the following year (1664) the burgesses obtained from him a charter of confirmation, with a clause that the members of the corporation should take the oaths of supremacy and allegiance, and that the mayor, aldermen, and corporation should serve the king as a loyal court of admiralty. On the 18th May, 1665, the corporation, acting under the advice of its councillors, made a requisition on all the freemen and corporation of the town, for a common order of 1000 men, to render the privileges of the city into the king's hands. Upon this surrender, which was never enrolled, the king granted a charter confirming of all old privileges, but vesting the town near the castle in the existing executive branches of the corporation, and an act for a waiting from the branch the power of electing its successors. The king however retained in his own hands the power of removing any member by an order in council; and the corporation paid him 5000l.

In 1667 King James chose to exercise the power reserved by charter of Charles II., and removed by writ twenty-eight of the corporate body, supplying their places with others; but on the issuing of the proclamation for the resumption of charters, October, 1668, the corporation returned to their old number of 12 aldermen and 40 commonalty.

By an act obtained 11 and 12 William III. the corporation, for the better preservation of the river, extended their jurisdiction four miles along the course of the Avon inward above Bristol bridge, to the village of Hannam in Gloucestershire; and the same body obtained a charter from Queen Anne, which, confirming all previous privileges, removed, with every other right of the crown in fines, fees, &c., the power of deposing any member of the corporation by writ of privy council. The reason of seeking this charter appears to have been some question as to the legality of that of Charles, founded in some degree upon doubts respecting the legality of the surrender upon which it was granted.

The following facts will serve to illustrate the condition of the city in the eighteenth century. In 1725 the number of houses in the city was 6701; in 1738 they had increased to 8701, of which, as appears from the returns of land tax then laid before parliament, 3947 paid severally a rental exceeding 5l. per annum; the population at this last period was 52,000. In 1732 appeared in the press for the first time, a 'Journal of the British Post-office,' a German writer on the political and commercial geography of Europe, estimated the number of houses in the city and suburbs at 13,000, and the population of the whole district at 95,000. This estimate is in a note, added, apparently, by the author himself; but possibility however is that this exceeded the fact. The manufactories of brass was commenced in 1704; that of zinc in 1743. In 1745 the receipt for one year of wharfage, a local tax on foreign imports and exports, was 918l.; thirty years afterwards it was 2000l. From 1750 to 1757 the average net receipts of the customs at Bristol was 155,189l.; at Liverpool 51,136l.; the net receipt at Bristol in 1764 was 195,000l.; the number of vessels reported inwards 2533. In 1784 the customs at Bristol yielded 445,000l. The tonnage duties, in 1765 the tonnage belonging to the port of Liverpool amounted to 49,341 tons, comprised in 465 vessels; the number of vessels belonging to the port of Bristol was 360, with a burthen of 55,908 tons. In the same year the entire trade of Bristol stood thus: Foreign trade—British vessels in 255, tonnage 38,585; out vessels 243, tonnage 37,542: foreign bottoms in 69, tonnage 11,112; out 66, tonnage 37,542. Coasting trade—in vessels 1865, tonnage 65,290; out vessels 1832, tonnage 62,199; Irish vessels—in 161, tonnage 9690; out vessels 502, tonnage 5855. From this time Bristol may date her loss of claim to be considered the second commercial place in the kingdom, and the superior importance of Liverpool began to be felt.

The only remaining facts necessary to be mentioned in the historical part are the bridge riots of 1793, and the still more memorable riots of 1831. As to the former, it is unnecessary here to do more than to allude to them; of the latter some account will be given from personal observation.
The Bristol riots of 1831 originated in some disturbances which attended the visit of the recorder, Sir Charles Welby, to the city on the 29th of April, 1831. These disturbances were at first nothing more than the expression of the popular dislike to the recorder, whose opinions on the question of reform, as stated by him in the House of Commons, were at variance with those of a large body of the population. In conjunction with the persons thus excited, the magistrates took measures to prevent the recurrence of the same scenes at the recorder's visit, Saturday, October 29, 1831. The popular feeling was still more excited, and broke out in open violence. The military were called in, a skirmish took place, and a man was shot by a soldier. This agitated the populace still more, and it was judged prudent that the obstreperous regiment (the 14th) should be marched out of the town on the following morning. At this crisis, when the mob had forced its way to the collars of the Mansion-house, the magistrates, in order to prevent any expression of political feeling, were assuming the character of mere rioting and plunder, the indecency of the corporate authorities completed the scene of confusion. Several citizens who had attended at the Guildhall on the invitation of the magistrates to assist them in repressing the disturbances were told to go home to dinner, to give the magistrates time to consult over several private letters of advice. A second meeting took place in the afternoon, but in the mean time both gaols had been forced and fired. Operations on a large scale were then commenced; some persons were pursuing the rioters, because the magistrates would not sanction the use of arms. At this time the rioters were still in possession of the larger gaol, and employed in feeding the flames in the governor's house and debaters' rooms with the household linen. However, the fire was extinguished when the magistrates to the scene of disturbance being unarmed, fled at the first charge. Speaking from knowledge acquired on the spot, it is not too much to say that at any time during this day, subsequent to the retreat of the troops, it was all folly to hope that the mob might have successfully put down the disturbance; the half-dozen dragoons within the town were quite equal to the defence of the large prison, had measures been taken to garrison it in time; and upon revision of the whole transaction it appears not probable that, even if the mob had been on the much smaller scale and of much less number, had they been engaged in the work of destruction, which seems almost contemptible. From the city prison the mob proceeded to the Gloucester county prison, where, as in the city, the prisoners were all liberated and the goul fired. In the evening of the same day (Sunday) the Mansion-house was plundered and burned down; from the Mansion-house the destruction was extended to the private dwellings adjoining, and to the Bishop's Palace in another part of the town; and during the night fifty buildings throughout these parts were burnt. By means of fire, the Bishop's Palace, and forty-five private houses were consumed, and the property either destroyed or carried away. The total loss was estimated, and perhaps not over-estimated, at 200,000l. In the morning of Monday the first check was given to the rioters about six o'clock, by the spirited defence of a private house, then attacked, by its owner and a few friends; and a charge simultaneously made by the few dragoons, upon the enfeebled remnants of the mob, overpowered with their previous excesses, effectually quieted the disturbance. The property consumed in these buildings, which were entirely free from rioters, and the passengers within them were confined to a few persons anxious to ascertain the fate of their friends residing within the neighbourhood of the fires, and a few women and children to whose welfare they were devoted. This check, happily the definite order was now given, for the first time, by the magistrates, of course in ignorance of the then state of the city, to charge through the streets, and given to troops just recalled to the place, or who had not till then been informed of the actual nature of the riot. The charge itself was unavailing for and unexpected. Active search was also made after the stolen property, much of which was recovered, and many captures were made of persons who were plainly implicated in the riots. The list of killed and wounded, as subsequently made out, was, killed 12, wounded 96; but this list included only those who were taken to the public hospitals; many rioters perished in the streets, and many more were seen or heard of being overtaken while engaged in plundering or drinking.

At the special commission, opened on the 2nd of January, 1832, in the Guildhall at Bristol, before the Lord Chief Justice Tyndal, and Mr. Justices Taunton and Bosanquet. Three persons were convicted for inciting to murder, and, in these disturbances, the bills against 12 of whom were ignored; 21 were acquitted, and 81 convicted: of the prisoners convicted, 5 were condemned to death, 4 of whom were executed, 1 having been reprieved on the ground of defective intelligence; and 26 the verdict of death was recorded; 1 was transported for 14 years, 6 for 7 years; and 23 were sentenced to various terms of imprisonment. Courts-martial were at the same time held on Colonel Breton, the military commander of the district, and upon the second in this charge. The sentences of the military court-martial were brought suddenly to a close by the melancholy suicide of Colonel Breton; the second terminated in the object of it being cashiered, with liberty to sell his commission. Ex officio informations were also subsequently filed against several of the magistrates for neglect of duty, and that against the mayor, Mr. Pinney, came to trial before the Court of King's Bench. The defence was, that the citizens refused to confide in or assist the magistrates, and that consequently, deserted as they were by the public, they could not do their duty. But the magistrates admitted that the verdict of acquittal appears to have been given; and the other informations were withdrawn. Subsequent to the riots the corporation introduced a bill into parliament for providing compensation for the sufferers; but this measure was taken from the very act of the rioters, for the purpose of the rate-payers, under whose care the bill was materially amended and ultimately carried. This measure provided for the awarding of damages by commissioners to be elected by the rate-payers. Of 102 claims taken before the court, 21 have been dismissed, and the only one carried into court; thus furnishing an admirable illustration of the sufficiency of the principle of arbitration and mutual agreement, which in this case has reduced the amount chargeable on the city in respect of the fires to 16,685l. The city in all has been suffered to take the common expenses course, would have been doubled. The amount annually levied is 16,000l.

Present State of Bristol. Local Government. — The corporation of Bristol, prior to s and f of William TV., was styled the 'mayor, burgesses, and commonalty of the city of Bristol,' and consisted of a common council of forty-three persons; this body was composed of a mayor, two sheriffs, twelve aldermen, the recorder (necessarily a barrister of five years' standing) being one, and twenty-eight common councillors. But the corporation has been in the hands of the direct or indirect appointment of nearly four hundred (perhaps) officers, with their salaries and fees attached, making average incomes of from 50l. to 1500l. per annum, and of the presentation to fourteen adowons, and to two lectureships. The public property in its entire control netted from 16,000l. to 18,000l. yearly; but this, under the system of leasing on lives, is considerably less than the improbable value: its debt, which in 1825 amounted to 51400l. only, had in 1833, when the commissioners of corporate inquiry visited the city, increased to nearly 55000l. But the city has not yet got money on condition of paying certain dividends, amounting to about 31000l., making its total liabilities at that time 86000l. This total, up to the extinction of the old body, December, 1835, had increased by excess of expenditure to a round sum of 112000l. The value of the corporate property is estimated at 850000l.

The jurisdiction of the corporation extended by water over the whole of the old and new course of the Avon, inland into Gloucestershire about four m. beyond the limits of the corporation, and, in addition, just below a high-water mark on the Severn, from Auster Passage to Cleavers, including the islands of the Denny, and of the Flat and Steep Holmes in the channel; by land it included eighteen parishes, each governed by a self-elected vestry, and the precincts of the city to the parishes of Clifton, Bedminster, and St. Philip and St. Agnes contiguous to the dock company's works, the whole containing a population of about 65000 souls. The remainder of the out-parishes were under the jurisdiction of their several counties of Somerset and Gloucester, and contain, in the
immediate suburbs of the city, a population of about 40,000, comprised within five parishes, and principally consisting of the poorer classes.

The governing body of the corporation, commencing with the 1st of January, in the present year (1836), consists of 48 councillors, annually elected by the rated inhabitants, and of 16 aldermen, and a mayor: the city is divided into 10 wards. The jurisdiction is extended over the whole of the suburbs, including parliamentary boroughs, which embraces the whole of the out-parishes, except some inconsiderable parts of Bedminster and Westonbury, more closely connected with the county than with the city.

The government of the poor of the in-parishes is vested in a corporation, under 3rd of Geo. IV. cap. 200, but first created by 7 and 8 of William III. cap. 32, consisting of 13 members of the municipal body (late the mayor and aldermen), the 18 senior churchwardens of the 18 parishes, the Overseer of the ancient of the castle, and 48 persons elected by the rate payers of the old city wards, 4 to each. The corporation possesses two workhouses, one within the city, and the other, purchased for the use of the poor in 1698, and principally used for the meetings of the corporation, and as an infirmary; the other, properly the workhouse, a large building on the Gloucester road, purchased in 1831 of the government, by whom it had previously been used as a military depot, and subsequently made part of the city of Bristol by act of parliament. The money relief given by the corporation exceeds 17,000l. per annum; the increase of pauperism in Bristol is, upon an average, over two periods of five years, each ending with the years specified.

The increase of pauperism at Bristol is disproportionately large, compared with that of England and Wales, and also as compared with the relative population of the increase:—

<table>
<thead>
<tr>
<th>Year</th>
<th>In-poor.</th>
<th>Out-poor.</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1805</td>
<td>11,630l.</td>
<td>305</td>
<td>3089</td>
</tr>
<tr>
<td>1835</td>
<td>31,000l.</td>
<td>597</td>
<td>4663</td>
</tr>
</tbody>
</table>

The increase of pauperism at Bristol is disproportionately large, compared with that of England and Wales, and also as compared with the relative population of the increase:—

<table>
<thead>
<tr>
<th>Rate</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1805</td>
<td>31,000l.</td>
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</tbody>
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</tr>
</thead>
<tbody>
<tr>
<td>1805</td>
<td>31,000l.</td>
</tr>
</tbody>
</table>

To the average of 31,000l. given above must be added an average of 4000l. of uncollected poor rates annually reassessed in addition under the last act of incorporation (and separately assessed by the justices, although subsequently assented to and collected with the rate) upon the entire 19 parishes and precinct.

The out-parishes of Clifton, St. Philip and Jacob, and the district of St. James and Paul, the poor are governed by local acts; in those of Bedminster and Westonbury they are regulated under the general law. Since, however, the parliamentary borough cannot contain less than 110,000 souls; nor can the rack rental be much under 425,000l. of which 200,000l. may be taken to be shared by the out-parishes. The pauperism of Bristol is doubtless in part owing to the decline of its trade and manufactures; but the whole district within the boundary has suffered materially from a vicious system of management, and from laxity in collecting the rates generally. By the practice of excusing the occupiers of small houses from all payment on the ground of poverty, this exemption is also given to speculative builders and small capitalists, in a neighbourhood where building materials are cheap and there is much poor waste ground, to multiply the erection of small houses.

The district of St. James and St. Paul has escaped this evil by means of a local act, under which the landlord is rated, and which has been found to be a sufficient check. The local taxation annually assessed within the 19 city parishes and precinct, including church rates estimated at 2000l., poor's rate at 31,000l., compensation rate 10,000l., harbour rate at 9000l., and the rates on houses at 10,000l., and reassessments of the whole at 4000l., is 65,000l. This total has not averaged less than 65,000l. for many years.

The constituency of Bristol, returns two members to parliament, and being continued to do so from a.d. 1263. Prior to the passing of the Reform Act the electoral right was in the freeholders and freemen resident and non-resident, in all 8600, the proportion of freeholders to freemen being 1 in 7, and of non-resident to resident voters, 1 in 4. The free-men acquired the right either by birth within the walls, the father having been previously enrolled, by marriage with the daughter or widow of a free-man, by servitude to a free-man within the walls, or by purchase; the price of enrolment in the three first cases was about 3l.; in the last the presumed value of the exemption from town dues, conferred, by admission, regulated the demand; and 300l. has been paid. The average admissions of ordinary years were 50; in the years of contested elections they averaged from 600 to 2000, and have sometimes of themselves decided an election, giving a clear majority to the candidate by whom or by whose friends the fees were paid. Contested elections under the Reform Act times involved an expenditure of from 20,000l. to 30,000l. The Reform Act extended the freeholders' privilege to the out-parishes, removed the abuse of non-residence and of admission to the freedom for election purposes after taste of the writ, and introduced the 10l. constituency. The following is the relative proportions of each subsequent registration and polling—

<table>
<thead>
<tr>
<th>Year</th>
<th>Householders. Freemen. Total.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1832</td>
<td>4138</td>
</tr>
<tr>
<td>1833</td>
<td>3817</td>
</tr>
<tr>
<td>1834</td>
<td>3729</td>
</tr>
<tr>
<td>1835</td>
<td>4713</td>
</tr>
</tbody>
</table>

For municipal purposes Bristol, as already observed, is now divided into 10 wards. The number of rated properties within the boundary is 19,397, of which 10,498 are within the old city bounds; but the municipal constituency does not at present exceed 4000.

The foreign trade of Bristol principally consists, in imports, of sugar, rum, wine, brandy, colonial and Baltic timber, tallow, and other forest produce, and in exports, of coal, and, when the ports are open, wheat, and, within the year 1833, tea. In 1833 the import of foreign corn was 147,076 quarters; in 1832, the last, 6304 quarters. In 1834 the customs revenue for the three quarters ending Michaelmas was 762,221l.; for the three corresponding quarters of 1835 it was 889,776l.; the increase of 127,557l. is attributable to the new traffic opened with China. The average import of sugar is about 30,000 hogsheads; of tallow, 6799 casks; of wine, 1615 pipes; of rum, 2533 puncheons; of brandy, 115,932 gallons; and in the trade about 15,000 tons of shipping are engaged. The principal articles of export are iron, tin, bronzes, refined sugar, glass bottles, Irish linen, and manufactured goods. The annexed table will show the comparative state of the direct foreign trade of Bristol for the last 5 years, ending January 5, 1835, on the average of the 5 first and the 3 last years ending with the 5th of January of the given dates—

<table>
<thead>
<tr>
<th>Year</th>
<th>Tonnage in.</th>
<th>Tonnage out.</th>
<th>Export value.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1832</td>
<td>80,856</td>
<td>52,750</td>
<td>£403,881</td>
</tr>
<tr>
<td>1835</td>
<td>57,389</td>
<td>43,788</td>
<td>203,900</td>
</tr>
</tbody>
</table>

Bristol derives a considerable portion of her supply of foreign produce coastwise under bond principally from London and Liverpool, but also from the minor ports of Gloucester, Newport, Bridgewater, Exeter, Barnstaple and Bideford. In the quarter ending January 5, 1835, a fair average period, Bridgewater furnished to Bristol 225 casks of foreign tallow, about 13 per cent. of the average import; and during the same period 2000 tons of foreign goods were sent round from London and Liverpool. The decline of the foreign trade of Bristol both in imports and exports, with the increased cost of coastwise trade, is attributed to the excess of local taxation in the shape of municipal and other imposts levied upon shipping and goods, and levied almost wholly upon the foreign trade; so that, independent of the direct effect of the tax itself, it has operated by the prohibitory scale of duties which prevails, there is a premium held out for supplying the existing demand coastwise, the difference on the tax being more than sufficient to cover the extra cost of transhipments. The
amounts collected average 42,000l. per annum, but the pressure is to be estimated rather by what is not received than by that which is. Public attention has been very forcibly directed to this subject within the last 10 years, and considerable though inadequate reductions have been made with a corresponding good effect. The coasting trade of Bristol is very considerable, particularly with Ireland. The imports principally consist of iron, tin, coal, salt, and Irish linens and agricultural produce; the exports, of articles of foreign and colonial produce, particularly groceries, tea, wines, and spirits, and of the manufactures of the place. The total coasting tonnage engaged, on the three years average ending January 5, 1835, is—

<table>
<thead>
<tr>
<th>Type</th>
<th>Outwards</th>
<th>Inwards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tons</td>
<td>282,841</td>
<td>47,564</td>
</tr>
<tr>
<td>Steam-vessels</td>
<td>134,807</td>
<td>134,615</td>
</tr>
</tbody>
</table>

Bristol, upon the same average, takes from Ireland among other articles, 1193 tons of butter, 97,566 quarters of grain, 1996 tons of flour, 1114 tons of potatoes, 3507 sheep, 3115 head of cattle, 109,263 pigs; and Ireland takes in exchange from Bristol, 2406 tons of wrought iron, 1325 cwt. of leather, 5790 cwt. of raw sugar, 36,840 cwt. of refined sugars, 59,056 lbs. of tea, and 3569 boxes of tin plates. The coasting trade of Bristol has considerably increased within the last 10 years, the steamers, put on in 1826 being very nearly in addition to the previous traffic. The advocates of reduction of local taxation ground their strongest argument on the fact that the waste has been so frequent and so consequent on the entire removal of town dues in 1824 from the coasting and Irish trades, without which the profit by steam could scarcely have had existence: the effect of this on the Irish trade may be estimated from the following figures—

**Table: Bristol Trade**

<table>
<thead>
<tr>
<th>Year ending Jan. 5, 1834</th>
<th>Tonnage out</th>
<th>Tonnage in</th>
<th>Export value in £</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10,000</td>
<td>35,709</td>
<td>128,995</td>
</tr>
</tbody>
</table>

Average 3 years to 1835

<table>
<thead>
<tr>
<th>Year ending Jan. 5, 1835</th>
<th>Tonnage out</th>
<th>Tonnage in</th>
<th>Export value in £</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>74,573</td>
<td>90,764</td>
<td>280,000</td>
</tr>
</tbody>
</table>

The existing manufactures of Bristol are glass bottles, crown and flute glass, brass wire, pins, sheet lead, spelter, chain cables, anchors, machinery, drugs, colours, dyes, painted floor-cloth, earthenware, refined sugar, starch, soap, British spirits, tin, copper, and brass wares, bricks, beer, porter, pipes, tobacco, and hats. Most of these are either carried on within the city or in its immediate neighbourhood; but the manufacturing circuit may be considered to extend six miles around, and the principal factories are those for glass, sugar, iron, brass, floor-cloth, and earthenware. The ability of the workers in glass and sugar refining has been long known; but manufactured industry in Bristol is far from being in a flourishing state, and several branches have withdrawn from the place. This, in a neighbourhood which, in addition to a ready port, furnishes a cheap and inexhaustible supply of building materials, water, coal, and provisions, was greatly facilitated, since internal conveyance, is mainly to be attributed to that long, prejudicial, and impolitic excess of local taxation which even now compels the manufacturer to send his goods round to Liverpool for exportation, in some cases to save the difference on the tax, in others because the port does not supply the necessary tonnage for direct shipment.

**Public Buildings, Institutions, and Companies**—There are in Bristol 23 churches connected with the establishment and 36 dissenting places of worship. The churches of Bristol present some beautiful specimens of ancient English ecclesiastical architecture, the finest being the tower of St. Stephen's, celebrated for the decorated elegance of its summit; the church of St. Mary, Redcliff, of which a characteristic specimen has been already given; and the cathedral church, antiently part of the abbey of St. Augustine, the Norman gateway of which presents one of the finest existing specimens of its style in England. The proportions of the arch are in the original somewhat destroyed by the rising of the ground, and the effect is otherwise weakened by the introduction of modern arches; in the annexed sketch the antient window is restored. Forty religious societies connected with the establishment and the various dissenting bodies of Bristol collect annually in favour of the peculiar views of their members about 10,000l.; this is exclusive of schools, maintenance of places of worship, and chance collections after the Sunday services for other specific objects.

The council house is in the centre of the town, partly in Corn Street, partly in Broad Street. It was erected in 1827 at an expense of 14,000l., and is a very plain but convenient building executed by Sir R. Smirke, and surmounted with a statue of Justice by Baily, a native of the city; it communicates with the justice-room, a smaller building annexed. The courts are held in the Guildhall in Broad Street, an antient building. The Mansion House, burnt down in 1831, has not been rebuilt. The gaol was on the site of W., of the city, upon the new course of the river Avon, in 1816, at a cost of 60,000l., under the powers of an act of parliament then obtained. It is a singular fact that the mortality is greater in the new gaol than it was in the old prison: this is probably attributable to the greater degree of cold which must prevail in the present than in the former locality. The bridewell, entirely destroyed during the riots, has been rebuilt upon its old site in an enlarged and more convenient form. The principal bridge is that connecting the centre of the town with the Redcliff side of the Avon; it is built of stone, and has 3 arches, the centre one being elliptical with a span of 55 ft., the side arches semicircular, each 40 ft. in span. A swivel bridge of iron, opened in 1827, in the place of the Newbridge, crosses the harbour, connecting the parishes of Clifton and St. Augustine with the city; and two iron bridges, each with one arch spanning 100 ft., cross the new course of the Avon, severally connecting the city with the Bath and Wells and Exeter roads.

The docks at Bristol were commenced in 1804, under the powers of an act of parliament obtained 43 of Geo. III., by a proprietary body, and were first opened in 1809. They were formed by digging a new course for the Avon south of the city, and by converting the whole of the old channel, from an overflow dam erected above the Bristol bridge in St. Philip's Marsh to the entrance lock at Rowkham, including the branch of the Frome within the quays of St. Augustine and St. Stephen, into one floating harbour, about three m. in length. The quays thus inclose one end of the city, extending from Bristol bridge to the small stone bridge across the Frome, where that riv. ceases to be navigable, and
thus form three sides of a parallelogram, the eastern and southern being washed by the Avon, the western by the Frome. The total extent of quay is 2000 years; but these limits admit of any extension along the banks of the harbour below the town which the increase of trade could require. A situation for the temporary accommodation of vessels entering or leaving the harbour—such as at Rowanham, principally used by large vessels, and containing in length between the locks 275 yards, in extreme width 147 yards: it rounds smaller towards the mouth, and empties itself through two locks of 2400 tons. The second basin lies south of the quay, communicating with the Avon branch of the harbour, above its junction with the Frome, and emptying itself into the riv. Avon through a single lock, about 300 yards below the iron bridge at Bedminster; it is 540 yards long, and averages 60 yards of width. Previous to the construction of this harbour, vessels were suffered to take the ground, and considerable injury and delay were occasioned; important facilities were consequently afforded to the trade of the port by these works.

The estimated expense of the docks was 300,000/; their actual cost exceeded 600,000/., which sum was made up, under the powers of four acts of parliament obtained subsequent to the constitutionary act, by forced calls upon the subscribers. The rates are 1/10th of gns. per ton, or 50/- at 1471 per each, and by loans. The present capital of the company is 594,054/., of which 268,232/ is debt, bearing interest at five per cent.; the remainder of the capital is comprised in 2099 shares, on which the maximum dividend allowed is not more than 4 per cent. of the capital, and the dividend may be taken for a long time wholly unproductive, and the dividend when made seldom exceeds 2 per cent. The income of the company averages about 31,000/., of which 20,000/ is derived from a tonnage on vessels, 7000/ from the rates on foreign goods, 2500/ from tolls, and 1100/ from shares. The rates in the city parishes, and the remainder from lockages, canal rates, boat licences, and other inconsiderable sources of income. The cost of maintenance averages about 7000/.

The dock rates on vessels and goods far exceed the corresponding rates in the second city of London, and the eastern docks of the great West of England and South Wales, by the clothiers of the counties of Gloucester, Somerset, and Wilts, and by the leather-factors of the kingdom. The sales of leather are mostly very extensive. The commercial rooms in Clare market are crowded, and those in the city of London, under the powers of an act of parliament by a proprietary body of shareholders. The chamber of commerce, instituted in 1823, for the purpose of protecting and promoting the commercial, trading, and manufacturing interests of Bristol, is supported by subscribers. The tolls from coal, and other goods, have been estimated at 250,000/ per annum.

The great market is held on the Thursday preceding Christmas Day, when the trade is generally very fine. Extra markets are also held at the two fairs, the first of which is kept in March in Avon Street, in the parish of Temple; the second in September, in an open square on the Avon, near the entrance into the Avon Bridge, in that of Saint James's; and the third in July, in the parish of Temple. The market is of a threatening aspect, and traditionally the burialplace of those who had died of the plague. Of these fairs the most considerable is the last; both commence on the 1st of the several months, and continue about eight days; they are supported by a contribution from the three fairs in the city.

The navigation of the river is opened every Thursday; and the supply fluctuates considerably, but the average is about—cattle 500, sheep 5000, pigs 400, horses 80. The tolls produce about 5000/ per annum.

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The Bristol Institution, a handsome building erected in Park Street, by shares of 5½ each, is supported by annual subscriptions of two guineas. It was first opened in 1823. It has a reading-room, a small library, and a museum. The museum contains a very fine collection of antient and modern productions of art. Among the objects are a statue of Eve, a fountain, and a complete set of casts from the Aegina marbles. It possesses a very fine cabinet of British and foreign insects, Müller's collection of crinital remains, the originals upon which his great work on the natural history of the British Crinoids is founded; and of minerals, there are several thousand specimens, arranged according to W. Phillips; in conchology above 2500 species; mammals and birds above 1600. The collections of reptiles, in spirits, of mineral conchology, and of zoophytes, are exceedingly numerous. The catalogues of all classes of objects are now in preparation to be issued. The theatre of the institution, where also papers on literary and philosophical subjects are occasionally read by the members of a society associated for the purpose and annexed to the institution. In the large room of the Museum, exhibitions of pictures annually take place, under the superintendence of Mr. Boddam, as of a local society of artists, associated for the purposes of mutual improvement in sculpture and painting. The Bristol Mechanics' Institution was founded in 1823; it now meets in a building erected for the purpose, in Broadmead, and open to the public daily. The Bristol library, in King Street, founded in 1772 by 24 private gentlemen, has now 300 subscribers, each of whom pays an annual subscription of one guinea and a half, and holds a ticket entitling him to at least 100 volumes. At present, about 18,000 volumes, of which 2000 belong to the city, having been left with a building, in which they were contained, for the use of the aldermen and shopkeepers of the town. But the corporation have granted both the books and the building to the subscribers, and have enjoined them, as the due admixture of scientific with classical studies, the latter of which are not entered upon before the age of ten, and by the methods employed to cultivate the moral and social qualities of the students as well as their intellectual powers, to acquire the most gratifying results. Discipline is maintained without recourse being had in any instance to corporal punishment. The Bristol Medical School, established on its present efficient scale in 1834, is held in high estimation by the Bristol college, and furnishes a complete course of lectures to the pupils in anatomy, medicine, and chemistry, ranks very high, and the certificates of its professors are recognized at Apothecaries' Hall. There are about 36 charity schools open daily in Bristol; and the number of Sunday schools is considerably larger. Twelve of the 30 day schools are endowed; in the whole are educated about 2000 children, and in the Sunday schools not less than 10,000. The income of the endowed schools is nearly 700£., for which are wholly maintained, educated, and apprenticed 168 boys and 40 girls; educated and clothed, 90 boys and 88 girls; and educated wholly, 148 boys. The income of all other schools, including that of two societies for educating young men to the ministry in the church establishment and in the Baptist connection, is estimated at about 300£. The endowed schools the principal is the Free Grammar School, instituted for the purpose of educating freely all who may resort thither in "good literature." The school has two fellowships at St. John's College, Oxford, and five exhibitions at the same university, and is otherwise very well endowed, but under the trusteeship of the late corporation it has ceased to have a scholar. Among the charitable institutions of Bristol the Infirmary, founded in 1753, stands pre-eminent. It is a large building accommodating 40 patients, the average number of whom admitted in the year is 1600; per annum, of which 200. There is a weekly visiting of all patients on the premises, the object being to restore that desirable feeling of independence among the poor which has certainly suffered in Bristol under the influence of its many local charities. The Dispensary, another establishment, which has 2 stations at separate ends of the town, visiting all the sick in the houses, and giving medicine, on the average, about 2700, including about 500 midwifery cases. Its income, arising from subscriptions, averages 100£. per annum. Among other minor institutions of a similar character are two for the cure of diseases of the eyes. The one in Maudslay Lane, and the other in Woodberry Down, has an asylum and basket factory annexed, that in Frogmore Street exists entirely on voluntary contributions, and treats 1300 patients annually, boarding some of them, at an expense of 70£. only. There are besides about 40 voluntary charities in the city, besides the Hospital for the aged poor among the poor, in food, clothing, medicine, and in other forms, about 15,000£. The endowed charities are estimated at 23,000£., of which 6000£. disburse some of the amount left for the purposes of being lent out in various sums and for various terms, for interest, and 9000£. is distributed annually among the poor; the remainder is appropriated to the maintenance of schools and other endowments. This statement does not include charitable collections, which sometimes extend from 600£. to 6000£. Bristol supplies the newspapers, three of which are printed on the Saturday and one on the Thursday in each week. A quarterly journal, devoted to science and literature, is also printed at Bristol, of which four numbers have appeared. The rocks of the immediate neighbourhood of Bristol are composed of carbonaceous lime-stone with the newer red sand-stone formation with the dolomitic conglomerate in the last formation there have recently been discovered some saurian remains, which form three new species. The ranges of mountain limestone at St. Vincent's Rocks are remarkably fine; coal-fields extend N. and S. of the city about 28 m., but the beds are comparatively thin, as compared with those of the other coal districts of England. The rocks at Clifton supply a saline spring; the water of the Clifton spring is from the dump 74° Fahrenheit, and it then everolees carbonic acid gas, but the spring has been used in consumptive cases. Its composition is thus given by Dr. Carrick—Specific gravity 1.0077. In each pint—carbonic acid, 3°5 cub. in., carbonate of lime, 1°5 gr.; sulphate of soda, 1°5 gr.; of magnesia, 1°; total, 6°. The Hotwell House is beautifully situated beneath the rocks, looking on the river, along the banks of which a fine new carriage road leads from the well round the rocks to Clifton Down; but a reader on the lower slopes of the Sketty Hills, which is a fashionable retreat,—the west end of the town—is approached by an easy serpentine path, leading up the rocks from behind the Hotwell House. The scenery around Bristol, particularly the Clifton Hotwells, is exquisitely beautiful. The Bristol Botanic Gardens are considerably more highly interesting. In a catalogue recently compiled by Mr. G. H. Stephens and printed in the West of England Journal, 375 specimens are enumerated as part of those found in the immediate neighbourhood. Many of these are
of extreme rarity, and of some the habitats described are the only ones known in the country. The richest fields for the botanists are the downs, the rocks, and the woods of Lothian on the Haddington shore. The phleumone of the pines having recently attracted considerable attention, a self-regis-
terising tide gauge, contrived by Mr. Shirreff, the sub-curator of the Bristol institution, was, upon the suggestion of Pro-
fessor Hewlett, erected at Kingsroad, about halfway be-
tween the mouth of the Avon and the mouth of the Severn. The several heights of water has been since regularly kept.
A series of observations has also been simultaneously made at the entrance to the Bristol docks; and the result has been already so far satisfactory as to induce the publication of an average of tide tables for the port, calculated by Mr. Bunt of Bristol, in which the errors of preceding cal-
culations, to the amount of more than 30 minutes, have been reduced to 1 in 25. The greatest difference of the height of the tide at springs and neaps, observed on the gauge at the Bristol Channel, between 1835, was between the 17th September and the 14th of May. On the former date the water rose to 48 ft. 10 in.; on the latter to 23 ft. 4 in. The difference between the height of the neap and spring tides, at the dock gates, is from 4 to 5 ft. less than at the gauge, although the intervening distance is but four miles—a fact very clearly shows that the supposition of the wave manner in which the same level is clearly erroneous. The temperatures, pre-
vailing winds, &c., are shown in the annexed tables for the last six years:

<table>
<thead>
<tr>
<th>Years</th>
<th>Extremes of the Barometer.</th>
<th>Maximum and Minimum Temperature.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1859</td>
<td>High 38-55  Low 28-84  High 38-75  Low 27-89</td>
<td>37th July 29th  32nd July 30th</td>
</tr>
<tr>
<td>1859</td>
<td>High 38-85  Low 29-13  High 38-95  Low 27-95</td>
<td>30th August  29th August</td>
</tr>
<tr>
<td>1859</td>
<td>High 40-85  Low 26-85  High 39-75  Low 22-75</td>
<td>1st Jan 1st  29th June 29th</td>
</tr>
<tr>
<td>1859</td>
<td>High 36-95  Low 24-95  High 36-75  Low 21-75</td>
<td>1st March 1st  1st August 1st</td>
</tr>
<tr>
<td>1859</td>
<td>High 36-95  Low 24-74  High 36-85  Low 23-85</td>
<td>3rd December 3rd</td>
</tr>
</tbody>
</table>

No register of the rain was kept prior to 1831; and the month of March in that year is omitted in consequence of the pluviometer being out of order. The meteorological tables and figures are all taken from the observations of Mr. Jones.

BRISTOL, a county in the state of Rhode Island in the U.S. of America, containing the three townships of Bristol, Warren, and Barrington. Bristol c.o. occupies the E. por-
tion of the state and joins the c.o. of the same name in Massachusetts. The pop. in 1810 amounted to 5072; in 1820 to 5637; and in 1830 to 6466.

BRISTOL, a port and the principal town of the above c.o., is situated on a pen. called Bristol Neck, at the bottom of Narraganset Bay, and occupies the W. side of the pen. in 41° 40' N.lat. and 71° 12' W.long. It is a pleasant, well-
built town; the harbor is safe and commodious, and the place has considerable trade. Ships arriving to the port, at 31st December, 1831, to 9366 tons; the ex-
ports consist of agricultural produce drawn from the neigh-
bours, country, the soil of which is very fertile. The town contained in 1830 a pop. of 3052; it has 5 incorporated banks, the aggregate capital of which is near the 500,000 dollars. The general assembly of the state of Rhode Island holds its sittings in the month of January every year, either at Bristol, East Greenwich, or Providence.

Bristol is 15 m. S.S.E. from Providence, the capital of the state, and 30 m. S.W. of Boston.

BRISTOL CHANNEL. [Stern.] BRISTOL, a port, derived from the French and ap-
pplied, in permanent fortification, to a fortification or bar or parapet which deviates from the general direction. Thus, in a front of fortification with retired flanks, the part of the curtain immediately contiguous to each flank, which is traced to the line of the flank, is called the Bristol, or the part of the curtain. An example of this kind of brisboy is shown at at (fig. 1) in the article Bastion. In field fortification the faces of a star fort and of any indented line of parapet are called brisboys.

BRITAIN, GREAT. [Great Britain.] BRITAIN, NEW. [New Britain.]

BRITANNIA, the name by which the Island of Great Britain is mentioned by the Latin writers. We propose in the present article to give a brief notice of its ancient in-
habitants and history, previous to and during the period of the Roman domination.

The earliest inhabitants of Britain, so far as we know, were probably of that great family the main branches of which, distinguished by the designation of Celts, spread themselves so widely over middle and western Europe. The Welsh and Danish traditions indicate a migration from Jutland; and the name of Cymry, given to the immigrant people, has been supposed to indicate their probable identity with the Cimmerians (the Kyphusos of Herodotus, and the Cimbrin of the Roman) who, according to the statements of Thucydides (from their more ancient seats N. of the Euxine, traveled to Europe in a N.W. direction, and found new settlements near the Baltic and the mouth of the Elbe. These barbarians then reached Britain by the same route which was afterwards traversed by the Saxons and Angles. The Celts crossed over from the neighbouring country of Gaul, and Welsh traditions speak of two colonies, one from the country since known as Gascony, and another from Armorica. At a later period the Belgae, actuated by martial restlessness or the love of peaceful colonies, sailed the S. of England, and settled there, driving the Celts into the inland country. These Belgae were a branch of the great Teutonic family.

Before the arrival of Julius Caesar in Britain the isl. was but imperfectly known to the more civilized nations of the antient world. The people of Carthage and Massalia (called Masalia by the Greeks) or Marseilles, traded for tin with certain isls. called by Herodotus Κατσαρίνιδας (Cassiterides), 'the Tin Islands,' which are supposed by some to have been the British Isles, or, at least, Cornwall and the Scilly Isles.

The etymology of the word Britain has been much dis-
puted. One of the most plausible is that which derives it from a Celtic word brith, or brit, 'painted' (Caden); in which name it is supposed there is a reference to the custom of painting their ships and clothing their garments extracted from woad. Carter says, that the name in the most antient British poets is Inis (island) prydhain. Whether this form or that of the Roman writers furnishes the best clue to the original form of the native designation is perhaps questionable. The meaning of britain, if it be anything more than a corrupt form derived from the root briti, does not seem to be known. It would be to little purpose to give other etymologies, or to enter further into a matter in which certainty is so little attainable.

Caesar is the first name by whom any authentic partic-
ulars respecting the isl. are given. Stimulated probably by the desire of military renown, and of the glory of first carrying the Roman arms into Britain, provoked also, as he tells us, by the aid which had been furnished to his enemies in Gaul, especially to the Veneti (the people of Yannæ in Bretagne), and other maritime people of western Gaul, he determined upon the invasion of the island. As a preliminary step, he summoned to his camp a number of the merchants who traded to the isl. (who alone of the Gauls had any ac-
cquaintance with them) and questioned them minutely. Their caution, however, or their ignorance, prevented his learning much from them. Failing in this quarter, one of his officers, C. Volusenus, was sent to reconnoitre, but he did not venture to leave his ship and trust himself on shore. The authorities of the isle, seeing in Caesar no way deterred, sent this want of information, collected a fleet, and disposed his forces with a view to the descent.

Before entering upon the history of the Roman invasion,
we shall quote the description which Caesar gives of Britain in a subsequent part of his Commentaries.

‘The inland part of Britain is inhabited by those who according to the existing tradition were the aborigines of the island; the sea-coast by those who, for the sake of plunder or in order to make war, had crossed over from among them to the continent. For money they use copper or rings of iron of a certain weight. Tin (plumbum album) is produced there in the midland districts; and iron near the sea-coast, but the quantity of this is small; the copper which they use is imported. There is timber of every kind in plenty; and the Gauls esteem it highly. Nevertheless, it is unlawful to eat the hare, and the hen, and the goose; these animals however they breed for amusement. The country has a more temperate climate than Gaul, the cold being less intense.

The island is of a triangular form, one side of the triangle being the Gaul. One of the angles of this side, which is in Cantium (Kent), to which nearly all vessels from Gaul come, looks towards the rising sun; the lower angle looks towards the S. This side extends about 300 m. The next is the coast of Spain and Portugal; and along this side is Hibernia (Ireland), considered to be about half the size of Britain; but the passage across is of the same length as from Gaul into Britain. Midway in this passage is an island which is called Mona (Man); many smaller islands also its shores, consisting of which islands some have written that about the winter solstice they have night for thirty days together. We could not ascertain anything upon this point by inquiry; but we found, by using certain measures of water, that the nights were shorter than on the continent. The length of this island, according to the opinion of the natives, is about 700 m. The third side forms the N.; there is no land opposite to this, but one angle of it extends very much in the direction of Germany; this side is thought to be 800 m. in length. So that the whole island is 2800 m. in circumference.

‘Of all the natives, those who inhabit Cantium (Kent), a district the whole of which is near the coast, are by far the most civilized; and do not differ much in their customs from the Gauls. The inland people, for the most part, do not sow wheat, but live on milk and flesh, and have their clothing of skins. All the Britons however stain themselves with woad (see uro infectum), which makes them of a blue tinge, and gives them a more fearful appearance in battle: they also wear their hair long, and shave every year. It is the custom for them to dance in the upper lip. Every ten or twelve of them have their wives in common, especially brothers with brothers, and parents with children; but if any children are born, they are accounted the children of those by whom first each virgin was espoused.’ (Lib. v. c. 17.)

As to the religion of the Britons, Druidism flourished among them in all its vigour. Indeed this singular superstition was considered by the Gauls to have originated in Britain. A late writer observes that it is not without Oriental foundation, but not of Arabia, he says, ‘nor one part of a nation to another, in an age so destitute of the means of influence and of the habits of obedience, is not without resemblance to that system of antient Asia which confined men to hereditary occupations, and consequently vested in them a kind of idolatrous power founded in the exclusive possession of knowledge.’ (Sir J. Mackintosh, Hist. of Eng., vol. i. p. 9.) It is however to be observed, that the great feature of the Oriental system of caste—the hereditary descent of its occupations and privileges, is wanting in Druidism, as we learn from Caesar in the passage which we are about to quote. Nor do we think that either the influence which the superior knowledge and the priestly office of the Druids gave them, or the jealousy with which they guarded that knowledge from popular diffusion, can be regarded as the mark of orientalism, the first being the natural result of man’s reverence for superior intelligence and for every thing connected with his religion, and the second the manifestation of that selfishness the seeds of which are sown in every human heart. We subjoin here Caesar’s account of the Druids:

‘The Druids have three principal things: they have the charge of sacrifices, both public and private; they give directions for the ordinances of religious worship (religiones interpretatur). A great number of young men resort to them for the purpose of instruction in their system, and they are held in the highest reverence. For it is they who determine most disputes, whether of the affairs of the state or of individuals: if any crime has been slain, if there is a contest concerning an inheritance or the boundaries of their lands, it is the Druids who decide. When any person is carried off by storm or by fire, it is the Druids who make the regulations: if any one, whether in an individual or public capacity, refuses to abide by their sentence, they forbid him to come to the sacrifices. This punishment is among them very severe; those on whom this interdict is laid are accounted among the unholy and accursed; all fly from them, and shun their approach and their conversation, lest they should be injured by their very touch; they are placed out of the pale of the law, and excluded from all offices of honour.

Over all these Druids presides, to whom they pay the highest respect, among whom no one is of any account if there is any of the other Druids of superior worth, he succeeds; if there are more than one who have equal claims, a successor is appointed by the votes of the Druids; and the contest is sometimes decided by force of arms. These Druids have a consecrated spot in the country of the Carnutes (people in the neighbourhood of Chartres), which country is considered to be in the centre of all Gaul. Hither assemble all from every part, who have a liturgy, and submit themselves to the determination of the Druids. The length of this Druidism is thought to have been formed in Britain, and from thence carried over into Gaul; and now those who wish to be more accurately versed in it, for the most part, go thither (i.e. to Britain) in order to become acquainted with it. The law of the Druids is not consistent. They neither do they pay taxes like the rest of the community; they enjoy an exemption from military service, and freedom from all other public burdens. Induced by these advantages, many come of their own accord to be trained among them, and others are sent by the rest of the nation. They are said in this course of instruction to learn by heart a number of verses; and some accordingly remain twenty years under tuition. Nor do the Druids think it right to commit their instructions to writing, although in most other nations, in the opinion of modern authors, the Greek characters are used. They appear to me to have adopted this course for two reasons; because they do not wish either that the knowledge of their system should be diffused among the people at large, or that their pupils, being possessed of these religious characters, should become less careful about cultivating the memory; because in most cases it happens that men, from the security which written characters afford, become careless in acquiring and retaining knowledge. It is especially the object of the Druids to inculcate upon their pupils the right use of life after death, not pass into other bodies; and they consider that by this belief more than any thing else men may be led to cast away the fear of death, and to become courageous. They discuss moreover many points concerning the heavenly bodies and their motions, the order of the world, the nature of things, the influence and ability of the immortal gods; and they instruct the youth in these things.

The whole nation of the Gauls is much addicted to religious observances, and, on that account, those who are attacked by any of the more serious diseases, and those who are involved in the dangers of warfare, either profess sacrifices or make a vow that they will offer them, and they employ the Druids to officiate at these sacrifices: for they consider that the favour of the immortal gods cannot be contracted without an entire life of man being offered up for that of another; they have also sacrifices of the same nature pointed on behalf of the state. Some have images of enormous size, the limbs of which they make of wicker-work, and fill with living men, and set them on fire, the men are destroyed by the flames. They consider that the torture of those who have been taken in the-
mission of theft or open robbery, or in any crime, is more agreeable to the immortal gods; but when there is not a sufficient number of criminals, they scourge not to inflicts this torture.

The chief deity whom they worship is Mercury; of him they have many images, and they consider him to be the inventor of all arts, their guide in all their journeys, and the one who has the greatest influence in the pursuit of wealth and the affairs of commerce. Next to him they worship Apollo and Mars, and Jupiter and Minerva; and nearly resemble other nations in their views respecting these, as that Apollo wards off diseases, that Minerva communicates the rudiments of manufactures and manual arts, that Jupiter is the ruler of the celestials, and Mars is the god of war.

To Mars, when they have determined to engage in a pitched battle, they commonly devote whatever spoil they may take in the war. After the contest, they slay all living creatures that are found among the spoil; the other things they gather into one spot. In many states, her raising of these things in consecrated places may be seen: nor does it often happen that any one is so unscrupulous as to conceal at home any part of the spoil, or to take it away when deposited; a very heavy punishment with torture is denounced against that crime.

All the Gauls declare that they are descended from Father Dis (or Pluto), and this they say has been handed down by the Druids: for this reason, they distinguish all spaces of time not by the number of days, but of nights: the growth of crops is called a 'fruit,' (or fruitage,) and it lasts from two to three months and years, that the day shall come after the night. (Cæsar de Bell. Gall., lib. vi. 13, 14, 16, 17, 18.)

Although in what relates to or is closely connected with the system of the Druids, we have quoted that part of Cæsar’s account, nevertheless the Thesaurus Hibernicus does not have thoughts authorized in applying his description to Britain, by his declaration that the system existed in its greatest vigour in that island. Of the account which he gives of the civil institutions of the Gauls we do not feel ourselves completely justified in making the similar application, although it is likely that, in their political and social arrangements, a considerable similarity existed between the two countries, the Gauls being however more advanced in civilization.

In the autumn of the year 55 B.C., Cæsar, embarking with the infantry of two legions (about 8000 to 10,000 men) at the Portus Itius, (Wissand, between Calais and Boulogne,) arrived with part of his fleet, after a passage of about 10 hours, on the coast of Britain, and beheld the steep cliffs which line the shore of that promontory, ready to dispute his landing. Judging this to be an unsuitable spot for his purpose, after a delay of several hours to enable the rest of his fleet to come up, he proceeded about seven miles farther, and prepared to disembark on the open shore of the land. When he was on the point of which Caesar first touched was probably near the south Foreland, and he landed somewhere on the flat shore which extends from Walmer castle towards Sandwich. He did not make good his landing without a severe struggle. The storm, which had already been earned, and though somewhat incomplete, disposed the natives to submission; but the dispersion in a storm of some vessels, which were bringing over the Roman cavalry, and the damage sustained by the fleet which had conveyed Caesar, induced them to renew the contest, and to attempt, first, the surprise of the land, and then to attempt the sea shore with force, and next the attack of the Roman army. They were again beaten, and compelled to sue for peace; and Cæsar, anxious to return, consented himself with requiring an increased number of hostages, whom he commanded to be brought to him on the Continent, before which he immediately embarked. Two of the British States sent their hostages: the rest did not.

Early next year (54 B.C.), Cæsar, embarking again at the Portus Itius, made a landing in the north of Britain. His fleet consisted of 800 vessels of all classes, including some which belonged to private individuals; and the natives, who had assembles to oppose his landing, terred at the magnitude of his armament, retired in alarm from the coast. He landed in the same place as on the former occasion; and setting out about midnight in pursuit of the natives, found them drawn up on the bank of a river, (probably the Stour, near Canterbury,) to oppose his further progress. His cavalry drove them into the rear of their position, and one of his legions (the 7th) stormed a strong hold, formed of timber, which had been formerly constructed probably in some domestic war. This strong hold is supposed by Horsley to have been subsequently the Roman station of Duvernonium, near Canterbury. Intelligence that his fleet had been damaged by a storm obliged Cæsar to recall his troops from the pursuit of the enemy, and his own return to the coast to ascertain the extent of the damage and take measures for repairing the same, occupied him for some days. Upon his return to his former post he found that the natives had augmented their forces from all parts, and had entrusted the command in chief to Cassivellanus, (we use Cæsar’s mode of writing the name, perhaps the native form of it was Cass-wallon or Casswallon,) a prince whose territories were divided in the maritime states by the River Tamesis or Thames, at a part which was 80 Roman, or about 74 English, miles from the Kentish coast. This prince had been engaged previously in incessant wars with his neighbours; but the common danger compelled them to forego their disputes, and it is likely that his talents for war pointed him out as the most suitable person for general. But neither his caution and skill, nor the unadulterated valour, nor the increased number of the Britons, enabled them to withstand the superior discipline and arms of the Romans. A fierce battle took place in the line of Cæsar’s advance; and the natives had planted stakes, sharpened at the point, on the bank and in the bed of the river. All obstacles were however overcome: Cæsar, crossing the river, put the enemy to flight, received the submission of several tribes, and took by storm the town of Cassivellanus. These disasters, combined with the entire defeat of the princes of Cantium (Kent) in an attack upon the maritime camp which the Romans had formed to protect their fleet, induced Cassivellanus to submit. The conqueror demanded hostages, and was paid by the subject Britons, and returned to Gaul with all his forces and a number of captives.

It will be well here to notice the geography and ethnography of Britain, so far as the expedition of Cæsar brings it within our view. The following is a table:—

<table>
<thead>
<tr>
<th>People of Cantium</th>
<th>Kent</th>
</tr>
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<tbody>
<tr>
<td>Trinobantes</td>
<td>East Kent, Essex</td>
</tr>
<tr>
<td>Segontiaci</td>
<td>South Wales</td>
</tr>
<tr>
<td>Segontiaci</td>
<td>not mentioned</td>
</tr>
<tr>
<td>Ancalates</td>
<td>parts of Hants and Berks</td>
</tr>
<tr>
<td>Bibroci</td>
<td>not mentioned</td>
</tr>
<tr>
<td>Cassi</td>
<td>Cassio Hundred, Herts</td>
</tr>
</tbody>
</table>

Some account for Romney marsh or the neighbourhood of Hythe. The question is whether Caesar’s account is to be understood as an advance towards the Severn or towards the south-west. Mr. Horsley (Jeuniaux, Roman Britain) shows it must have been towards the north.
Aeneas, Bibroch and Cassi submitted to Caesar before the final defeat of the British princes, the situation of whose capital they pointed out to the Romans. This prevents the supposition of his being by birth the ruler of any of them; yet if the Roman Verulamium was on the site of his town, this must have been in the territory of the Cassi, according to Cassius’s own account. It is not wise to conjecture it would be this: that Cassiellianus was prince of the people called Catuvellauni (Caetuvellanae) by Ptolemy, and Cautellian, Cattellian by Dion, who are given in the Society’s and other maps, as occupying the whole or part of Hertford, Buckingham, and Northamptonshire; that the original district of this people was much less than has just been stated, but that they had subjected to their sway the Trinobantes, the Cenomani and the other tribes, (except perhaps the people of Cantium,) mentioned by Caesar; that the Cassii and Catuvellaunii together revolted; but that, upon the departure of the Romans, they were again reduced to subjection, and, with the exception of the Trinobantes and Cenomani, so completely subdued as to have lost their distinctive appellations, and to have been therefore included by Ptolemy under the name and in the description of the conquering tribe. The fact that Caesar does not mention the Catuvellauni, nor Ptolemy the subjected tribes, unless under different names, is favourable to this conjecture. The Trinobantes, whose independence Caesar took pains to secure, appear in a state so independent that their name survived; they have only to have retained their independence, but rose, probably in consequence of their alliance with Rome, and their greater advance in civilization, to the position of a leading state.

The success of Caesar was certainly not such as to induce him to make the necessary reduction of the island; and from some passages in ancient authors it has been conjectured that his success was not so great as he has represented it. However that may be, the Romans did not return to the island until the reign of Claudius, and during the reign of that emperor the country was taken so far as to threaten an attack. In the interval those of the Britons who dwelt in the parts nearest to Gaul appear to have made some progress in civilization. They coined money, and many British coins have been discovered, of which a specimen is a golden one, though of a small size, found at Chesters, known to be a city of Cunobelin (so on his coins, Cunobellinus in Suevius, Cunobellro in Dion Cassius), whose residence was at Camulodunum (either Colchester or Maldon), and whom we should therefore take to be king of the Trinobantes, the people of that part of the country. It is likely that a conjunction was maintained after Caesar’s departure between the Romans and the Trinobantes, who would desire to enjoy the protection of the Roman name and influence (as did the Durotriges and Noviodunum in Gaul), while the Romans would be willing to keep up an alliance in the island, which was of too much use to them whenever they were disposed and able to resume their scheme of conquest. The money of Cunobelin is supposed to have been the work of a Roman artist, or of some Gaul familiar with Roman coinage. The subdued engraving is from a coin, one of several of Cunobelin, in the British Museum.


But however the Trinobantes may have been pleased with the support of their Roman friends while they could remain their own independents, at the same time they were by no means willing to surrender this whenever the ambition of those friends chose to demand it. We consequently have the loss of Boudicca’s power, and the invading force sent by the Emperor Claudius, while the Catuvellauni (whom we have conjectured to be the people of Catullianus) took either no part or at least not a prominent one, and this not from want of power, for we find from Dio (Boudicca’s surrender was to the Dobunni and Gloucestershires) they were subject to them. Perhaps the Catuelli were of Celtic race, and the Trinobantes of Belgic origin; and this circumstance, together with their rivalry in other respects, prevented their combining for the general good in a cordial manner. Aulus Plautius, a senator of praetorian rank, com-

manded the forces which were designed for the attack on the island (A.D. 43). The Romans were instigated by a British fugitive whom Dion calls Bœdoe (Berenus). The Roman soldiers were at first unwilling to leave their quarters in Gaul to engage in an expedition beyond the boundaries of the world, but were prevailed on to embark. The Britons did not resist, and entertained the Roman troops with all the hospitality they could. The power of the Dobunni (C Lydia) of Ptolemy, who dwelt in and about Gloucestershire, submitted. From the country of these new subjects Plautius advanced to a river (supposed by some to be the Severn), thought by the Britons to be impassable without a bridge; and sending one of his Gallic auxiliaries, and after them his lieutenants, the brothers Flavius Vespasianus (afterwards emperor) and Sabinus made considerable slaughter. The attack was not however decisive, for the battle was renewed the next day; and it was not until after a hard struggle that the Britons yielded. From this part of the country the vanquished natives retreated eastward to the marshes near the mouth of the Thames (Tityra, Dion) the marshes of Essex), where another stand was made with great slaughter and considerable loss. The Britons were determined to appear to have fallen; and the Britons, roused by the desire of vengeance to greater efforts, exerted themselves so vigorously that Plautius (as we gather from Dion) withdrew to the south of the Thames to await the arrival of the Emperor Claudius, who at length arrived and was received with much enthusiasm, and non-combatants, including some elephants; and landing at Maldon proceeded through Gaul to Britain. Upon his arrival he crossed the Thames with his army, defeated the natives who had assembled to oppose him, took Camulodunum or Colchester (Caesaraugusta, Dion), the capital of Cunobelin, and forced many of them to submit at discretion, or at least at discretion or on terms. After this success Claudius dispersed the vanquished tribes and returned to Rome, leaving Plautius to secure and enlarge the Roman conquests. (Dion Cass. Hist. Rom. The senate decreed triennial games in the Temple of Castor, where a statue of Plautius had been erected in his lifetime, and the victory had been perpetuated in his coinage. An ancient inscription ascribes to him the addition of the Claudii to the Roman empire. The coin of which we give an engraving is one of those commemorating his British conquests.


The success of Plautius obtained for him that kind of triumph which was reserved for Augustus; for this was for any great exploits performed by him after the departure of Claudius we are not informed. (Dion, as above; Suetonius.) Some time during his command, his lieutenants Vespasianus conquered the Isle of Wight, and had considerable success probably against the tribes of the south coast. Upon the departure of Plautius, those Britons who were subdued for independence overran the lands of such as bad allied themselves with or submitted to the Romans; and P. Ostorius Scapula, who succeeded Plautius (A.D. 50) as governor, found affairs in the greatest confusion. He immediately pursued these invaders, and prepared to restrain their incursions by stations or camps at the rivers Sabrina (Severn) and Antonia or Auntra (Nene). The line which Plautius thus proposed to defend was placed within it all the southern and south-eastern parts of the island, including nations who for the most part were of Belgic origin, and who had either submitted without a struggle to the Roman sway, or had been subdued by the Romans and willingly embraced the Roman alliance. This part of the island was inhabited by the

*Suetonius (Claudius, c. 17) says Claudius received the submission of a part of Britain without a battle and without bloodshed. (civis suo pacifico assis-"
The tribes mentioned by Caesar and given in a foregoing table; by the Iceni and Atrebati, who are supposed by many to be mentioned by Caesar under the names of Cenomani and Atrebates; by the Catuani and Catuvexians, whom we have conjectured to be the native tribe of Cassiabrius; and by the Dobunni; and by the following people not yet noticed:

- Damnonii or Dumnonii (Firm, Anton.)  
- Dobroterii (Plut.), people of Devonshire and Cornwall.
- Durotriges (Procop., Plut.), people in and about Dorset.
- Belgae, Batucae (Plut.), people of Somersetshire, Wilts, and Hants. The name of their capital, Venta (Cassivellaunus, Plut.) is preserved in Winchester.
- Regni (Procop., Plut.), people of Surrey and Sussex.

His name had never been subdued: they had allied themselves with the Romans willingly, but they saw that, if Ostorius severed the island into two parts by a line of military posts, the independence of all within that line would be sacrificed. They consequently opposed his plan, roused their neighbors (probably the Trinobantes and Catuani) to the contest, and fortified themselves in a strong position. The active Ostorius immediately marched against them, stormed their camp in spite of an obstinate resistance, and decided by this success the conduct of those tribes. He then marched between the Silures and the Genti, and when he then marched against the Canii, a people whose position has been so variously placed that it seems vain to offer any further conjectures. What seems to have created much difficulty is a supposition that they were connected with the Iceni as neighbors, perhaps as subjects of that nation, and that Tacitus, in all probability, refers to this supposition when he is contumaciously charged by Tacticus. That historian tells us that the defeat of the Iceni having quieted those who were hesitating between war and peace, (by which we understand the tribes south and east of the line proposed by Ostorius,) the army was led north to the west of that line or without it, and somewhere near the Irish sea, to which Ostorius had nearly reached, when he was recalled to the east coast by a rising among the Brigantes (Procop., Plut.), the people of Yorkshire and Lancashire. He then marched against the Silures or Silvii (Procop., Plut.), a people of South Wales, whom Tacticus (Agric. x.i) supposes (apparently without any good reason), from their dark complexion, curled locks, and western locality, to have been of Iberian origin, and whose resistance to the Romans was more obstinate than that of any other people of South Britain. That no apprehension of a rising in his rear might impede his progress he settled a colony of veterans at Camulodunum to repress the Iceni and other neighboring tribes and to insure the conquered to the yoke of the Romans.

Although the name of Cataractaeus, or, according to the orthography of Tacticus, Cataractaeus, has not been mentioned since the notice of Plautius's first campaign, that valiant prince appears to have kept the field. The extent of country over which that campaign extended indicates that the authority which he held was not confined to the Trinobantes, of whose nation we have supposed him to be the hereditary prince: he was probably, with his brother, at the head of a large body of numbers, which was under the command of Julius Caesar. Upon the subjugation of his own tribe he had probably found willing soldiers among other tribes; many actions with the Romans, some successful, some doubtful—and in so unequal a contest to avoid defeat was as glorious to victors as it was ignominious to be vanquished—and given it celebrity even in Rome itself; and his presence among them as their commander added to the military confidence of the Silures. (Tacit. Ann. xii. 33, 38.)

The seat of war was transferred into the country of the Ordovices (Opécatus, Plut.), people of the Lake District in northern Shropshire by Cataractaeus, whose army was reinforced by such fears the Roman yoke, and who now determined to make a decisive stand against the Romans. He posted his forces upon a steep ascent, and fortified the approaches by a rampart of loose earth, which he hardened to the height of thirty feet, so that no man could pass it in front of his strong position, and his best troops took their station in front of the ramparts. He animated his men by his exhortations, declaring that 'on that day and that contest it depended whether they should recover their freedom or have to bow under an eternal yoke; and reminded them of their ancestors who had repelled the dictator Caesar, secured themselves from the punishments and burdens of the Romans, and preserved undefiled the persons of their women and children. The Britons responded to the exhortations of their commander. But their native valour was unequal to the resisting an army so superior in numbers. Their position was stormed; the victory was complete; the wife and daughter of Cataractaeus were taken; his brothers surrendered themselves; and the gallant prince himself was put in chains by Cartimandua, queen of the Brigantes, and the daughter of whose tribe he had been taken up to the Romans. His unbroken spirit and noble demeanour when at Rome before Claudius commanded the admiration of that prince: he was spared the death which the cruel policy of Rome too commonly inflicted on captured princes, and was permitted choosing an attack as unjust as it was irresponsible. (Tacit. Ann.) His subsequent history is unknown. His defeat and capture probably took place A.D. 51.

The insignia of a triumph were decreed to Ostorius; but his success ended with the defeat of Cataractaeus. An officer left with some cohorts to fortify a permanent station among the Silures was slain, and his men nearly cut off; and shortly after the Roman foragers were attacked, and with the troops sent to their aid routed; and it was only by marching up his cohorts that Ostorius could check the flight, and restore the fortune of his army. The Romans were harassed after this with repeated skirmishes, and the obstinate resistance of the Silures was stimulated by a declaration of Claudius 'that their very name must be blotted out,' and that 'they were only the vestiges of the Idus, the captives.' He ordered them to draw the other natives into the struggle, and Ostorius died worn out with care (perhaps A.D. 53.); the Silures exulting at his death, and declaring that 'though he fell not in battle, yet it was the death which brought him to the grave.'

Deditius, the successor of Ostorius, found the Roman affairs in a very depressed condition. An entire legion had been defeated by the Silures, who spread their incursions on every side until restrained by the approach of the new commander. Venutius, a Brigiantian, had married the queen of Caturantes, the betrayer of Cataractaeus. Matrimonial disputes, in which the Romans interfered, brought on a war with this chieftain, who, after the capture of Cataractaeus, was the most eminent commander of the Britons. Didius does not appear to have gained any signal advantage. His command lasted into the reign of Nero, the successor of Claudius, probably till A.D. 57.

Veranus, the successor of Didius, lived only a year after undertaking the command, and did little in that interval; but his successor, Paulinus Suetonius, obtained more distinction in his campaign. He had an army stationed in Armenia, and Suetonius was anxious to gain in the W. a name equal to that which Corbulo was acquiring in the E. He attacked the island of Mona (now Anglesey), transhipping his infantry over the straits which divide that island from the mainland (the Menai) in flat-bottomed boats, fording the passage, or in the deeper parts swimming. The description of this attack, as highly characteristic of the people of the island, we give in the words of Tacticus. (Annales, l. xiv. c. 50.)

In the summer of this year a line of very diversified appearance, there were armed men in dense array, and women running amid them like furies, who, in gloomy attire, and with loose hair hanging down, carried torches before them. Around them were Druids, who, pouring forth curses and lifting up their hands to heaven, tried to break the spirits of the Britons and strike terror into the hearts of the soldiers, who, as if they had lost the use of their limbs, exposed themselves motionless to the stroke of the enemy. At last, moved by the exhortations of their leader, and stimulated one another to destroy their enemies, the Britons, as the Druids had foretold, overthrew their opponents and involved them in the flames which they had themselves kindled. A garrison was afterwards placed among the vanquished; and the groves consecrated to their cruel superstitions were cut down. For they held it necessary to tie saints, they made their lives replete with the blood of their captives, and to consult the will of the gods by the quivering of human flesh.

From the shores of the extreme W. Suetonius was recalled by the news of a great rising of the natives under Bouidicea, in that part of the island which had been already subdued by the Romans. (Boadicea.)
The revolt of Boudicca had nearly extinguished the Roman dominion in Britain, but at last the natives were completely defeated in a battle, the scene of which is supposed to have been just to the N. of London. Battle-bridge, St. Pancras, is thought to have preserved in its name a memorial of this dreadful day. (Nelson's Hell of Islington.) The Roman general ravaged with fire and sword the territories of all those native tribes which had wavered in their attachment to the Romans, as well as those who had joined in the revolt; but even hunger did not induce them to submit. The event of civil war or rather factional strife of the Romans quarrelled with Suctonius, and though the latter retained the command for a time longer, he was at last recalled without finishing the war (A.D. 62), and Petronius Turpillianus appointed his successor. Under the milder treatment of the new general, the revolt seems to have subsided.

Several generals were successively sent to the island; but the Romans made little progress until the time of Vespasian, A.D. 70-75, in whose reign Pothinus Cerealis subdued the Brigantes, who, under Venutius, had renewed hostilities; and Julius Fronto subdued the Silures. But the glory of completing the conquest of South Britain was reserved for Cnaeus Julius Agricola, whose actions are recorded by his son-in-law the historian Tacitus. [Agricola.]

In the year of our Lord 80 Agricola, who had been a proconsul of Asia, was sent by Augustus to suppress the recent disturbances of the same nation. The Romans were in great numbers, and the Britons were without animated by a common purpose and a spirit of cohesion. The Romans advanced with all the energy of which they were capable, and the Britons fought with all the spirit which they were capable of. The battle was fought on the banks of the Thames, near the site of the present town of Dover, and the Britons were defeated and nearly destroyed. The Roman general, who was victorious, was Julia Agricola, the son of Augustus, and the Britons were led by their chief, Calgacus. [Julius Agricola, Life of Hadrian.] In the subsequent reign of Antoninus Pius (A.D. 138 to 161), Roman enterprise seems to have revived a little. Lollius Urbicus, his lieutenant in Britain, drove back the barbarians, and recovered the country as far as A.D. 168, under the command of Severus between the Firth and Clyde. [Antoninus, Wall of.]


In the following reign of M. Aurelius Antoninum (A.D. 161 to 180) we have some notice of wars in Britain, which Calpurnius Agricola was sent to quell. (Capitolinus, Life of Aurelius Antoninum.) The Caledonians probably broke through the wall of Antoninus in the reign of Commodus, son of Aurelius, if not during the reign of Aurelius himself. Commodus sent against them his lieutenant, Ulpian Marcellus, an able leader, who defeated the Caledonians with heavy loss. A great mutiny among the legions in Britain occurred during the reign of Commodus, which was with difficulty quelled by Pertinax (afterwards emperor), one of the successors of Marcellus in the government of the island. Pertinax was probably succeeded as governor by Claudius Albinus. (Horsley.)

The contest of this Claudius Albinus with Severus for the empire belongs rather to the history of Rome generally than to that of Britain in particular. The contest was ended by the fall of Albinus at the battle of Lugdunum (Lyon) in France, very near the close of the second century. It is not unlikely that Claudius had in a great measure drained the province of its troops in order to strengthen his own army against Severus, and that the northern natives took the opportunity of reviving hostilities, breaking into the Roman province, and spreading desolation far and near.

Induced by the unfavourable tenor of the intelligence from the island, Severus, though now growing aged and infirm, resolved to undertake the conduct of the war in person, and accordingly crossed over into the island A.D. 206 or 207. The natives, terrified at his approach, would have submitted, but Severus dismissed their ambassadors, and continued his military preparations. Advancing beyond the limits of the territories, he met the Boii, who, in their flight, advanced through a difficult country, where he had endless fatigues to sustain. There were morsasses to drain, or cause-ways to form across them, forests to cut through, mountains to level, and bridges to build; and so much were the Roman soldiers worn out that the emperor lost, says Xiphilin, 50,000 men. The natives do not appear to have come to a pitched battle, so that the campaign was not marked by any brilliant exploits.

Two people, the Maetae (Morvan), who dwelt nearest to the Romans, and the Boii, who were more remote, were the great objects of the emperor’s hostility. These tribes appear to have been at the lowest stage of civilization, as much so as their southern brethren at the time of Caesar’s first invasion. They wore little clothing, and painted or otherwise marked upon their bodies the figures of divers animals: a small target or shield, a spear, a poniard, and, as we learn from Tacitus, a cumbersome unpointed sword, composed their offensive and defensive arms. They had neither walls nor towns, but lived in tents. pastoral was their chief occupation. They ate the flesh of such animals as they took by hunting. The community in women, noticed by Caesar, appears to have existed among them. (Herodian and Xiphilin, quoted by Horsley, Brit. Rom.)

It was during this war that Severus ordered the erection of the famous wall which stretches across the island, from the Solway to near the mouth of the Tyne. The length of this wall, owing to the corruption of the text of ancient authors, is given with great diversity. It is probable that the true measure of this wall was but a little less than that which is rather more than the length assigned to Hadrian’s rampart of turf, which was near this wall, and extended in the same direction. Remains of both these great works exist, and though we have not room for a very full description, yet some account of them cannot be considered as misplaced.

It appears that three great Roman works have crossed the island at this part. The first is supposed by Horsley, and after him by Warburton (Vallum Romanum, 4to. Lond. 1753), to have been simply a road, or perhaps a military way between them. This line of stations is by the above writers ascribed to Agricola; conjecturing guiding them, we believe, rather than testimony. The extent of the works is of Agricola is however disputed. Hutton ascribes to him an agger or earthwork along the Firth, and a second agger or rampart outside the northern ditch. Without attempting to settle this dispute, it may be observed that the works thus ascribed partly to Agricola and partly to Hadrian have throughout a parallel direction, from which some has been considered that the station was formed by the person. The rampart of Severus, which is of stone, is for the most part, but not invariably, parallel to that of Hadrian; it lies to the N. of it, and extends rather farther at each end. It is accompanied throughout, as the following extract will show, by a military road, or indeed by several military roads. We take the following description from Hutton, as conveying the best information as to the works themselves, without affording the correctness of his statement as to their authors:

There were three different works in this grand barrier, performed by three personages, and at different periods. I will measure them from S. to N., describe them distinctly, and appropriate each part to its proprietor; for although every part is dastirfully mutilated, yet by selecting the best of each we easily form a whole; and from what is, we can nearly tell what was. We must take our dimensions from the original surface of the ground.

Let us suppose a ditch, like that at the foot of a quickset hedge, 3 or 4 ft. deep, and as wide; a bank rising from it high enough to throw the bank into the bank; this, with the ditch, will give us a rise of 13 ft. at least. To the other side, the bank sinks into a ditch 10 ft. deep and 15 wide, which gives the N. side of this bank a declivity of 20 feet. A small part of the soil thrown out on the N. side of this 15 ft. ditch forms a bank 3 ft. high and 6 wide, which gives an elevation from the bottom of the ditch of 12 feet. Thus our two ditches and two mounds, sufficient to keep out every rogue
but he who was determined not to be 'kept out,' were the work of Agricola.

The Antonii of Hadrian invariably join those of Agricola. They always correspond together as beautiful parallel lines. Close to the N. side of the little bank I last described, Hadrian sunk a ditch, 24 ft. wide, and 12 below the surface of the ground, which, added to Agricola's 3 ft. bank, forms a ditch 27 ft. wide, and 15 ft. deep, on the N. 12. Then follows a plain of level ground 24 ft. wide, and a couple of swales, exactly the same as Agricola's, 10 ft. high, and 30 in the base; and then he finishes, as his predecessor began, with a small ditch of 3 or 4 feet. 

'They consist of a stone wall 8 ft. thick, 12 high, and 4 the battlements; with a ditch to the N. as near as convenient, 36 ft. wide, and 15 deep. To the wall were added, at unequal distances, a number of stations or cities, said to be 18, which is not perfectly true; 81 castles, and 330 castles, or turrets, which I believe is true, all joining the wall.'

Exclusive of this wall and ditch, these stations, castles, and turrets, Severus constructed a variety of roads, yet called Severius's works run for a 7.-lie on the N., and never far distant; but may be said always to keep them in view, running a course that best suited the judgment of the maker. The nearest distance is about 20 yards, and greatest near a mile, the medium 40 or 50 yards.

'Theodoreus (father of the emperor of that name), being sent over as governor, found the northern people plundering Augusta (London), so that the whole province must have been overrun by them. He drove them out, recovered the provincial towns and forts, re-established the Roman power, and gave the name of Valentine either to the district between the walls of Antoninus and Severus (Richard of Cirencester, Roy), or, as they think, to a part of the province south of the wall of Severus.'

When Gratian and Valentinian II. associated Theodosius (son of the above) with them in the empire, Maximus, a Spaniard, who had served with great distinction in Britain, was a marked person. The emperor shewed to preference shown to another, and raised in the island, where he had been a panegyric of various considerable force, he proceeded over to the continent, defeated Gratian, whom he ordered to be put to death, and maintained himself for some time in the possession of his usurped province.

Having to overcome by Theodosius, and the province returned to its former position in the empire.

The Britons who had followed Maximus into the continent received from him possessions in Armorica, where they laid the foundation of a state which still retains their language and their name.'

Sotho, whom name is one of the most eminent in the degenerate age in which he lived, served in Britain with success, if we may trust the panegyrics of Claudian; and the time and particulars of his service are not known. Perhaps it was in the third or fourth unhappy province after his departure was again attacked by the Saxons, irritated by the licentiousness of the Roman soldiers, who successively set up three claimants to the imperial throne,—Marcus, Gratian, and Constantine. The first and second were destroyed in the great battle in which they had raised them. Constantine was four times more eminently. Raising a power among the youth of the island he passed over into Gaul (A.D. 409), acquired possession of that province and of Spain, and fixed the seat of his government at Arles, where he resided. After the death of A.D. 201 or 211. He appears to have carried his arms far into Scotland, and probably fixed the boundary of the empire at the rampart of Antoninus, though his erection of a wall near the sea was a proof that he thought the intermediate territory either of little value or of uncertain tenure. His son Caracalla, soon after his death, surrendered a great part of this territory when he made peace with the Caledonians, and probably retained only a few forts and places of transit. From this period many years elapsed, and many emperors reigned, without the occurrence of any event of importance in Britain. In the reign of Diocletian and Maximian, Carausius, a Menapian (the Menapians were a people of the Netherlands who commanded the Roman fleet in the North Sea against the Frankish and Saxons pirates, seized Britain and assumed the purple (about A.D. 288); and such was his activity and power, that the emperors consented to recognise him as their partner in the empire. He was however after some years killed by Allectus, one of his successors (c. 297). Gratianus, however, damnably in 309) Britain was recovered for the emperors by Asclepiodotus, captain of the guards. Upon the resignation of Diocletian and Maximian (A.D. 304), Britain was included in the dominions of Constantius Chlorus, one of their successors. This prince died in Britain at Eburocum, A.D. 307, after having undertaken with some success an expedition against the Caledonians. His son Constantine the Great also carried on some hostilities with the same people and the Meatae. The northern tribes now began to be known by the names of Picts and Scots.

The Roman power was now fast decaying, and the provinces were no longer secure against the irruptions of the savage tribes that pressed upon the long line of their frontier. Britain, situated at one extremity of the empire, suffered during this period. The Picts, Picts, Picts, Picts, Cotti, and Saxons infested the coast. In the reign of Valentine, probably in the year

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• We have translated the words Comes and Dux by Count and Duke, after Horsey; the modern titles are obviously derived from the more ancient; but there is this difference, that while the modern names now indicate only rank and authority, the ancient titles were attributed to the

• These are all on the S.H. coast, extending from Portsmouth to Brancaster in Norfolk.
proved so fatal to the island. The *Dei Britanniarum* had the charge of the Wall of Severus and the command of the N. district, with its garrisons and military posts. We are inclined to think the *Comitum Britanniarum* was also a military officer, and that he had charge of the W. and S. districts, which, as being less exposed to hostilities, were bare of troops.

The situation of the five prov. of Britain, according to Richard of Cirencester (a monk of the 14th cent., whose work was discovered and published at Copenhagen about the middle of the last cent., and whose authority, though disputed by some, is apparently trustworthy), was as follows. We give them in a tabular form, with the nations which occupied each.

**BRITANNIA PRIMA**, the country S. of the Thames, and the Bristol Channel, including the territories of the

<table>
<thead>
<tr>
<th>Nation</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Cassi</td>
<td>Not mentioned by Richard, unless the first are the same as the Rheni or Britoico, and the second as the Atrebates.</td>
</tr>
<tr>
<td>Belgae</td>
<td>People, as seems to be, of Devonshire and Cornwall.</td>
</tr>
<tr>
<td>Dumnonii</td>
<td>Mentioned by Richard, not by Ptolemy.</td>
</tr>
</tbody>
</table>
| Britonici  | The country separated from the rest of Britain by the Sabrina or Severn and Devon or Dee; the Waes, Herts, Bucks, Middesmore, and parts of Salop, of the counties of Gloucester and Worcester; including all the territory of the
| Silures    | People of that part of South Wales bordering on England, and of those parts of England between South Wales and the Severn. |
| Ordovices  | People of that part of North Wales bordering on England. |

**DUMERIA** or **Cornubiae**

<table>
<thead>
<tr>
<th>People of the W. part of South Wales, counties of Pembroke, Cardigan, and Carmarthen.</th>
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<tbody>
<tr>
<td>Carni</td>
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**FLAVIA CASARIENSIS**, the territory N. of the Thames, E. of the Severn, and probably S. of the Mersey, the Don which joins the Yorkshire Ouse, and the Humber; comprehending the territory of

| Carnabi   | People of Cheshire, part of Shropshire, and some adjacent districts. |

Richard of Cirencester considers the Cassi and the Catuvenculi to be the same people; we do not agree with him. The same writer considers that the Cassi and Dobanti made up the kingdom or rather the republic of the

| Catuvenculi | People of the counties of Lincoln, Nottingham, Leicester, and the adjacent parts. These people seem to be regarded by Richard as a subdivision of the Iceni. The Iceni, properly so called, gives us the other subdivision, calling them

| Dobanti    | The two nations confederate together, according to Richard, not mentioned by Ptolemy; they inhabited Lancashire or part of it. |

**MAXIMA CASARIENSIS**, the country from the Mersey and the Humber to the Wall of Severus, comprehending the territory of the

| Brigantes  | Mentioned already. |

**PARTI**

| People of the East Riding of Yorkshire. |

**Volantini**

| Two nations confederate together, according to Richard, not mentioned by Ptolemy; they inhabited Lancashire or part of it. |

**VALENTIA OR VALETIANA**, the country between the Wall of Severus and the rampart of Antoninus, including the B.

part of Scotland, the county of Northumberland, and part of Cumberland, comprehending the territories of the

| Gatareni   | The inhabitants of the E. coast of Northumberland and the adjacent coast of Scotland. |
| Gaddeni   | These people dwell to the W. of the Gatareni in Northumberland, in Roxburgh, Selkirk, Peebles, and Lanark-shires. |
| Selgovae  | The inhabitants of Durnfries and part of Kircudbright-shires. |
| Nervanis  | The inhabitants of Wigtownshire. |

The remnant of the island was never long in the power of the Romans. Agricola overran part of it and established some stations; and probably other commanders after him brought it into temporary subjection. The part which Agricola subdues is termed by Richard

| Vosfrasiansa | The inhabitants of the coast between the rampart of Antoninus and a line drawn from the Moray Firth to the Varans, which is the mouth of the Clyde, and comprehending the territories of the
| Horestii, mentioned by Tacitus but not by Ptolemy; it is likely they occupied the portion of the territory of the
| Dammini which lay beyond the wall; they were S.W. of the Tay. |

The differences between Richard and Ptolemy with respect to this people makes it uncertain whether we are to assign them to

| Fiveshires or Angus. |

| Vecturones or Venricones Osuscularis |

| Venricones Osuscularis |

| Inhabitants of the coast of Aberdeenshire. |

| Teutones |

| Their chief town, Devana (Devon), was probably Old Aberdeen. |

The range of the Grampians towards the

| N.B.; Banff, Moray or Murray, Nairn, and the part of Inverness-shires. |

| Dammini Albanii, not mentioned by Ptolemy: parts of Perth, Argyile, Stirling, and Dunbarton-shires. General Roy considers Albanii to mean mountaineers. [ALHOUN] |

| Perhaps they are comprehended by Ptolemy among the
| Dammini (Dumnoni, Valentinii). |

| Altaricci, not mentioned by Ptolemy but by Antoninus Marcellinus. They have been noticed in the course of the preceding historical sketch. They inhabited, according to Richard, the country on the bank of the Clyde and on the banks of the great lake Llynclaid, supposed to be Loch Lomond. |

Richard supposes that this province of **VALENTIA WAS**, in the time of the later emperors, called **THULE**: to the rest of Scotland he gives the name of

| Caledonia, comprehending the territories of the following people:— |

| N.W. of the Murray Firth and Loch Ness. The immense Caledonian Forest covered their territory or rather skirted it to the N.W. Ptolemy seems to make them extend in a S.W. direction as far as Loch Fyne; thus assigned to them parts of Inverness, Perth, and Argyile-shires. |

| Canta |

| Inhabitants of parts of Ross and Cromarty-shires. |

| These two names seem to have inhabited the E. coast of Sutherland and Caithness-shires. The name of the Logi is preserved in that of the modern parish of Loch. Richard intimates that the Carnabii were a colony of the people so called in South Britain, who abandoned their territory in conjunction with the Cantii, upon the Roman conquest, and settled here. If there be any truth in this account we may perhaps identify the Cantii with these wandering Cantii. |

*Yrbst*, as it is correctly written in the Latin edition of Ptolemy by Perchorbrequ. The same genealogy still exists in Strath Pears, the upper end of the Moray Firth. |

† A comparison of the situation of the Carnabii at the annexation of the
There were ten cities Lutio jure donati; the inhabitants of these possessed privileges, but not equal to the foregoing.
Duconca (Duconca, iun. Ant.?), now Chester, on the
Nene or Watton Newton.
Calatarricia (Calatarrico or Calatarracum, iun. Ant.), now Callotick, in Yorkshire.
Cumbophatam (Cumbophatam, iun. Ant.), now Slack, in Yorkshire.
Cumburah (Cumburah), now Langhorne, Lancaster.
Cocoria (supposed to be the Prydovium of Ptolemy), now Ribchester, Lancashire.
Lugubalia (Lugubalia, iun. Ant.), now Carlisle.
Pilonea (Pilonea, epiorpeus, the flying camp), now Burgh, Merionshire, Scotland.
Vistoria (Vistoria), now Desgin Ross, Perthshire.
Theodosia, now Dunbarton.
Corinum (Corinum, iun. Ant. Corinum), now Cirencester.
Sevocum, now Old Sarum.

There were twelve towns called Stipendiaria, with whose municipal constitution and privileges we are not acquainted.
Venosa Silurum, now Caer-went or Caer-went, Monmouthsire.
Venosa Belgiorum (Oswestry), now Wimhester, Hants.
Venosa Isenorum (Oswestry), now Caister, near Northw.
Sequentum, now Caer-Beint, near Caermonaw.
Muriadum, now Seaton, near Colyton, Devon.
Ruffa (Ruffa, iun. Ant. Ruffa), now Leicester.
Canriopolis or Donorium (Aunowr), now Canterbury.
Jovis (Jovis, iun. Ant. Jovis), now Dover.
Bremena (Bremena), now Rivers, Northumberland.
Very doubtful position.

Durobrivae, now Rochester.

In the above list we have given the orthography of Richard, noting any variation between him and the Itinerary of Antoninus. The Greek names as usual are from Ptolemy. The list of Municipia and Coloniae, it should be added, is by no means complete.

Though we do not possess such materials as enable us to form a connected history of the Roman settlement and administration of Britain, yet from the scanty fragments of its history during this period, and our more exact knowledge of the state of civilized nations, we are enabled to make some general conclusions which cannot involve any serious error.

As to the population of the island we must conceive that it received a very considerable mixture of Roman and foreign blood. Consols, i.e. the sons of the Roman soldiers; and such of them as settled permanently, or even remained for a few years, would doubtless have children by native women. It was the policy of the Romans to employ the native troops of one prov. in the conquest or military administration of others; and all native blood in this respect would be brought under the dominion of the Romans, and be finally reduced to the same condition as the natives of the empire. The Greek language would be that of administration, and most probably that of judicial proceedings also; and all natives or persons of mixed blood who were allowed to enjoy any civil employment (which in the course of time could hardly have been denied to the natives) must have learned the Greek language and laws. To this period belongs also the first introduction of Christianity [ARCHHIST., vol. ii. p. 269], which necessarily was accompanied with a knowledge of the sacred language, but the people of that age were totally lost during the times that followed the Roman domination (a fact which we do not believe), or only preserved among a few learned ecclesiastics, it is now well known that its supposed first introduction after the Gallic revolution has, in truth, been disproved by abundant evidence. The strong walled cities, either founded by the Romans or built on the sites of British towns, such as Cirencester, Silchester, Burgh Castle, Richmond Castle, and others, of which great remains still exist, sufficiently
indicate that the possession of the island was considered insecure without these strong holds, while they show that the formation of large towns, the centres of civilization, was a part of the Roman system. These towns were the stations of the military force required to keep a given district in order, to enforce the payment of taxes, and generally to provide for the defence of the island. Many of these walled towns were evidently built with a view to trade, both foreign and internal; they would form the great markets, and would of course contain the courts of justice. These towns, under the names of Colonia, Municipia, &c., received municipal institutions similar to the towns of Italy, Gaul, and Spain; and thus the Romanized inh. of Britain were probably introduced under their foreign masters to the rudiments of this important branch of political science, the construction and administration of municipalities. It is a point of curious inquiry, not yet, so far as we know, fully discussed, to ascertain how far the Saxons, on their invasion of the island, moulded or adapted their political institutions to those which they must have found existing in Roman Britain. The Saxons, we know, ultimately possessed themselves of all the Roman walled cities, of which they formed their boroughs [see BOROUGH]; and it is hardly conceivable that a comparatively small body of invaders would completely overturn all those municipal institutions, which, though less free than their own, would present them, so far as administration was concerned, with useful means for securing and consolidating their acquisitions.

BRITANNICUS, son of the Emperor Claudius, and of his third wife the infamous Messalina, was born on the 11th of February, A.D. 42, on the twentieth day after his father’s accession, and was at first named Tiberius Claudius Germanicus, a name which was changed in honour of the subsequent conquests in Britain. [BRITANNIA.] When only six years old, while exhibiting before his father in the mimic fights called Troja, during the Cirensian games, the wishes of the populace seemed to incline in favour of L. Domitius, the son of Agrippina, who headed the opposite band, and who afterwards succeeded to the imperial dignity under the title of Nero. On the death of Messalina, and the marriage of Claudius with his niece Agrippina, Octavia, sister of Britannicus, who had been betrothed to Slianus, was given in marriage to Lucius Domitius, and pains were taken by the courtiers, who had procured the death of Messalina, to elevate the adopted prince to equal honours with the son whom Claudius had hitherto acknowledged as his heir.

At the Cirensian games Britannicus appeared in the praetexta or youthful dress; Nero in a triumphal robe; and the populace formed their opinion as to the future fortune of each accordingly. When the boys met each other afterwards, Nero saluted his playfellow as Britannicus; Britannicus replied to him only by the family name of Domitius. Agrippina expressed great indignation at this affront, and complained to her husband Claudius that his adoption was treated with contempt—that the decree of the senate and the command of the people were abrogated within the palace walls—and that if a stop were not put to the perverseness of those preceptors by whom Britannicus had been instructed, public disasters must ensue. Claudius, much moved by the answers of his excellent tutors who had hitherto brought up his son, and placed him under the care of others recommended by his crafty step-mother.

When the intrigues and the crimes of Agrippina had obtained the imperial dignity for her own son, Britannicus necessarily became an object of suspicion to Nero, whose fears were by no means diminished by the threats in which his mother indulged upon the banishment of her lover Pallas. She took care indeed not to conceal her menaces to himself, so that when the young prince found himself only the true stock of the Cassars, and alone worthy to succeed to his father’s empire, while Nero was only adopted into the family of the Cassars. Little solicitus as to the revelation of her foul deeds, she rejoiced that her own providence and the gods had permitted the survival of her step-son, and she declared that she would accompany him to the camp, and demand from the soldiers his elevation to the throne, without fearing the futile arguments which might be urged against her by the unwarlike soldier Burrus, or the wordy rhetorician Seneca, who ought to guard against her.

Britannicus was near the completion of his fourteenth year, and Nero, who was well acquainted with the violence of Agrippina, had recently discovered how much popularity the young prince retained. Among other sports of the Staturomba he was constituted Brutus, and his name was to be thrown dice for the kingship of the evening. Nero, who on one occasion happened to be the successful castor, issued his orders to each of the company to do some offensive trifle; but when it came to the turn of Britannicus, Nero commanded him to make the sacrifice. The boy calmly obeyed, and began a song which implied that he had fallen from his patrimony and from sovereignty; lines which the keen-sightedness of the commentators of Ennius have determined to belong to the Andromache of that poet. The imperial guests were drowsed, the courtiers less on their guard than usual, and a sentiment of pity was evidently excited among them. This incident, combined with the threats of Agrippina, determined Nero to remove Britannicus by poison, and he employed Locusta (whose name is rendered familiar to us by Juvenal) to assist his purpose.

The poison first administered was ineffectual; but Nero, impatient of delay, threatened Locusta with punishment, (and, as Suetonius adds, beat her with his own hand,) till she furnished him with a potion so strong that she affirmed to be 'as rapid in deadly effect as the sword itself'; it was prepared by the bedside of the emperor under his own inspection.

According to an old custom, the youths of the imperial family, with other noble children, ate their meals in the presence of their elder relations. Britannicus, when assisting at one of these banquets, was attended as usual by a taster, and some artifice became requisite to prevent any violation of the court fashion, and at the same time to avoid the suspicion which must have been excited by the death of both the prince and this officer. An unpoisoned drink, already tasted, was therefore handed to Britannicus, and when he complained that it was too hot, the poison was poured into it with cold water. The moment after he had swallowed the last drop, he lost the use of his limbs, breath, and utterance. All present were in consternation, and some quitted the room; but those who were better acquainted with the habits of the palace sat still and watched the emperor's countenance. With a careless air, he pronounced the prince's disease to be an attack of epilepsy with which, he said, Britannicus had been afflicted from infancy, and that he would speedily recover. The involuntary terror displayed by Agrippina and Octavia proved the ignorance of the crime: the former was a veteran in dissimulation; the latter, though ever years, had been taught to repress all outward signs of grief or of affection. After a short pause, the festivity was renewed.

Britannicus was buried on the very evening of his death; the funeral arrangements, which were but slender, having been provided beforehand. The pile was constructed in the Campus Martius, under a terrific storm of rain.
Suetonius adds to the other causes of hatred which Nero cherished against Britannicus, that he was jealous of the superior eloquence of his voice; and that Titus, who was educated by the same tutors, happening to sit next him at the fatal banquet, tasted the poisoned cup, and for a long time, without any sign of life, lay struggling between life and death (by marks on the forehead), introduced by Narsissus in order to inspect the forehead of the prince, predicted that Britannicus would never mount the throne, which, however, would certainly be ascended by Titus. Titus, after his accession, called to mind this circumstance, and as a testimony to his early friendship for Britannicus, erected a golden statue to his memory on the Palatine hill, and had a second (equestrian) statue carved in ivory, which was exhibited in the Circean processions. The potion, says Suetonius, made his eyes red, and he survived five hours. This process being far too slow to satisfy Nero, a mixture of greater strength was prepared, which killed a pig immediately. The funeral of Britannicus is placed on the day after his death by Suetonius, and Dion (lxi) records that his face, being discoloured by the poison, was covered with plaster by the order of Nero, but that the torrent of rain which fell during the ceremony washed off the plaster and revealed the crime.

The disastrous history of Britannicus has furnished the ground of many moral lessons, but one, which the French consider: among the chefs d'oeuvre of their dramas, but which to our taste abunds in the chief faults of their theatre. Its close adherence to history is greatly vaunted, and it is but justice to admit that it has embodied the principal events from 145 to 54 a.d. and that it may be tolerated on prescription, although the entire story is detached from the plot, and is introduced solely to listen to the complaints of her mistress; but what is to be said in defence of the creation of Junie—the boy and girl love between 145 and 54 a.d., the person of Britannicus? the unworthy passion of Nero? The poet himself informs us that Britannicus was the most elaborate of his tragedies, and that its success by no means answered his expectations. Junie too, he tells us, is Junia Calvina, described by Suetonius as having an age of about 15 when she was above the age prescribed for admission to the College of Vestals, and of whom little more is known than that she was alive in the reign of Vespasian.

La Harpe has criticised Britannicus at great length, and in order to proceed so favourably. Broder also, in his Remarks on the 13th book of Tacitus, states that Junie, whose Racine introduced on compulsion through the necessity of the theatre, is the sole drawback to the perfection of his tragedy; her manners, he adds with truth, are far more French than Roman.

BRITAIN. [BRETAGNE.]

BRITISH AMERICA. The territory comprehended under this name extyles from 41° to 78° N. lat., and from 52° to 107° W. long.

The S. boundary of British America is formed by the territory of the U.S. The frontier line is not satisfactorily defined at some points, and has long been a subject of disagreement between the two nations. The E. boundary line as claimed by England under authority of 1783 is objected to by the government of the U.S. on the ground that the provisions of that treaty were founded upon the assumption of physical facts which subsequent examination has shown to be erroneous. If the English government is right in its interpretation, then the S. boundary of its continental provinces is as follows:—

Entering the riv. St. Croix in Passamaquoddy Bay, in 45° 10' N. lat. and 67° 15' W. long., it follows the course of the St. Croix to its source in 43° 48' N. lat.; proceeding thence in a line due N. for 41 m. to Mars Hill, it reaches the high land which separate the river, that empty themselves into the St. Lawrence from those which fall into the Atlantic. Taking thence a W. direction, the line proceeds with a somewhat irregular course along those high lands to the S.E. of Bangor. From this point to 44° 35' W. it follows a more direct line to the S.W. of Bangor, and thence continues W. in a right line until it strikes the St. Lawrence at the vil. of St. Regis, which stands at the W. extremity of Lake St. Francis. The line then proceeds in a S.W. direction through the middle of the St. Lawrence into Lake Ontario, which it divides into two nearly equal portions, leaves Ontario by the riv. Niagara and bisects Lake Erie; passes N. through the riv. Detroit into and through the lake and riv. St. Clair; enters Lake Huron at its S. point and quits it at its N.W. extremity; runs through 'the Narrows' and to the W. of the isl. of St. Joseph into Lake Superior, which it crosses with a winding course, leaving Isle Royale within the U.S. limits, by way of the S.W. of Lake of the Woods, and then runs N.W. to the N.W. angle of the Lake of the Woods in 49° 0' N. lat., and 94° 25' W. long.; proceeds thence due W. to the highest ridge of the Rocky Mountains, continues S. along that range to 42° 59' N. lat., and then takes a course due W. to the Pacific Ocean. The treaty of 1818, it was provided that the country in question should remain free and open to the vessels, citizens, and subjects of both the two powers for the term of ten years from that time, without affecting thereby the claims which either party might have to any portion of such country. The term thus specified has expired, but no such claim has hitherto been made to the settlement of the question.

A portion of the N.W. coast of America bordering on the North Pacific Ocean is claimed by Russia. This portion extends from 41° N. lat. to the shores of the Arctic Sea, and the N.W. of the Mexican territory.

The settled provinces of North America belonging to Great Britain are Lower Canada, lying between 44° and 50° N. lat. and between 64° and 76° W. long.; Upper Canada, 41° and 49° do. and 74° and 83° do.; New Brunswick, 45° and 48° do. and 65° and 67° do.; Prince Edward's Island, 46° and 47° do. and 62° and 65° do.; Newfoundland, 46° and 56° do. and 50° and 60° do. [CANADA, UPPER AND LOWER; NEW BRUNSWICK; NOVA SCOTIA; PRINCE EDWARD'S ISLAND, NEWFOUNDLAND; NORTH-WEST TERRITORY; HUDSON'S BAY.]

BRITISH CHANNEL. [ENGLISH CHANNEL.]

BRITISH MUSEUM. Till the middle of the 18th century the project of establishing a national Museum had often been entertained in England, but was opposed by the will of Sir Hans Sloane, who, during a long period of eminent practice in physic, had accumulated, in addition to a numerous library of books and MSS., a large collection of objects of natural history and works of art; these he directed should be offered for the benefit of the nation to the British Parliament for the sum of 20,000l., the collection having cost him 50,000l. The offer was accepted, and before the end of the year an Act passed which ordered the payment of the required sum, and vested the property in the museum. For the first time, an Act of Parliament sanctioned by an Act of the 12th and 13th of William III., should, with the library of Major Arthur Edwards attached to it, form a part of the general collection.

These several collections were ordered to be kept in their then respective places of deposit, till a more convenient repository, more durable and more safe from fire, and nearer to the chief places of public resort, could be provided for the reception of the whole.

To deprive the expenses of these purchases, to procure a repository for the museum, and to provide a fund for the permanent support of the establishment when formed, the Act directed that 100,000l. should be raised, by way of lottery, the net produce of which, together with the several collections, was to be vested in an incorporated body of persons, selected from the first characters in the kingdom for rank, station, and literary attainments, upon whom it conferred ample powers for the disposal, preservation,
tion, and management of the institution, which it was de-
termined should bear the name of the British Museum.
This was the first contribution made to the British Museum, in the
order of that Monarch.
It is impossible to enumerate in detail all the additions
which have been since made by gift or purchase. Dr. Thomas
Birch's library; two collections of books on musical
science from Sir John Hawkins, and one from Dr. Charles
Burney; the Muscovy Company's collection; several num-
rous classics from the library of Thomas Tyrwhitt, Esq.,
with his MS. notes; Sir William Musgrave's unrivalled
collection of bibliography; a collection of classics, enriched by
Dr. Bentley's MS. notes; a library of caramollas, process-
ions, and berries from Dr. Sarah Banke; and
a collection of Italian history and topography, from Sir
Richard Colt Hoare, are among the smaller acquisitions:
the valuable library of the Rev. Clayton Mordaunt Crahs-
ode; the law library of Francis Hargrave, Esq., the
library of Memoirs from the archives of the British and
the libraries of Mons. Ginguet, author of the 'Histoire
Litteraire d'Italie'; and of the Rev. Dr. Charles Burney,
and Sir Joseph Banks's library of natural history, are
among the larger.
Four separate collections of tracts, illustrating the
Revolutionary History of France, published at different
times by the trustees: one was the collection formed by
the last president of the parliament of Britain at
the commencement of the revolution; two others extended
generally through the revolutionary period; the fourth was a
collection of pamphlets issued in the last days of 1815: the whole
forming a library of revolutionary history as complete for France as the tracts already
mentioned of the time of Charles I. are for the civil wars of
England.

Another, and an unrivalled feature of the mu-
seum, was the library of the late Sir Harris, presented
by him, as the first in 1866. Sir Harris had formed a
great collection for his day. To these, in 1818, were added
the Burney collection, purchased at the estimated value of
1000L. Since that time the commissioners of stamps have
sold a large portion of this collection, and enabled the museum to purchase a large number of
newspapers deposited by the publishers in their office.

In 1833 the library of King George III. was pre-

presented by his successor to the British nation, and by
Parliament ordered to be added to the library of the British
Museum; but far greater has been the gain separated from the other
books. This library contains a collection of the works of
the greatest masters of all periods, and is in itself, perhaps, the most complete library of its extent that was ever formed.

The aggregate of the collections here enumerated, aug-
mented yearly by gifts, by claims under the Copyright Act,
and by grants of money from Parliament, have now placed
the department of printed books in the British Museum
upon a range with the greatest libraries of Continental
Europe; near 200,000, is now expended annually in the pur-
blishing of old and foreign publications.

The department of manuscripts, consisting of the Herculaneum, Sloane and Cottonian MSS., forms the nucleus of this depart-
ment at the establishment of the Museum: followed, in
1757, by the MSS. of the ancient royal library of England.
In this last collection, which contains whatever had been
brought together by our kings, from King Richard II. to
King George II., are numerous valuable MSS.: among them the 'Codex Alexandrinus,' in four quarto volumes, written
upon fine vellum, probably the most ancient MS. of the Greek
Bible now extant, in uncial characters, supposed to have been
produced in the fourth century. Further down the series, we have, also, present from Cyril, the patriarch of Constantinople, to King
Charles I. Many of these MSS. came into the royal
library at the time when our monastic institutions were
destroyed, and some still retain the anathemas upon their
pages. A list of the donors of this department, and the
names which have been prefixed to the books, have been
published by the British Museum, and is to be found in the
books of the Library Department.

The department of maps and prints was opened in
1753, and has since been rapidly increased. It contains
maps of all the principal countries of the world, from ancient
and modern times, and prints of all kinds, from the earliest of
their original deposit. Old scholastic divinity abounds in
this collection, and it possesses innumerable volumes, en-
riched by the finest illuminators of different countries, in a
succession of periods to the 16th century. Here also are preserved a numerous assemblage of the domestic music-books of Henry VIII.; and the Basilion Donor of King James I., in his own hand-writing. The Cottonian collection is especially rich in historical documents, from the time of the Saxons to King James I.; it likewise contains numerous volumes of Breton, Manx, and Cornish, as well as the charters of King Edgar and King Henry I. to Hyde Abbey, near Winchester, written in gold letters; and the MS., called the "Durham Book," a copy of the Latin Gospels, with an interlinear Saxon gloss, written about the year 800, illuminated in the most splendid and elaborate style of the Anglo-Saxons, and believed once to have belonged to the Venerable Bede. This collection is also singularly rich in royal and other original letters, and comprises the correspondence of most of the greatest personages not only of this country but throughout Europe during the earliest period in which letters were written to the seventeenth century. The Harleian collection is still more miscellaneous, though historical literature in all its branches forms one of its chief features. It possesses two very early copies of the Latin Gospels, written in gold letters. It is particularly rich in heraldic and genealogical MSS., in the Visitation of counties, and in topographical collections for almost every part of England; in parliamentary and law proceedings; in originals, copies, and calendars of ancient records, and other documentary MSS., among which is one of the earliest known of the Odyssey of Homer; in missals, Antiphonals, and other service-books of the Roman church; and in old English poetry. It likewise contains a large number of splendidly illuminated MSS., and an这方面 are the Slavonic MSS., principally consisting of MSS. on natural history, voyages and travels, upon the arts, and especially upon medicine. It comprises the chief of the celebrated Kempter's MSS., with the voluminous medical collections of Sir Theodore Mayer, concerning the diseases and their cure, in his famous "Regimenti of England from 1611 to 1642. It also contains a collection of medical and other scientific correspondence, with numerous MSS. on history, poetry, and miscellaneous subjects. Some of the drawings of animals belonging to this collection are among the most beautiful and most significant figures or figures upon vellum are from the pencil of Madame Marot; one relates entirely to the insects of Surinam.

The collection of MSS., formed by the first marquess of Lansdowne, was added to these libraries in 1807, having been purchased by an Act of Parliament for £4,000. The MS. of the Burghley and Caxton papers, supplementary to the Cottonian collection; in a very large assemblage of bishop Kenyon's MSS., and in numerous collections of an in-textual kind. Among the single volumes which may be enumerated are a number of the ms. of the Englishman's Bible, as well as a copy of the 1611, the most complete and most beautiful copies of the Bible, of which is a reproduction of the Bible, which is the most complete and most beautiful copies of the Bible, of which is a reproduction of the Bible, which is the most complete and most beautiful copies of the Bible, of which is a reproduction of the Bible, which is the most complete and most beautiful copies of the Bible, of which is a reproduction of the Bible, which is the most complete and most beautiful copies of the Bible, of which is a reproduction of the Bible, which is the most complete and most beautiful copies of the Bible, of which is a reproduction of the Bible, which is the most complete and most beautiful copies of the Bible, of which is a reproduction of the Bible, which is the most complete and most beautiful copies of the Bible, of which is a reproduction of the Bible, which is the 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Teas, in 1769, purchased a collection of well-preserved stuffed birds which had been brought over from Holland, for 450L.; many additions were afterwards made by purchases and donations. The group early in the reign of George III. brought numerous acquisitions; and in 1816 a rich collection of British zoology, which had belonged to Coll. Montague, of Knowle in Devonshire (including a very large number of birds), was purchased for 1100L. Since that date the collection has been augmented, and, in aggregate, forms a collection, not indeed complete, but as extensive as most of the collections in Europe. A valuable collection of stuffed birds has recently been bequeathed to the Museum by the late Major General Hardwicke.

In regard to the second condition of the will, it is to be observed that the specimens of minerals of Sir Hans Sloane's Museum were collected at a period when the science of mineralogy may be said to have scarcely existed. Most of them had been chosen for him by persons of little skill, or had been gathered in the course of discovery early in the time of the above-obscure. Mr. Gustavus Brande's collection of Hampshire fossils was added in 1763; and a third small collection, made on the N.W. coast of America by Mr. Menzies, who accompanied Capt. Vancouver as a naturalist, was presented to the Museum for a small sum.

This collection contained little that was particularly curious, except that it supplied a kind of geological history of an extensive but little explored coast. A systematic collection of minerals for the benefit of persons pursuing the study of that science was attempted in 1709, when they supplied the deficiency in that branch of their Institution by acquiring, at the price of 700L., a well-chosen collection of minerals of every class, consisting of 7000 specimens, which had been made by Charles Hatchett, Esq., during his residence in the East Indies. All the abovevaluable of the Sloanean collection was incorporated with this ample accession, and with the addition of what the Rev. C. M. Cracherode's bequest afterwards supplied, formed, even before the addition of the Greville minerals, a copious and useful mineralogical collection. In 1810 an opportunity presented itself of acquiring the extensive collection of minerals formed by Coll. Greville, which were purchased by vote of parliament for 13,727L.; in 1815 the British Government purchased from them, by tender, the large and splendid collection of minerals from the Harz Mountains, formerly preserved in the Observatory at Richmond.

Round the side of a portion of the Long Gallery which now contains the minerals, King George III. laid a series of arrangements in upright cases. In Saurian fossils the Museum is eminently rich, as well as in gigantic ossaceous remains, and in impressions of vegetables, fruits, and fish. Some of these acquisitions have been obtained at recent times.

Two of the greatest rarities of the mineralogical collection are the sculptured tortoise in the centre of the gallery, brought in Nephrite stone, and found on the banks of the Junna, near Allahabad, in Hindostan; and a large specimen of cellular lathyric iron from the province of Atacama in Peru.

The collection of minerals is daily increasing, and is at this time superior to any in Europe.

The system adopted for its arrangement, with occasional alternation, that of the Provinces, founded upon the electro-chemical theory and the doctrine of definite proportions as developed by him in a memoir read before the Royal Academy of Sciences at Stockholm in 1824. The detail of the arrangement is supplied by the running titles on the outsides of the glass cases, and by the labels within them. The ornithological portion of the natural history is arranged according to Temminck, and his generic names are in general adopted, with the specific names of Linnaeus and the diagnoses of Latham. The names of domestic animals and birds are included in this, as well as in other cases; and in this list of the general museum collection, are attached to specimens which have been presented.

The amphibia, crustacea, reptiles in spirits, sea-eggs, and star-fish, with the general collection of fish and sea-creatures, form a separate division of the natural history: the principal collections of crustacea and spiders are preserved in proper cabinets in a separate room.

The shells of the Museum, the collection of which has greatly increased since the death of Sir Hans Sloane, form another division of the natural history of no small extent; they are in numerous instances accompanied by clay models of the different molluscous animals. They are arranged in classes, order, and genera, according to Lamarck's system, which has been adopted as the basis for general arrangement, occasionally interpolated with the genera of other authors where Lamarck has left lacunae.

The entomological branch of the department of natural history is still in its infancy, but of late years the greater portion of Sir Hans Sloane's insects having perished from length of time, or the insufficient methods then taken to preserve them. Purchases and donations also are continually swelling their number, and a large accession has been received from Mr. Morgan and a part of the bequest from General Hardwicke. A small but interesting collection of the insects of Sierra Leone has also been recently presented by the Rev. Mr. Morgan. The collection, exclusive of General Hardwicke's bequest, fills two large chests, and is an extension of the insects as that at Paris.

Department of Antiquities.—In the infancy of the Museum, the antiquities being few in number and of little value, were considered, with other artificial curiosities, as an appendage to the natural history: the coins, medals, and other objects forming the museum collection were at that time appended to the department of MSS.; and the prints and engravings to the library of printed books. In 1772 a very considerable assemblage of articles of Greek and Roman antiquity, comprising the ancient Roman wall-vases, had been purchased by Sir William Hamilton for 8400L., schedules of which were drawn up by D. Hancarell. The original building of the Museum was still spacious enough to contain all that was accumulated in every department; and the Antiquaries, wishing to acquire a number as to require an increase of the establishment. The arrival of the Egyptian monuments acquired by the capitation of Alexandria in 1801, which were ordered in the following year by King George III. to be placed in the Museum in the interior, caused the erection of an additional edifice, rendered still more indispensable by the purchase of the Townley Marbles in 1805. Accordingly, upon the completion of the building intended for the two collections, a new department was created, in which the collection of ancient art was placed; and a magnificent collection of ancient sculpture was at length opened for the inspection of strangers and the improvement of artists, an advantage which the students in the fine arts had never before enjoyed in this country. To this department the Hamilton Antiques and antiquities were transferred, together with the coins, medals, drawings, and engravings.

In 1814, a communication having been made by the Townley family that there still remained in their possession a very large collection of ancient bronze figures and utensils, of Greek, Roman, and Etruscan, coins, gems, and other objects, offered essentially to illustrate the sculptures purchased in 1805, the House of Commons granted in the session of parliament in that year the sum of 8200L. for the purchase.

In 1815 the Prince Regent, at an expense of less than 1000L., contributed towards the purchase, and ordered to be deposited in the Museum an extensive series of marble sculptures, the frieze of a temple, which had been dug up at Phigaleia in Arcadia, and are known, from Pausanias, to be the genuine productions of the earlier time of the school of Phidias. To this department, too, and to the collection of coins, is contributed the progress of the arts in this country, is the most important accession received by the Museum since its institution. It chiefly consists of the exquisite sculptures which once adorned the pelhine and frieze of the Temple of Minerva on the Acropolis. For the purchase of those parliament voted the sum of 35,000L.

In 1810 the Duke of Portland offered to deposit the Portland Vase in the British Museum (the property to remain with him, where it is still exhibited). No infactory of ancient Roman sculpture of any extent has been added to the galleries of sculpture since the arrival of the Elgin collection; but numerous marbles of the higher class have been purchased from time to time, which may be mentioned the bas-relief of Jupiter and Juno, that of Jupiter on the Acropolis, Burke's collection, the group of Mithras, bought of Mr. Standish; the Rondini Pawn; the Torsos of Venus, which was injured by the fire at Richmond House; a bas-relief of the Apotheosis of Homer, purchased for 1000L.; a Venus of the Capitoli, presented by his
present Majesty; and a collection of Persian marbles, presented in 1822 by Sir Gore Ouseley, forming a valuable addition to some which had been previously presented by the Earl of Aberdeen.

Next to those of the bronzes, chiefly belonging to the Hamilton and Townley collections, though numerous and in some instances large and fine, formed but a subordinate feature in the museum department of antiquities. In 1824 Mr. R. Payne Knight, a trustee, whose attainments in ancient literature and knowledge of the fine arts were known not only in this country but throughout Europe, besides marbles and other objects, bequeathed to the Museum a valuable and extensive series of ancient bronzes, 798 in number; less numerous and of smaller dimensions than most of those found in Pompeii and Herculaneum, but in beauty of workmanship and admirable state of preservation superior even to those in the museum of the king of Naples.

To this part of the collection, in 1833, the bronzes of Siria, purchased, by subscription, from the Chev. Bronsdon, were added, at the expense of 100G. In 1825 the trustees obtained a large collection of Babylonian antiquities.

Coins and Medals.—The foundation of this part of the collection was laid in the cabinets of Sir Robert Cotton and Sir Hans Sloane. More than 6000 ancient medals were purchased with the Hamilton collection in 1772. In 1792 a collection of coins and medals, estimated at the value of 600G., was bequeathed to the Museum by the Rev. Clayton Mordaunt Cracherode. In 1802 the trustees purchased the most complete series of Anglo-Saxon coins then known, which was in the cabinet of Mr. Daniel Tbidwell. In 1810 a series of the coins of England from the Conquest to the reign of George III., which had been made by Edward Roberts, Esq. of the Exchequer, for his son, was purchased for the sum of 4000 guineas, and about the same time a series of about 5000 gold and silver Greek coins from Col. de Bosset for 600G. In 1814 the Townley collection of Greek and Roman coins (particularly rich in Roman large and second brass) was added by vote of parliament, with a collection of Greek coins offered for sale by Capri in 1817. The cabinet of Dutch, French, and Russian medals was purchased in 1823.

Another considerable as well as choice collection of Greek coins was obtained at the time of the purchase of the Elgin Marbles. In 1818 Lady Banks presented all such coins and medals belonging to the extensive cabinet of Mrs. S. S. Banks as were not previously in the Museum, including a collection of foreign coins of vast extent. In 1824 Mr. R. Payne Knight bequeathed his Greek coins to the Museum, which, joined to the Greek coins already in the cabinets, made the Museum series of kings and cities superior even to that of the British Museum. In 1825 the cabinet of M. de Vigne and M. de Bourgel was purchased by parliament for 1800G., and in 1825 parliament purchased for the Museum, together with Mr. Rich's collection of MSS., a large assemblage of early Arabian, Persian, and Sasanian coins, of the estimated value of 1000G., and in the same year King George IV.'s diamond of great value. Others of smaller value, and medals which had been attached to the library of George III., rich in English, but more especially rich in the foreign series, particularly in German coins, in papal, Flemish, and Dutch medals, and in an almost unrivalled collection of medals of the illustrious men of Italy.

The last cabinet of great extent acquired is that of William Marsden, Esq., consisting entirely of Oriental coins, divided into two portions: the first includes not only the coins belonging to the great empire of the Khaleef, but those of Persia, which share in the responsibility of forming the currency of the W. regions of Asia, and of the Mohammedan kingdoms and states formerly or at present existing in Africa and Europe; the second portion belongs to the countries of the East, and contains, including the coins of Persia, India, and China, together with those of the Indo-Chinese peninsula and of the islands geographically connected with them as far as Japan. This splendid collection was presented to the Museum, in addition to a further portion, by Mr. Marsden in 1829.

The generosity of individuals, and the exertions of the trustees as opportunities present themselves, are continually bringing acquisitions of a minor kind to this branch of the department of antiquities. Instances of the former may be mentioned of coins of the greatest value, found at Dorking in Surrey in 1818, given by Robert Barclay, Esq. of Bury Hill, and George Dewdney, Esq. of Dorking, chiefly by the former gentleman; and in a large collection of the coins of the two first Edwards, found at Tutbury in Staffordshire in June, 1831, presented by Lord Holland, chancellor of the duchy of Lancaster. Among the acquisitions of the trustees by casual purchase may be enumerated a selection from 5700 pennies of Henry II., purchased in 1803; a collection of the coins of Weir, in London, of all the various towns and mint masters of which were purchased for the Museum; and in a large accession to the already numerous coins of Canute found at Halton Moor near Lancaster, purchased in 1815. Eight hundred pounds were expended in purchases to supply deficiencies of every kind at the sale of the coins of Marmaduke Trattle, Esq. and in 1833, 1000G. were expended in the purchase of coins in gold, silver, and brass, chiefly Greek, selected from the cabinet of Mr. Borel. Two hundred and ninety-six staves of Ecbelene, Eanaed, and Enred, kings of Northumbria, and of Vignaud and Eanbald, archbishops of York, found at Hexham in 1832, were purchased in the same year; with no fewer than 659 varieties of pennies of King William the Conqueror found at Beaworth in Hampshire. A consideration of these collections and the work of new finds has also been recently purchased of Lieutenant Burnes.

Engraved gems, principally from the collections of Sir William Hamilton, Charles Townley, Esq., the Rev. C. M. Cracherode, and R. P. Knight, Esq., the department of antiquities is especially rich, as well as in antique pastels and in specimens of antique glass. In necklaces, ear-rings, armillae, and other trinkets of gold, this department is also rich. The latest acquisition of this kind is the gold breastplate, supposed to have belonged to a British chieftain, last found on the island of Thanet. In the division which contains drawings and engravings there are one or two superb drawings by Rubens: a large collection of drawings of the Italian school: three volumes, a part of Mr. R. P. Knight's bequest, containing 272 ori- ginal drawings of the Florentine school; a two-volume facsimile of drawings of the Dutch school: several hundred drawings by Albert Durer and other old German masters; a large collection of Van Huyen's drawings of plants, which formerly belonged to the Sloane collection; a collection of prints of the Grand Tour: a fine collection of prints of China: Parr's and Revett's views in Greece and Asia Minor, chiefly architectural, in two volumes, accompanied by a third volume containing Towne's views in Rome and its vicinity; three volumes of high value, the best engravings in black chalk, copied from the most celebrated pictures in Rome, and accompanied by an extra volume after the frescos of Guido in the private chapel of the Vatican, by Mosman: these were presented to the Museum by the Earl of Exeter; and two volume sets of drawings of antique marbles, gems, &c., formerly belonging to Mr. Charles Townley; and two folios of drawings made under the direction of the Earl of Elgin at Athens.

The collection of prints, among numerous impressions of works of Niello, is a sulphur of the celebrated Pax by Maso Finiguerra, of the Assumption of the Virgin, anno 1432, purchased in 1835 for 270 guineas. The prints of the different masters are for the most part arranged in schools, as the Florentine school, the schools of Sienna, the Roman school, the Bolognese, Lombard, and Venetian schools, the schools of Genoa and Naples, the French school, &c. There are large and almost complete collections of the works of Marc Antonio, Bonasoni, Rembrandts, and Pollard: a very large collection of early German prints in wood; an almost perfect collection of prints engraved after the pictures of Sir Joshua Reynolds: a large collection of Bartolozzi's engravings: Dr. Burney's collection of theatrical portraits: an immense collection of foreign portraits, purchased with the library of the Baron de Moil of Munich: and a Pennant's collection of prints of foreign scenes, purchased after the prints of Sir Joshua Reynolds: and fourteen volumes in folio of the largest size, made by the late Mr. Crole at an expense of 700L., by whom it was bequeathed to the Museum.

In the print room also is preserved one of the most wonderful specimens of the art, in a carving in bone by Albert Durer in alto-rilievo, representing the birth of St. John Baptist, dated 1510, for which Mr. Knight, who bequeathed it to the Museum, gave 500L.

From 1862, when the monuments taken from the Pyrenæ
at Alexandria arrived, till 1817, no material additions were made to the Egyptian part of the antiquities department; but in that year the upper part of a fine colossal statue, common with those incorporated called the Memnon, was brought from Thebes by Belzoni, was given to the Museum in the joint names of Henry Salt, Esq., the British consul at Alexandria, and Louis Burchhardt, Esq. In 1823 the trustees, by the aid of parliament, obtained Mr. Salt's first collection of Egyptian antiquities, which consisted of six cabinets, containing upwards of 2,000 species, the materials in process of arrangement being estimated to contain 5,000 more. This herbarium is, in addition to Sir Joseph's own collections upon his voyage with Captain Cook, the herbarium of Clifford and Hermann. Anbet, Miller, and Jourdain, with many of the plants collected by Tournefort and described in his 'Coralliorum.' Anbet's plants were from French Guiana; the collections of Clifford and Hermann were those from which Linnaeus formed his Hortus Cliffortianus and Florae Herbarum; Clinton's Herbarium was that from which Gornovius formed his Flora Virginica. It comprises also the plants collected in the various voyages of discovery subsequent to Sir Joseph Banks's own, with the contributions of numerous travellers, and a collection of plants sent by Loureiro from Cochín-China. The Bankian collection alone formed at the same time the most valuable assemblage of dried plants in Europe, and is still one of the most important, not only on account of its extent, but as containing the original and authentic specimens of many published species. There are but few public collections in Europe at present of any claim to extensive or even of moderate extent. The greatest of these, namely, that of the Jardin du Roi at Paris, contains perhaps a considerably greater number of species; while the public collection at Berlin, the next to that at Paris, is judged to be hardly superior to the Bankian. A collection of flowers and fruits, chiefly of the more rare or succulent plants, preserved in spirits, also form a part of the Bankian department, to the amount of upwards of 300 bottles; with a collection of seeds and fruits in a dried state. Since the arrival of Sir Joseph Banks's expedition from New South Wales, a collection of plants given by the East India Company, formed and distributed by Dr. Wallis, and another collection, of Egyptian plants, has been presented by J. G. Wilkinson, Esq. Other less extensive additions have been made partly by donation and partly by purchase.

The government of the Museum is vested under the act of parliament 25 Geo. II., and two or three other acts, in 45 trustees, including 23 official trustees, nine family trustees, one royal trustee, and 15 trustees who are elected by the Society of Antiquaries. The royal trustee is her Majesty the Queen; the lord chancellor, the speaker of the House of Commons, the lord president of the council, the first lord of the treasury, the lord privy seal, the first lord of the admiralty, the lord steward, the lord chamberlain, the three principal secretaries of state, in his leave, the lord president of the Exchequer, the lord chief justice of the King's Bench, the master of the rolls, the lord chief justice of the Common Pleas, the attorney-general, the solicitor-general, the president of the Royal Society, the president of the Society of Antiquaries, and the president of the Royal Academy. Of the family trustees, two represent the Sloane, two the Cottonian, two the Harleian, one the Townley, one the Elgin, and one the Knight families, by whom they are respectively appointed. The royal trustee is the duke of Northumberland; the six official trustees, Sir Henry Erskine, the third baronet, Sir John Heron, Bt., Sir Robert Hope, Bt., Sir Henry Brounker, Bt., Sir John Pringle, Bt., and Sir William Heneage, Bt.; the six family trustees, the duke of Devonshire, the Duke of Grafton, the earl of Oxford, the earl of Charleton, the earl of Suffolk, and the earl of Huntingdon; and the six other trustees, representatives of the trustees of the Sloanean, Cottonian, and Harleian families for being provided for by the act of 26 George II. Those of the Townley, Elgin, and Knight families are nominated under the respective acts by which the collections they represent were acquired. The appointment of the presidents of the Society of Antiquaries and the Royal Academy, as official trustees, passed 5 George IV. That for the nomination of a royal trustee (who, in the first instance, was the duke of Gloucester) passed 2 William IV. This act also provides that on the death of any of the principal librarians, who is also expeditor; six under librarians; six assistant librarians, and three extra assistant librarians, the name of librarian being given to the officers of all the departments; a secretary, and an accountant. Several permanent librarians of the Society of Antiquaries are also librarians. There are also attendants in the several departments, a clerk of the works, housekeepers, &c. The patronage of the Museum, that is, the appointment
to vacant offices, is vested in the three principal trustees only, the archbishop of Canterbury, the lord chancellor, and the speaker of the House of Commons, except in the appointment of the principal librarian, when two persons are presented by the Queen, and one by the House of Commons, to fill the office, and his Majesty makes choice of one of them.

The following are the regulations under which the Museum is maintained at the present moment for public use. It is open for general inspection every Monday, Wednesday, and Saturday, from half past ten o'clock every day except in the Christmas, Easter, and Whit week, and during the month of September, and on four single holidays, Tuesdays and Thursdays in every week are devoted to artists and other students in the different departments, and a third day is appointed for the days, who are not likely to disturb them. Foreigners and artists are also admitted during the month of September.

The reading room of the Museum is open from ten till four every day except on Sundays, and except for one week at Christmas, Easter, and Whitsuntide respectively, and on the four single holidays also mentioned. Persons desirous of admission send their applications to the principal librarian, or, in his absence, to the senior under librarian, who either admits them immediately, or lays their applications before the next general meeting or committee of trustees. The appointments are made by the trustees upon the recommendation of the principal librarian, or one of the officers of the house. Permission is then granted for six months, always renewable from time to time at the expiration of each term. No tracings from books or MSS. are allowed to be made without particular permission; and the entire MS. can be transcribed without leave from the trustees.

The following are the catalogues and descriptions of the different departments of the British Museum already published:


Catalogues of the additions to the printed books and MSS. to the latest time are kept in the Museum reading-room. There is also a separate MS. catalogue of the great collection of tracts relating to the civil wars of Charles I.; a separate catalogue of the Cole MSS.; and copies of the catalogue, privately printed by order of the House of Commons, of all the tracts, periodicals, and miscellaneous tracts in all languages, with more than 8000 books of reference, are constantly open for the use of students in the reading-room and in the case which surrounds them.

In the spring of 1824 Lord Liverpool announced that the Angerstein Gallery had been purchased by the government for £5,000; and it appears to be the opinion of the House of Commons, expressed in their debates, that the gallery should be opened to public inspection at the earliest possible moment. To the pictures would be most accessible, the trustees of the Museum made no hesitation in allowing the transfer of Sir George Beaumont's pictures to the same destination, but without relinquishing their trust; a certain number of trustees of the British Museum are, in consequence, trustees of the National Gallery, thus retaining their property in the pictures as well as a joint exercise of superintendence. In 1831 the Rev. W. A. Carr bequeathed another collection of pictures to the trustees, with a distinct direction that they should be hung in the same building with Mr. Angerstein's and Sir George Beaumont's pictures, and that the pictures of merit have been occasionally forwarded by the trustees to the same repository; as, in 1826, Sir Joshua Reynolds's picture of the Captive Lord, presented to them by the Rev. William Long; and, in 1837, a landscape by Gainsborough, presented by Lord Farnborough, and the Banishment of Cleobrotes by Leonidas by Mr. West, presented by William Wilkins, Esq.

BRITTOWN. We have, under 'BRACTON,' enumerated all the principal writings of those early English lawyers and jurists who, by the grace of God, have continued to produce a recommendation satisfactory to a trustee or an officer of the house. Permission is then granted for six months, always renewable from time to time at the expiration of each term. No tracings from books or MSS. are allowed to be made without particular permission; and the entire MS. can be transcribed without leave from the trustees.

We have seen that there is doubt who Bracton was. There is still more doubt respecting Britton, whose existence as an individual person has even been doubted. Selden, who on such points is a high authority, in his notes upon Fleta, contends that 'Britton' is nothing more than a shortening of 'Bracton,' and that to the same hand to be ascribed as to the compiler of the 'Digest,' in which the name of Britton occurs also the French treatise known by the name of 'Britton.' This was Selden's later opinion; for in an earlier work he has spoken of them as two distinct writers. John Le Breton, bishop of Hereford, who died in the third year of Edward I., has been supposed to be the author (Tanner, 'Bibliotheca,' p. 119). Others attribute it to a John Breton, who was a judge in the first year of Edward II. There seems no reason to doubt that the work was composed in the reign of King Edward I.

Britton to the name, one may point in the practice of the common law, in 126 chapters.

The high esteem in which the work was held, is evidenced by the numerous manuscripts of it which still exist in our great libraries. In the British Museum are several of great value.

It was first printed in 1540 by Redman, who had meditated doing so before; for he tells us in the preface that 'he had of long time a fervent zeal and inward affection to imprint the fountain (as who should) or well of the same Learnings, from whence those old judges in the time of King Edward the First and since, have sucked their reasons and grounded their learnings.' A century later, namely in 1640, there was another edition published by Wingate, a lawyer. These are the only editions which have appeared in England. Britton is contained in the edition of the early writers on Scotch law by M. Howard, in two volumes, in which the volumes, a noble undertaking, intended to promote in France the study of comparative jurisprudence.

There still remains however the very necessary work to be performed of a collation of the existing manuscripts. It is a work both important and useful. It is to be thought that the value of the work lies in the fact that it is a work of value in any department of literature, which was published by the early printers, who seldom did more than follow some one manuscript which happened to have fallen into their hands, and which might not always happen to be the better part of the manuscript. It is a work which would prepare such an edition, and a specimen of the intended work may be seen in Cooper on the Public Records, 1829, vol. ii. p. 403-413; the text being taken from what is perhaps the best manuscript (Harleian, 394), and the margin presenting the various readings found in many other manuscripts.
In 1762, a translation of Britton, as far as the 25th chapter, was published by Mr. Robert Kelham; but the work did not receive much encouragement. He translated the remaining portions, but the manuscript remained in his hands till 1807, when being then the senior member of his profession, he deposited the volume unprinted in the library of that society, where it now remains.

BRIYE, or BRIVES LA GAILLARDE, a town in France, capital of an arrond. in the dep. of Corrèze, on the road from Paris to Montauban and Toulouse; 299 m. S. or S. W. of Paris; in 51° 29' N. lat. and 1° 39' E. long.

It appears to have been a place of some importance in the ages succeeding the downfall of the Roman empire, for here, in the latter part of the sixth century, Gondebau, an illegitimate branch of the Merovingian kings of the Franks, caucus the title of king; in 1015 it was captured by the emperor Henry IV., and latterly situated opposite to an island in the riv. Corrèze, over which are two bridges; and is superior in situation to most of the towns of the dep. The valley in which it stands is bounded by hills crowned with vines and chestnut trees: the pleasantness of the site has given to the town the surname of La Gaillarde, 'the gay.' Briey is enveloped by a pleasant walk planted with elm trees and skirted with good stone houses; but in the interior we do not meet either with handsom streets or good squares. It had before the Revolution a collegiate church, and is in possession of considerable churches, six religious communities, and a good college. The manufactures are chiefly of large copper utensils and silk and cotton goods; and these, with chestnuts, nut-oil, wine, brandy, wax, and some articles of trade, the quantity of cattle are reared in the neighbourhoood for the Paris market, and many pigs for Bordeaux and the south of France. Slate and antimony are obtained at no great distance. The pop. in 1832 amounted to 5576 for S. V., 5247 for N. V., or 10,821 for the whole commune. There is a high school, a public library, an agricultural society, and an hospital.

The arrond. of Briey had, in 1832, 111,024 inh. In a valley two or three miles S. of Briey are several apartments excavated in a rock and pierced with doors and windows; there are three of them. They are probably formed as a place of refuge from the ravages of war, but the presenty ascribe to them a marvellous origin.

BRIXEN, in the Austrian circle of the Pusterthal and Eisack, in the Tyrol, though a small town, was, before the French revolution, the capital of an independent bishopric, the possessions of which extended over a surface of nearly 360 sq. m., having a pop. of upwards of 25,000 souls. The town lies at the foot of the Brenner, and at the confluence of the Rienz and Eisack, in the bosom of a cheerful, fertile valley; it is the seat of a bishop, a rich and stricken appearance; the houses are in the Italian style, but ill-built, the streets are badly paved, and the number of inh. does not at present exceed 4000. It is still the residence of a bishop, and the palaces have been some times occupied by the Bishops of St. Julian, four other churches, and the town-hall, are the principal edifices in the place. It has a gymnasium, an episcopal seminary with a theological school attached to it, a Capuchin monastery, a female school conducted by the nuns of the English sisterhood, and a convent of the Tertian nuns. The principal mountains are surrounded with vineyards which produce a very palatable red wine, in which the chief trade of Brixen consists. 46° 40' N. lat. 11° 47' E. long.

BRIXHAM, DEVON, a sea-port, m. t. and par., in the par. of Hayer and co. of Devon, 22 m. S. from Exeter, 165 W.S.W. from London, and in 51° 25' N. lat. and 3° 32' W. long. The area of the par. is 5210 English statute acres.

The manor of Brixham formerly belonged to the Wovants, and from this it passed into the hands of the Valeort family, by whom it was sold, and it is now divided into quarters, some of which quarters are again subdivided, and the shareholders (many of them common fishermen) all call themselves quay lords. The har. consists of two basins; the outerly is about 100 ft. long, and expense of nearly 5300l. raised solely amongst the inh. There are about 120 vessels employed in the port from 60 to 150 tons burden, and 103 from 20 to 45 tons burden, and about 64 smaller boats, nearly all engaged in the fishing trade. The principal trade, besides the local, melancholy, and soles; they are sent in great quantities to the London, Bath, and Exeter markets. Brixham has a fair on Whit-Tuesday and the following day, and a market was esta-

lished in 1799, by authority of an act of parliament passed in that year.

The town is prettily situated on the S. side of Torbay, about a mile and a half S.W. from Berryhead, and directly facing the delightful watering-place Torquay, from which it is distant only 2 miles. It is a pleasant walk from the natural hamm. M. The part near the water is called Brixham Quay, or Lower Brixham, and is a miserable looking place; the houses irregularly built, the streets narrow and filthy, and the smell of tar and fish is intolerable. The upper town, called Church Town, is much more respectable. The town is, however, much better, and contains some good houses. The church is dedicated to the Virgin Mary; it has lately been enlarged by 800 sittings, of which 700 are free, the incorporated Society for the Enlargement of Churches having granted 700l. At Lower Brixham is a handsome tavern of the name of the 'Restitution.' The town is governed by the parliamentary commissioners. There are also places of worship for Baptists and Wesleyan Methodists.

The pop. of Brixham is 5013, of which 2110 are males and 2903 females: a great proportion of the males are employed in registered vessels.

A national school has been united with an old establishment endowed in 1634. The master has a house and garden and a salary of 60l. per annum: two school-rooms have lately been erected near the master's house, where 400 children of both sexes are taught. Brixham is granted 13l. per annum to this establishment 13l. per annum. Mr. John Kelland left by his will (dated 1709) a sum of 2000l. for the endow-

ing of charity schools and augmentation of small livings, and a hospital, the discretion of his trustees; in consequence of which John Toman, Esq., one of the king's justices, appropriated the sum of 490l. to the par. of Brixham, and purchased with it an estate at Ashburnham, now let at 42l. per annum, in aid of this school. Besides the land there is now about 700l. stock belonging to the school.

Brixham was the landing-place of the Prince of Orange, afterwards William III., on the 5th of November, 1688.

In the church is a cenotaph of Sir Francis Buller, the judge. In the neighbourhood of Brixham is Lupton, formerly in the possession of the ancient family of the Penfolds; it was then the seat of Lord J. B. Penfold, who, before the Revolution, was a Jacobite, and left it at his death in 1704. There is also a curiously well, called Lay Well, the water of which ebbs and flows about nine times in an hour.

(Sir William de la Pole's Description of Devon; Lysons' Magna Britannia: Pop. Reports; Correspondence, &c.)

BROADSTAIRS. [Kent.]

BROCHI, GIOVANNI Battista, was born at Bassano, in the Venetian teritory, in February, 1772. He studied in the college of his native town, and afterwards at the university of Padua, where he acquired a good knowledge of the profession of the law; but young Brocchi's chief attention was directed to botany and mineralogy, and when the time came for his examination previous to his taking his doctor's degree, he left Padua abruptly and went to Rome, where he became a great admirer of the works of Nardini, and with his assistance he became well versed in Roman and Greek archæology. He paid particular attention to the Egyptian antiquities at Rome, and he wrote some dissertations on Egyptian sculpture. Having returned to Bassano, he con-

cluded his studies of the natural sciences, and in 1802 was appointed professor of botany in the newly established Lyceum of Brescia. He was made secretary to the Athenæum or scientific academy of that city, and he was the first editor of the Memoirs of that institution. He also made extensive observations on the valleys of the Adige, the Adda, and the Ticino, and, having examined their geology and their mineral productions, he published Trattato mineralogico sulle Minerale di Ferro del Dipartimento del Mella, con l'Esposizione della Costituzione fisica delle Montagne metalifere della Val Trompia; 2 vols., 8vo., Brescia, 1807. In 1808 he was made inspector of the mines of the kingdom of Italy, and soon after he was chosen a member of the Italian Institute. The results of his geological and mineralogical observations, made during his frequent excursions in the provinces of Tuscany, Emilia, and the Abruzzi, were translated by Mr. Chichester into English, and published in the following works: 1. Memoria mineralogica sulle Val de Fassa nel Tirol,' Milano, 1811. 2. The valley of Fassa, in the Italian Tyrol, near Brixen, which is very rich in magnificent crystals. 3. Observations, &c., had not been examined before by any of the explorers of the Alpine regions. 2° Conchologia ferrata subapennina, con Osservazioni geologiche sugli Apennini e sul Suolo adiacente,' 2 v. 4º, Milano, 1814. This, the prin-
Brocchi, the result of his repeated visits to the central and S. parts of Italy. It begins by an
interesting description of the provinces, and of the
territory which they possess in Lombardy, and the
adjacent valleys and plains, which abound in organic
remains, that Brocchi's investigations were chiefly directed.
He examined the numerous varieties of shells found among
the rocks in one of the most remarkable and extensive
eons of Italy, and which form nearly one-half of the whole.
It should however be noticed that the rocks to which Brocchi
assigned the name subepipitum are not all precisely of the
same geological age, and that the amount of recent shells
detected in them is very small, while in most of the
zoons of Italy, the fossil shells were found in central and
southern Spain: parts of Italy, and which form nearly one-half of the whole.
3. Catalogo ragionato di una raccolta di rocce disposto
con ordine geografico per servire alla geognosia dell'Italia,
8vo. Milan, 1817. This work contains a catalogue of more
than 500 specimens of rocks collected by Brocchi in the
province of Lombardy, and in the republics of Venice, Genoa,
and Modena. It is preceded by a well-written introduction
on the geology and mineralogy of the different regions of Italy,
and is considered one of the most important works in
the field. It is published in various Nos. of the 'Biblioteca Italiana,'
between the years 1816-23. In 1820 Brocchi, after residing some time at Rome,
published 'De isto status fisico del suolo di Roma,
Memoria per servire a illustrazione alla carta geognostica
de la Città,' in which he made a thorough investigation
of the surface of the ground on which Rome, both antient and
modern, now stands; and, secondly, of the character of the soil,
the various rocks and strata of the hills and of the
valleys, and the topographical conditions of the Tiber.
He accompanies the work with a very correct idea of the physical
topography of Rome. Brocchi's observations are accurate
and valuable; but some of his inferences and hypotheses
have met with much opposition, especially those in the
latter part of the work, which consists of a 'Discorso
sui Materiali della Struttura del Territorio Romano.'
He argues that the air in antient times must have been more
unwholesome than it is at present, although he admits that the
country was much more populous and that the people
had other means of preparing the air by their dress and
their manner of living. Brocchi made some
curious experiments during four nights which he passed at
S. Lorenzo fuore delle mura, one of the most unwholesome
spots near Rome. He divided the number of persons who
left the town each night, and submitted them to a chemical analysis,
but all his trouble and risk led to no satisfactory result.
He gives a plain and straightforward account of his attempts at the end of the book.
In 1823 Brocchi sailed from Trieste for Egypt, a country which he had long wished to examine, especially with
regard to its mineralogy. He found favour with Mehemet Ali, who sent him on several missions, supplying him with
thorough information of his work. In 1826 he was directed to
the working of a coal mine, and afterwards to look for the
emerald mines of Mount Zabarah, which Mauclaura and Bel
zoni had visited some years before. Brocchi however found
only some loose pieces without their proper setting, but seeming
be part of the structure of the mine. He was taken ill however,
and died at Cartum in September of that year. His friend Acerbi, Austrian consul-general at Alexandria,
recovered his papers and collections, and forwarded them,
according to his will, to his native town, Bassano. His rich
collection of Italian minerals and fossils he had given to his
native town, and to the University of Bologna. 'De化石と, et moribundo. (Sacchi, Varietà letterarie, Necrologia di G. B. Brocchì.)
Brocchi had done more for the geology of Italy than any of
his predecessors.

Brockesby, B. 

Brockesby, RICHARD, the only son of Richard
Brocklesby, Esq., of Cork, was born at Minehead, in Somer
setshire, on the 11th of August, 1722. After receiving the
rudiments of education in his father's house at Cork, he
was sent to Ballitore school, in the N. of Ireland, where he
lived with his cousin, the Rev. John Deane, to whom he
owed the most cordial friendship when they again met in
London. He afterwards studied at Edinburgh, and then at
Leiden, where he took the degree of doctor of physic
under the celebrated Gauvain, in June, 1745, his inaugural
thesis being directed to the doctrine 'De saltu, and at Leiden.
Lugd. Bat., 1745. The following year he came to London,
and settled in Broad-street; and as the income allowed him
by his father was not large, and his professional gains were
at first small, he determined not to engage in the
strictest economy, 'never suffering himself,' he used to
say, 'to have a want that was not accommodable to his
fortune.' The same year he published 'An Essay concerning
the Mortality of the Horned Cattle,' 8vo., 1746, which
brought him a premium of 100l. which he purchased
himself a licentiate of the college of physicians in 1754, he
obtained the honorary degree of M.F. from the university
of Dublin, and being admitted ad eundem at Cambridge,
he was enabled to become a candidate, and in 1756, a fellow,
and in 1760, a professor of physical at Cambridge. He had
pointed physician to the army, and served in Germany during
most of the Seven Years' war, where he was distinguished
by his zeal, knowledge, and humanity; and particularly re
commended himself to the notice of the Duke of Richmond,
in Flanders. He published 'A Treatise on Inflammables
and Explosions in War,' in 1768. He was one of the first
physicians to the hospitals for the British forces, and returned
to England before the peace of 1763. He then settled in
Norfolk-street, Strand, and soon reaped the reward which skill,
attention, and good humanity, in a proper time, could
realize. To this source of income were likewise added his half-pay,
and his paternal estate of 600l. per annum. Being unmarried he was enabled
to live in a very handsome style, and often entertained at
his dinner table such persons most distinguished for rank,
abilities, or learning, in the kingdom.

In 1763 Dr. Brocklesby was called in to attend Wilkes, who
was suffering from a wound in the abdomen received
in his duel with Mr. Martin; and it is thought that Wilkes's
natural recovery gave a great impulse to his physician's rising
reputation.

Dr. Brocklesby preserved in politics the same judicious
moderation which was his general characteristic; for though
he was a member of the Constitutional club, and a warm
advocate of the cause of the Middlesex petitioners, he
never forgot the respect due to the laws, and quitted the club as soon as it deviated into
other doctrines, under other leaders.

In spite of the placidity of his tempermant, he was once
a principal in a duel, his antagonist being Dr., afterwards
Sir John Elliott; but it must be confessed that this duel
was one of the most peaceable and sensible upon record—the
seconds having taken care to place the combatants at such
a distance from each other that the bullets, even if they
should hit, could not possibly do any mischief.

As Dr. Brocklesby's prudent frugality had preserved him
from embarrassment when poor, so it enabled him to
dwell in the most munificent charity when rich. He
had always a large number of almshouses, and three or four
charitable persons to whom he granted small annuities, and who on the quarter-days on which their
stipends became due partook of the hospitality of his table.
To such of his relations as required his assistance he was
to not only liberal, but so judicious as to prevent the
egregious vanity of their repetition. When the de
clining years of Dr. Johnson seemed to render travelling
advisable, Dr. Brocklesby offered him a life-annuity of 100l.
per annum; and on this being declined he made him an
other offer, in so many words, to subscribe in joint
with Mr. Edmund Burke a legacy of 1000l.; but recollecting that
the legatee's death might take place (as it really did) before
his own, he gave it to him in advance, ut pignus amicitiae,
and it was accepted as such by his illustrious friend.

No. 329.
In 1794 Dr. Brocklesby found the infirmities of age increase so fast upon him that he declined visiting patients, excepting a few of his private friends. He died the same day, and the same time gave up his half-pay. A little before this time his patron and friend the Duke of Richmond had made him physician-general to the royal regiment of artillery and corps of engineers.

The town, on the 11th of December, 1797, in his 79th year, having returned that day from a visit to the widow of Edmund Burke, at Beaconsfield. With the exception of a few legacies, he left his fortune, which is said to have exceeded 30,000l., between his two nephews, Mr. Roderick and Mr. John Brocklesby.

Dr. Brocklesby was a Fellow of the Royal Society, and wrote two papers in their Transactions:—' An Account of the Poisonous Root lately found mixed with Gentian' (No. 466); and 'Experiments on Cutting the Tendons in various Animals' (No. 467). Besides the latter, and the Dissertation before mentioned, he was the author of the following:—' Eulogium Medicum, sive Oratio Anniversaria Harveiana,' &c., 4to. 1760. 'Economical and Medical Observations from 1738 to 1763, tending to the Improvement of Medical Hospitals.' 2 vols. 1764. 'The state of the navy; its manner of being built and dirty: it contains 2006 houses (mostly of wood) and about 24,000 in., of whom above 5000 are Jews, on which account it has been nicknamed 'The German Jerusalem.' There are several squares and open spaces, the principal of which are King's Square, the Market-square, and the New-market. Besides three Greek churches and a Roman Catholic church, it possesses three synagogues, a convent of the Pious Sisterhood, a large palace belonging to the Potocki family, and other handsome buildings. It has two Jewish schools, all high school, and a school for affording instruction in such subjects as are connected with trade and manufactures, to which there are attached a benevolent fund for the support of indigent pupils, and an excellent cabinet in natural and experimental philosophy; a Roman Catholic grammar-school, and a hospital. It is, besides, annexed to the convent, a Jewish hospital, a Polish and a German theatre, and public baths. In a commercial point of view, Brody is the most important town in Galicia. The trade is almost exclusively in the hands of the Jews, and consists principally in the exportation of wool, tobacco, wax, tallow, silkgass, hides and skins, leather, anised, dried fruit, &c.; the import of jewels, pearls, colonial produce, and manufactured goods; and the transit of merchandise to Russia, Turkey, &c. There are tanneries and brickworks on the outskirts of the town, and the fair is well attended. About 50° 7' N. lat.; 22° 18' E. long.

BROEK, or BROECK, a vil. in that part of the prov. of N. Holland called Waterland, about 3 m. W. of the port of Monnikendam, and 23 m. N. of Amsterdam. Broek obtained the privilege of a town in 1163. It is a large, well-built town with one street, and cleanliness which it uniformly exhibits. The vil. is composed of lanes so narrow that no carriage can enter, and they are paved with small bricks, or chinks of various colors, disposed in the form of mosaic. The houses, many of which are of the gothic style, are well built, and the roofs of a small garden, laid out with formality, and stocked with flowering shrubs and the choicest flowers. The houses are all painted in different colors; the order and cleanliness of the streets, the neatness of the windows and doors, and the proper dress of the inhabitants are an index to their outward appearance. At the door of each house there is a saucer for the collection of money, which is given by every person who enters must substitute for his shoes: it is said that when the Emperors Napoleon and Alexander visited Broek they complied with this custom. Many workmen who come to the town to earn their bread are received at the door of any house, or at the Town Hall, without being asked for money. It is at times necessary to have money inherited from their fathers. Some of them add to their wealth by dealing in butter and cheese produced from the fine pastures in the neighborhood. The men seldom marry until they are near forty years of age, and until more than sixty they are in the service of the church, at thirty-five. They live very retired lives; the principal door of the house is never opened except on the occasions of baptisms, marriages, and funerals, the inh. ordinarily passing in and out of their dwellings by the back entrance.

BRODY, a town in the N.E. part of Galicia, lying in a woody place, and noted for forests of the E. and N.W. quarters. It is on the rivulet 'Sucha-mieka,' which flows N. to the Styry: it is on the high road from Lemberg to Dubna, in Russian Poland. In the year 1779 Brody was raised to the rank of a free town, and consequently it has its own magistrates. It is a large town, and five miles 4 f. W. of Warsaw. It contains 2006 houses (mostly of wood) and about 24,000 in., of whom above 5000 are Jews, on which account it has been nicknamed 'The German Jerusalem.' There are several squares and open spaces, the principal of which are King's Square, the Market-square, and the New-market. Besides three Greek churches and a Roman Catholic church, it possesses three synagogues, a convent of the Pious Sisterhood, a large palace belonging to the Potocki family, and other handsome buildings. It has two Jewish schools, all high school, and a school for affording instruction in such subjects as are connected with trade and manufactures, to which there are attached a benevolent fund for the support of indigent pupils, and an excellent cabinet in natural and experimental philosophy; a Roman Catholic grammar-school, and a hospital. It is, besides, annexed to the convent, a Jewish hospital, a Polish and a German theatre, and public baths. In a commercial point of view, Brody is the most important town in Galicia. The trade is almost exclusively in the hands of the Jews, and consists principally in the exportation of wool, tobacco, wax, tallow, silkgass, hides and skins, leather, anised, dried fruit, &c.; the import of jewels, pearls, colonial produce, and manufactured goods; and the transit of merchandise to Russia, Turkey, &c. There are tanneries and brickworks on the outskirts of the town, and the fair is well attended. About 50° 7' N. lat.; 22° 18' E. long.
tress, and, if still urged on, he drops and dies: this therefore is one of the worst species of unsoundness.

The cause of the rupture of the air-cells may be previous inflammation of the lungs, by which a portion of them has been rendered impervious, and thus greater labour thrown on the remaining parts. The result is, the injury of the diaphragm, of the larynx, probably weakened by the inflammation in which it had shared, yields to the unnatural distension to which they are thus exposed. Many a horse has become broken-winded when urged to extra exertions immediately after he has been fed; or the opposite, exactly the reverse. Into the lungs, the parts suddenly and forcibly inspired, and the full stomach lying against the diaphragm, with which the body of the lungs is in contact, their perfect expansion is prevented, and those parts of them, the edges, which are free from this pressure, are adducted, or compressed, and the expiration of expiration to which the horse is accustomed has much to do with this disease. If it is comparatively inoffensive, a greater bulk of it must be eaten, and the distended stomach will oftener and longer press upon the diaphragm and impede the dilatation of the lungs, or render it unequal in different parts. Thus broken-wind is a disease of the farmer's horse fed too much on hay or chaff; it is often produced in the straw-yard, where little more than the coarsest food is allowed: but it is comparatively seldom seen in the stable of the coach-proprietor, in which the food is of a better quality, and lies in a smaller compass, and is more regularly administered; and it never disregres the hunting or racing stable. It must however be confessed that there is sometimes an hereditary predisposition to this disease, consisting in a narrowness of chest or a breaking structure in the lungs.

There is no cure for broken-wind; no art can restore the dilated cells to their former dimensions, or build up again a wall between them. But palliative measures may be adopted to lessen the sale of breath, and make the horse more useful than he otherwise would be. Straw and chaff should be forbidden, the quantity of hay perhaps a little diminished, and that of corn correspondingly increased. A mash should constitute a part of the evening's feed, and the daily supply greatly diminished. The daily exercise should not be required when the stomach is full. Occasional or periodical fits of greater difficulty of breathing should be met by small bleedings and gentle laxatives. By this management not only will the broken-winded horse be rendered useful for many ordinary purposes, but he will be capable of service and labour, which it would otherwise be cruel to require of him.

BROKER, a person employed in the negotiation and arrangement of mercantile transactions between other parties. He is commonly employed in foreign trade by the shippers, either the buyer or the seller, but sometimes acting as the agent of both. As it usually happens that individual brokers apply themselves to negotiations for the purchase and sale of some particular article or class of articles, they are usually employed with an knowledge of the qualities and market value of the goods in which they deal, and obtain an acquaintance with the sellers and buyers as well as with the state of supply and demand, and are thus enabled to bring the dealers together and to negotiate between them on terms equitable for both. A merchant who trades in a great variety of goods and products drawn from different countries, and destined for the use of different classes, cannot have the same intimate knowledge for his guidance, and will consequently find it advisable to employ several brokers to assist him in making his purchases and sales.

Ship-brokers form an important class in all great mercantile ports. It is their business to procure goods on freight or a charter-party, and to negotiate with the shippers or consignees of the goods which they carry. In the principal ports of this kingdom almost all ship-brokers are insurance-brokers also, in which capacity they procure the names of the insurers, their policies of insurance, and settle with the latter the rate of premium and the various conditions under which they engage to take the risk, and receiving from them the amounts of their respective subscriptions in the event of loss. Should this loss be partial, it becomes the duty of the broker to arrange the proportions to be recovered from the underwriters. The business of an insurance-broker differs from that of other brokers in one particular. The latter, when they give up the name of the party for whom they act, incur no responsibility as to the fulfilment of the conditions of the contract, while an insurance-broker is liable in all cases to the full amount of the premiums for the amount of the loss. He does not, on the other hand, incur any liability to make good the amount insured to the owner of the ship or goods, who must look to the underwriter alone for indemnification in case of loss. Under these circumstances it is the duty of the insurance-broker to make a prudent selection of underwriters. Merchants frequently act as insurance-brokers.

Exchange-brokers negotiate the purchase and sale of bills of exchange drawn upon foreign countries, for which purpose they must have the required capital. They determine the exchange current between their own and every other country, and should keep themselves acquainted with circumstances by which those rates are liable to be raised or depressed; and they should besides acquire such a general knowledge of the transactions and credit of the merchants whose bags to buy, as may serve to keep their employers from incurring undue risks. Persons of this class are sometimes called bill-brokers, a title which is likewise given to another class whose business it is to employ the spare money of bankers and capitalists, and to manage that money in the change having some time to run before they will become due.

The business of a stock-broker is that of buying and selling, for the account of others, stock in the public funds, and shares in the joint stock companies. The regulated by which the proceedings of stock-brokers should in certain cases be regulated (7 Geo. II. c. 8, and 10 Geo. II. c. 8), have long been dead letters. Under these enactments every bargain or contract for the purchase or sale of any stock in the public funds, is void, if not entered into as a speculation upon the fluctuations of the market, is declared void, and all parties engaging in the same are liable to a penalty of 500l. for each transaction.

Every person desirous of acting as a broker for the purchase and sale of goods within the city of London must be licensed for that purpose by the lord mayor and court of aldermen. When admitted, the broker must give bond, conditioned with a penalty of 500l., for the faithful discharge of his duties, with regard to the customers and to the utmost of his skill and knowledge. He is sworn to this effect, and further binds himself not to deal in goods upon his own account—a stipulation which is very commonly broken. It is the indispensable duty of a broker to receive upon admission a bond, conditioned with a penalty of 500l., for his fidelity in receiving and restoring money for his principal, and for his fidelity in carrying on the business of the broker without having procured a license or paid the fees, is liable to a fine of 100l. for every bargain which he may negotiate.

It is usual to apply the name of broker to persons who buy and sell second-hand household furniture, although such an occupation does not bear any analogy to brokers as here described, furniture dealers buying and selling generally on their own account and not as agents for others. These persons do indeed sometimes supercede to their business the appraising of goods and the sale of them by public auction under warrants of distress for rent, for the performance of which functions they must provide themselves with an excise license, and they come under the regulations of an act of parliament (57 Geo. III. c. 93).

The business of a pawn-broker is different from that of the commercial brokers here described. [PAN.

BROMBERG, a government circle forming the northern half of the prov. of Posen, on the E. by the kingdom of Poland, of the prov.: N.E. by western Prussia, and containing an area of about 4490 sq. m., with a pop. of about 327,000, of whom about 200,000 are Roman Catholici, and 21,000 Jews. It contains nine minor circles, 54 towns, and 163 villages, besides 3120 colonies. It is a level country, fertile in parts, and full of forests. It is particularly in its eastern district between the Vistula and Netze. It produces most kinds of grain, potatoes, fruits and vegetables; much timber is felled, and considerable quantities of horses (in 1831 about 44,000), horned cattle (about 30,000),
BROMELIACEAE, a natural order of endogenous plants, taking its name from the genus to which the pine-apple was once incorrectly referred [Ananas], and consisting of herbaceous plants, remarkable for the hardness and beauty of their foliage and the abundance in the tropical parts of the world, or in such extra-tropical countries as, owing to local circumstances, have a climate of a tropical nature. Sometimes they are found growing on the earth in forests, but more commonly they spring up from the substratum of trees, round which they coil their simple, succulent roots, vegetating upon the decayed matter there they may find, and absorbing their food in a great measure from the atmosphere. Their leaves are usually long and narrow, so very long that they form a kind of cup in which water collects; so that the traveller who ascends the trees on which they grow, if he he ups one of these plants, as he easily may, is unexpectedly deluged by a shower, the source of which he would not have suspected. The most beautiful of them are perfectly smooth; but the fruit is in no case of any value except in the genus Ananas. Bromeliaceae may be shortly described as scurfy-leaved, hexadrous endogens, with distinct calyx and corolla, an inferior ovary, and seeds whose embryo lies in a small albumen. They are known from Amaryllidaceae by the latter circumstance, by their hard scurfy leaves, and epiphytal habit; from Burmanniaceae by their leaves not being equitant nor their fruit winged; and from Taconiaceae by all their habit and their fruit being three-angled, with central placenta. With the exception of the pine-apple, so well known as a valuable fruit, and of certain species of Tillandsia, whose dry, elatic leaves render them fit for stuffing mattresses and the like, Bromeliaceae are of no known uses. Many species are cultivated in the hot-houses of this country, the most beautiful of which belong to the genera Bromelia and Billbergia: they all grow readily in decayed tan. No species has been yet seen wild in any part of the old world.

BROMINE, an elementary fluid, discovered in 1826, by M. Balard, a distinguished French chemist. The name of this substance is given to it from bromus (bromos), a stick or strong smell, on account of its powerful and disagreeable smell. The first paper by its discoverer from the mother water or bitter remaining after the crystallization of common salt at the salt-works of Montpellier. It was soon afterwards found in sea-water in the state of bromide of magnesium, and has since been met with in various salt-springs, and especially those of Germany. At Theodors-

136,000 sheep (about 600,000), and other domestic animals are reared. The manufactures consist of wool, linen, hemp, salt, tobacco, &c.

Bromberg, also the name of one of the nine minor circles, lies adjacent to Western Prussia in the N. and E., and contains about 567 sq. m., with about 41,000 inh. The capital of the district is the town of Bromberg, which is situated on the river Elbe, in German Poland, it is called 'Bydgoszcz.' It is situated about 5 m. W. of the Vistula on an eminence, the base of which is watered by the Bylau and Vistula with the Netze, passes through Bromberg. The number of houses is about 615, and the pop. amounts to about 6800. Bromberg is well built, has two suburbs, and contains three churches, a monastery, and a convent, a gymnasium, a seminary for educating teachers, and two other schools, one of them for poor children; an infirmary, a house of correction, two hospitals, and a royal granary and depot for iron. Among other manufactories Bromberg has a large soap Manufactory, two tobacco factories, several flour and oil-crushing mills, some potteries, and lime-kilns, &c. The export of its manufactures, together with a brisk trade in grain, cattle, &c., and the transit trade to the port of Gumbinnen, at 53° 7' N. lat. 18° 29' E. long., and about 220 m. N.E. of Berlin.

BROME-GRASS, the name of various species of true grasses belonging to the genus Bromus. They are known by having their spikelets many-flowered, twoawl-shaped glumes, and a palea or lodicule, a lemma, and a lodicule, which has a rough, straight, rigid awn proceeding from below the tip of the valve. The species are common annuals in fields, hedgerows, and dry, sterile places. None are of any value to the farmer. The distinctions of the species are not very certain.

BROMELIAE, a name derived from the genus Bromus, applied to a large number of grasses, the commonest of which is Bromus paniculatus. They are known from Amaryllidaceae by the latter circumstance, by their hard scurfy leaves, and by their habit; from Burmanniaceae by their leaves not being equitant nor their fruit winged; and from Taconiaceae by all their habit and their fruit being three-angled, with central placenta.

Bromine suffers no change by the agency of light, heat, or electricity, and having never been decomposed, it is readily kept in water. Its solutions are disinfecting and antiseptic, its action on bacteria neutralizes their activity, and its decomposition of its compounds by electricity is evolved at the positive wire, and consequently resembles in this respect oxygen, chlorine, and iodine, and is like them also in being, when vaporized, a powerful supporter of combustion; some substances become more inflammable, and it as chlorine girt of it, is a brown colorless liquid, is soluble in water and alcohol, and especially in ether; it resembles chlorine in destroying vegetable colour. It is a very corrosive, acting upon and destroying organic matter with great energy. It is not less effective in the decomposition of starch and proteins.

Oxygén and bromine form only one compound, which is known as Bromic acid. These elements do not combine directly, but only when exposed to each other in their nascent state.

Equivalents...
acid decomposes a portion of the sulphuric acid. The best method is to mix bromine and phosphorus and a little water; the consequent action bromidizes phosphorus, converts phosphorus, which decomposes water, and evolves hydrobromic acid gas, which may be procured in the gaseous state over mercury, or dissolved in water.

Hydrobromic acid gas is colourless, and forms a thick vapour on coming in contact with the air. Its smell resembles that of muriatic acid; its specific gravity, according to Berzelius, is 2:731; 100 cubic inches consequently weigh 84.72 grains. It acts upon the metals and their oxides precisely in the same way as muriatic acid gas. It is not altered by being passed through a red hot tube, either alone or mixed with oxygen gas. Chlorine separates the bromine from it, and muriatic acid is formed. Hydrobromic acid gas is very soluble in water, and the solution has a greater specific gravity than water; and all the acids are converted to the chlorides by sublime acid, and suffers no change by exposure to the air. Nitric acid decomposes it, and aqua regia is formed, which dissolves gold and platinum.

Hydrobromic acid is composed of

One equiv. of hydrogen = 1
One " bromine = 80

Equivalent = 80

When it is decomposed by potassium, hydrogen gas, equal to half the volume of the acid submitted to experiment, remains, and bromide of potassium is formed.

Chlorine and bromine are obtained from chloride of bromine. It is prepared by passing a current of chlorine gas over bromine, and condensing the vapour arising by a freezing mixture. It is liquid, has a reddish-yellow colour, lighter than that of bromine. It has a strong, unpleasant smell, and its taste is bitter. It is volatile, dissolves in and is solubile in water: the solution possesses bleaching power. It does not possess acid properties, but when mixed with the alkalies forms chlorides and bromides. It has not yet been analysed.

Carbon and Bromine form a liquid bromide of carbon. It is composed of 51.8 per cent. of iodide of carbon upon bromine. It is a colourless liquid which has an ethereal and penetrating smell, and it communicates to water an exceedingly sweet taste. It is heavier than water, and becomes solid by exposure to about 45° of Fahrenheit. It is decomposed by heat, vapour of bromine being evolved. It has not been analysed.

** Sulphur and Bromine.**—These substances combine readily by mere mixture; the resulting bromide is fluid, has an oily appearance and reddish tint. It emits white vapours when exposed to a cold; it is not volatile, it reddens litmus paper strongly, but slightly when dry. Boiling water is decomposed by bromide of sulphur, and there are produced hydrobromic, hydro sulphuric, and sulphuric acids.

** Phosphorus and bromine.**—These substances combine readily to form two compounds; the protobromide is liquid, and the perbromide is solid. The protobromide is composed of one equivalent of bromine 79, and one of phosphorus 16 = 85. Both bromides are prepared by mixing these elements in a flask containing carbonic acid gas: action takes place, with evolution of light and heat, and there are formed the solid protobromide which sublimes in the upper part of the flask, while the fluid perbromide remains in the lower part. Its composition is not certainly known.

The perbromide is of a yellow colour; by heat it becomes red. It decomposes water, and there are formed hydrobromic and sulphuric acids.

Bromine and iodine form probably two bromides of iodine; one of bromide, or that so considered, is a solid compound, which is by heat convertible into a reddish-brown vapour, condensing into small crystals of the same colour, resembling fern leaves in appearance.

When bromine is added to the above described crystals a liquid results which contains the bromine, which is given a solution possessing bleaching power. It is probably the bromide of iodine.

We have now mentioned the principal binary compounds of bromine, except those which contain a metal; for these as well as for an account of the monobromides their oxides form with bromic acid, we refer to each particular metal.

But little use has hitherto made of bromine; the bromide of potassium has however, been employed in medicine.
Bromsgrove is situated in a highly-cultivated and richly-wooded valley. On the Lickey Hill, which forms one of its activities, are the sources of the riv. Rea, which flows through Birmingham; of the Salwarp, which passes through Droitwich; of the Arrow, and of several small streams, some of which are swallowed up in the bend and throw nothing into the Irish channel, while others descend in the opposite direction to the basin of the Trent and the German Ocean. The strata belong to the new sandstone formation. The Lickey is composed of quartz, and must at some period have been a sand hill or sand plain; for it is considered by geologists as the source from whence have been derived the vast beds of gravel which extend through Oxfordshire, in the valley of the Evenlode, and even along the Thames.

In the par. of Stoke Prior, and closely adjoining that of Bromsgrove, is situated the extensive salt and alkali works carried on by the British Alkali Company. As this establishment furnishes an instance of the rapid introduction of a manufacture into a district which had been previously confined to agriculture, a short notice of its progress may be inserted.

The manufacture of soda has been carried on for centuries in the adjoining bor. of Droitwich, where it is prepared from rich springs of native brine. The only situations where rock-salt had been met with in this is., were in Cheshire, previously to its being discovered at Stoke Prior. The works were commenced in 1829, in the course of searching for a pit in search of brine. The beds of salt were of great thickness, and were excavated to a considerable extent; but at present the supplies of making refined salt are derived from the soft deposits, which are only removed in the excavations. Immediately after making this discovery, the proprietors erected extensive works for the manufacture of soda, and for the preparation of British alkali, by the decomposition of its substance, which very speedily changed the green hill and retired lanes into an active and a lively village. The beneficial effects of this introduction of an extensive manufacture commence with an immediate demand for the surplus labourers, an increased consumption of the necessaries of life, and a contribution towards meeting the parochial expenditure; the neighbouring agriculturist finds his burdens relieved, at the same time that a market for his productions is brought into his immediate neighbourhood. A dispassionate view of instances such as the present would tend greatly to subdue the idea of the injury which extends the agricultural and manufacturing interests in this kingdom. The benefits derived from the successful establishment of a manufacture is not confined to the labouring poor, and to the inhabitants of the place in its vicinity alone, but extends more widely: thus in the iron manufacture works being situated on the banks of the Birmingham and Worcester Canal occasioned, on their being fully established, an increase in the value of that property to the extent of 70 per cent.; and the influence they are likely to produce in the rising port of Gloucester, by furnishing to it a large supply of salt for exportation, is calculated to be very considerable.

Opposite the third vertex of the back the tracheae divide into two great branches, named the bronchi, one branch for each lung; the right bronchus going to the right lung, and the left bronchus to the left lung.

Each of the bronchi at the place where it enters the lung, subdivides into several branches which penetrate the substance of the lung, where they again divide, subdivide, and spread out after the manner of the branching of a tree. Successively diminishing in size as they subdivide, the bronchi at length form an infinite number of minute tubes, at their ultimate terminations dilate into the air-bags termed the air-cells of the lungs. The larynx, the trachea, the bronchi, and their ramifications, together with the cavities of the nose, the mouth, and the pharynx, are all classed together under the common name of the air-passages. All these parts are of the same nature; from the nature of its secretion is termed mucous membrane. In every part of the body the mucous membrane possesses the same essential structure, and is subject to analogous diseases. Accordingly, although the structure of the mucous membrane of the air-passages is somewhat modified in the nose, in the air-passages, the larynx, in the trachea, in the bronchi, and in the air-cells, according to the different functions which it has to perform in these different organs, yet as it possesses in its whole extent the same essential characters, so the diseases to which it is subject are perfectly similar. All these diseases may be included under congestion, inflammation, haemorrhage (effusion of blood from its surface), emphysema (the dilation of the tubes), and polypi (concretions growing from its mucous membrane, which obstruct and sometimes nearly obliterate the tubes).

Of these diseases inflammation is by far the most common and the most important. Inflammation of the mucous membrane of the air-passages is divided into species according to its effects, whether it be pusulose, catarrhaceous, or phlegmonic, according to the duration of the inflammatory action terminates. Thus the inflammation may terminate in a secretion which does not concretion after its formation; this is termed catarrhal inflammation. It may terminate in a secretion which instantly concretes as it is formed; this is termed plastic ulceration. It may terminate in the destruction of the mucous membrane and the formation of ulcers; this is termed ulcerous inflammation.

When the air-passage is constricted, as it often is, to that portion of the membrane which lines the nose, it constitutes the disease commonly known under the name of cold or catarrh, the disease is termed mucous membrane, the inflammation extends to the mucous membrane which lines the fauces, tonsils, and pharynx, the disease is termed tonsillar and pharyngeal. When the inflammation is seated in the portion of the mucous membrane which lines the bronchial tubes and their ramifications, it constitutes the disease termed bronchitis.

While common function is performed by the air-passage from its commencement at the mouth and nostrils, to its termination in the air-cells, namely, the transmission of air and from the lungs, additional and very different functions are performed by the several portions of this extended tube. Accordingly inflammation of the membrane that lines it produces widely different effects, according to the portion of the membrane in which the disease is seated; giving rise to the distinct forms of disease just enumerated. The description of these several diseases is given under their respective heads. The disease hamed bronchitis is that at present to be treated of.

Medical writers distinguish between what they term the state of congestion and that of inflammation. In congestion the blood-vessels are merely loaded with a preternatural quantity of blood. The part of the body, besides being loaded with a preternatural quantity of blood, is in a state of diseased action, which, without any precise knowledge having been acquired of the nature of that action, is termed inflammatory. Simple congestion of
the mucous membrane of the bronchi is a frequent affection, which may be induced by any cause that impedes the return of the blood to the left side of the heart. If suddenly and intensely produced, which sometimes though rarely happens, almost always with all the symptoms of asphyxia [asphyxia]. Several cases of this character have occurred, excepting a general congestion of blood in the capillaries, mucous membrane, of the bronchi and its ramifications.

In a slighter form, congestion of the mucous membrane of the bronchi is a constant attendant on various diseases, more or less favorably of every type, whether common continued fever, or typhus fever, or small-pox. In the state of congestion the mucous membrane is preternaturally red, the tinge of color varying according to the intensity of the affection from a pale to a bright red or purplish.

When the mucous membrane of the bronchi is in a state of active inflammation, it is of a bright red or crimson color. This inflammatory redness may be partial or general; but it more commonly affects particular parts of the mucous membrane than its entire surface. Sometimes the redness is confined to the larger bronchial tubes, or it may be limited to the smaller. Sometimes it exists in the bronchi of one side only; at other times it equally affects both bronchi.

The consequences result from the congestion and inflammation of the membrane: first, the swelling and thickening of the membrane, in proportion to which must of course be an obstruction to the passage of the air; and, secondly, an increase in the quantity of its mucous secretion. This increase in the secretion is chiefly the result of inflammation, in some cases of which affection the secretion becomes so excessive as to completely fill the bronchial tubes, and thereby to occasion suffocation.

The trachea and the bronchial tubes being mere conduits of air and not its repository, the increase in the quantity of the air-passage must of course relate chiefly to impeded transmission of the air. Accordingly, difficulty of breathing is the most prominent symptom of inflammation seated in this portion of the air-tube. This difficulty of breathing is proportionate to the obstruction to the passage of the air, which is proportionate to the degree of the swelling of the membrane, and to the extent of membrane involved in the inflammatory affection. If the inflammation be limited to a portion only of a single tube, the swelling of the membrane is not so much noticed; the whole tubes of one side, the difficulty of breathing will be considerable; if it affect all the tubes of both lungs, the difficulty of breathing may be so great as to prove fatal. Together with impeded respiration, there is a feeling of the air catching in the bronchial tubes, a sensation of a sense of heat, sometimes amounting to a burning sensation, often referred by the patient to the sternum. Cough is always present. The cough at first is dry, because the membrane is dry; but the secretion soon becomes more abundant than natural. The matter first secreted is acrid; and this acridness diminishes as the quantity of the secretion increases; and when the matter secreted assumes a yellow color, it is always quite bland; and then the cough is loose and the expectoration free.

The local signs by which the inflammation of the bronchi and of their ramifications is ascertained and discriminated from all other diseases, have reference to these two conditions.

When the inflammation of the mucous membrane of the bronchial tubes is considerable, the swelling of the membrane may be so great as completely to close that portion of the tube in which the inflammation is seated. The consequence must be that the respiratory murmur [respiration] cannot be heard in that portion of the lung from which the tube supplies, since no air can pass the obstructed point; accordingly, on applying the ear, or the stethoscope [stethoscope] to the chest it is found, especially in severe affections of this kind, that the respiratory murmur is invariable dull and stertorous. If, on the other hand, the inflammation be not so much swollen as completely to close the tube, then another and a totally distinct sound is produced—a whistling sound, a sound always
observed to accompany an indistinct respiratory murmur, on account of the diminished calibre of the bronchial tube.

Moreover, when the swelling of the membrane diminishes, the nature of the sound is again entirely changed. It now becomes a loud, deep, and sonorous breathing, the intensity of which is sufficient to cause a vibration upon the parietes of the chest, distinguishable by the hand; at the same time the respiratory murmur becomes more distinct, denoting that the bronchial tubes are more open; finally, the deep sonorous wheeze assumes a still fuller bass, merges in the respiratory murmur, and gives it a roughness which is termed rough respiration.

On the other hand, where the secretion re-appears and is in excess, a wheezing sound is produced, which is loud and noisy in proportion to the quantity of gas contained in the tubes. This sound, when it is formed in the trachea, can be heard through the medium of the air alone; but the application of the stethoscope, or the ear, to the surface of the chest is necessary when it is formed in the bronchial tubes.

By these local signs it is possible to decide at once whether the disease in question be bronchitis or not; it is possible to determine the exact extent of the affection; for the wheezing may be heard only in a single line, as if in the diameter of the bronchial tube at the back of the chest, over one lung, and occasionally over both; and by judging of the distance of the sound from the ear, it is possible to tell whether the bronchial tube affected is in the centre of the organ or at its surface. In this manner we are taught that the bronchial tubes are the most important organ in the disease, and that this kind of sound is induced in the morbid condition of the organ.

Besides these local signs or symptoms derived from the altered condition of the immediate seat of the disease, there are others derived from the disturbance of the system in general. The skin is hot to the touch, and on pressure it becomes livid; the pulse is quick and thready, and occasionally contorted; the breath is short, and the patient feels extremely uncomfortable. The disease is termed Fern or whenever any organ of the body is affected with any disease of a certain grade of intensity, in addition to the peculiar organ, the natural functions of the great and general systems, such as the nervous, the circulatory, the digestive, and so on, become disturbed. The disturbances of these general systems is always of a certain kind and takes place in a certain order, giving rise, as has been just stated, to the train of symptoms which constitute fever. The fever thus induced is not a primary disease, it is occasioned by the sympathy of the system with the disease of some particular organ: this secondary form of fever is called fever due to affection of the correspondent system, or more idiosyncratic or Fern, when it is the original and essential disease, which is termed idiopathic Fern. The general or feverish symptoms are languidness, indisposition to motion, chilliness, often amounting to shivering, pains in the limbs, and more especially to the limbs and back; frequent desire to vomit; insensibility, or inability to carry on the intellectual operations with the usual vigour. The pulse is rapid and weak, and the urine scanty and limpid. These symptoms are soon followed by irregular flushes of heat, sometimes occurring at one part of the body, sometimes at another, alternating with the cold and intermitting with it, so that the patient feels frequently, in consequence of the rapidity of these changes, the two different sensations in the same place and almost at the same instant. The skin at length becomes universally hot, and commonly dry; head-sache comes on; there is more or less thirst; the pulse continues rapid, but becomes full; and the urine, which is still small in quantity, is now high-colored. Then perspiration succeeding to the hot flushes, and the headache, the fever is now in a greater or less degree to their natural condition, and there is a corresponding remission of the symptoms. After this remission there is commonly an accession of the febrile attack, usually in the evening.

Horses.—It is not a common disease in the horse, but is easily recognized by an interrupted wheezing sound in the breathing that can be heard at some distance; a tendency to coldness in the extremities, distinct from the somewhat more general coldness of the feverish diseases; the deep and deathly imprecations of inflamed lungs; a pulse quicker than in catarrh or the early stage of pneumonia, not so hard as in pleurisy, more so than in catarrh or inflamed lungs; the nostrils dilated, and the respiration strangely quickened, being more so than in catarrh or pleurisy; an almost perfect inability to move in frosts, in rainy weather, or in the water; a cough exceedingly painful; a purulent discharge from the nostrils of a greyish green colour, which soon becomes febrid or mingled with blood; the breath hot; and no expression of pain in any part of the body, excepting looking at the side or flank. Pieces of hardened mucus, or organized membrane, are also frequently coughed up.

Bronchitis is sometimes a primary disease, but it is often the consequence of neglected catarrh or long-continued but slight inflammation of the lungs. It is occasioned by an indistinct respiratory murmur, on account of the diminished calibre of the bronchial tube.
sionally epidemic. Every affection of the respiratory organs will then rapidly degenerate into this disease. As it pursues its course, it is accompanied by febrile inflammation, and the calibre of the bronchial tubes is proportionally diminished, while the mucous secretion is abundantly increased, and consequently the animal dies of suffocation, the air-passages becoming completely clogged.

bledrug should be early resorted to, but very cautiously; for what is true of every mucous membrane is more especially so here—the patient will not bear considerable or rapid depletion. While the blood is flowing, the finger of the veterinary surgeon should be on the submaxillary artery, and the vein should be pinched up as soon as the pulse begins to falter: four pounds will scarcely be withdrawn before this will be the case. Physic should also be administered, but very cautiously; for the sympathy between the mucous membranes is sooner developed in this than in any other disease, and a degree of purging is readily excited which bids defiance to all control. Two draçhms of aloes should be administered morning and night, until the face becomes softened. The dung having been rendered pulviscous, powdered digitalis, nitre, and sulphur should be administered morning and night, in doses varying according to the circumstances of the case. From half a draçhms to two draçhms of the first may be given, and from two to four draçhms of each of the other drugs.

A blister is indispensable, and it should cover the brisket and nape of the neck, and the wind-side, as far as the tail. The horse should not be coaxed to eat, and nothing more nutritious than mashes should be allowed.

Cattle.—Bronchitis is a still more formidable disease among cattle, and many thousands of animals are yearly destroyed by it. It is a very fatal disease, at first produces, and which inexorable inattention and idleness suffer to continue, almost inevitably terminates in bronchitis or infammation of the lungs, or both united. The food of cattle is much concerned in the production of it. It is well known that the very refuse of the farm, and the common aliment of the yearling cattle, too generally and fatally produce inflammation of the air-passages; and many a beast comes from the straw-yard bearing the seeds of death within him. The incipient symptoms of this disease however are young cattle, yearlings, and especially in low marshy or woody countries. On an upland farm, and particularly on a chalky and loamy soil, it is comparatively seldom known. It oftener prevails in dry seasons, when the water of the brook fails, and that of the ponds is putrid and filled with animalcule.

The attack of bronchitis is somewhat sudden; the animal has a dry, husky, and peculiarly distressing cough, and very soon begins to droop and to lose condition. It is painful to see how it has already lost half of its head, the nostrils, and anxious countenance; violently coughing, almost without intermission, until he is completely exhausted, and falls or dies of suffocation. This state of misery continues from a fortnight to a month. On examination after death the bronchial tubes exhibit some inflammation, yet far less than could be expected; while, characterising the disease, and fully accounting for all its distressing symptoms, these passages and the wind-pipe, and often the larynx and the fauces, are filled with small worm-like vermin, being a kind of cost mixed with the mucus, or connected together in knots of various sizes. The disease is either produced or much aggravated by the presence of these worms and the irritation which they produce.

These worms belong to the genus streptoga, and the species gladiator. They are very long, slender, from half an inch to two inches in length; the body round, the head obtuse, the mouth circular, and surrounded with minute barbs, or elongated papilles; the tail of the female pointed, and that of the male somewhat rounded and oblique. The female produces the smallest, and the male the greatest number of the ova, but so few as to appear to have been deposited there accidentally, are occasionally found enclosed in the mucus of the windpipe and the air-passages of the lungs. Of the natural history of this worm nothing is known, but the fact that the whole body is filled with the worms shows that this is the last if not the only state of its existence.

The ova or the minute worms are received from the pastures, or, more probably, from the water, when stagnant or loaded with animalcule. Being alive, they escape the digestive powers of the stomach, and mingle with the blood, and thread the various circulatory passages until they arrive at a congenial abode; or the ova may be hatched out in the windpipe, the nasal passages, the mouth, and then wind their way to their destined residence.

The modes of cure are evident: we should either destroy or remove these intruders, or strengthen the animal so that he shall bear up against the irritation which they excite: for it is well known to the farmer that if the patients, by the natural power of their constitution, or by the application of certain means, can struggle with the disease until the cold weather sets in, and the worm dies, or must find another residence, they will eventually recover. The pasture should be changed as soon as the disease is discovered. The supply of fresh recruits will be prevented, or possibly that deleterious master, whether connected with the water or the pasture, which is necessary to their thriving and multiplying, will be no longer obtained. The simple change of pasture in an early stage of the disease has saved thousands of young cattle.

If these parasites have so far established themselves as to resist this mode of attack, it must be considered whether some agent cannot be brought into actual contact with them, which will either destroy them, or so far annoy and weaken them, that they will lessen their hold and be expelled by the convulsive coughing of the calf. The most obvious method of accomplishing this is to cause the patient to breathe some pungent and deleterious gas, such as that produced by the burning of sulphur or the evolution of chlorines. By both of these fumigations the worms have been quickly and perfectly destroyed, but there is considerable care required in the management of these experiments; inflammation in the air-passages, very difficult afterwards to allay, has been produced, and occasionally the beast as well as the worm has been destroyed. This is, however, a last resource, and should never be intrusted to inexperienced hands.

There is a less dangerous and nearly as effectual a course to pursue. There are certain substances which undergo little or no change in the stomach or the intestines, but can be taken up by the absorbers and enter into the circulation and are conveyed to every part of the frame, producing, when needed, their peculiar and beneficial effects: thus digitalis lowers the action of the heart, and purgatives increase that of the kidneys. Are there any of these substances that are destructive to worms and that can be thus conveyed to the bronchial tubes? Turpentine certainly may, for if a very small portion of it is swallowed it is soon recognisable in the breath. It may be given to cattle in considerable quantities without the slightest danger, and thus may be brought into contact with produce the destruction of these parasites. Common salt readily destroys many species of worms, and is conveyed through the circulatory vessel to a sufficiently pure state to expel these vermin from the air-passages: at the same time it is an admirable tonic, and supports the decaying strength of the animal. The most powerful vermifuge however in these cases is lime-water, and if half a pint of it, with a couple of ounces of soda, is given to each patient every morning, attention being paid to a change, and perhaps a repeated change of pasture, and to the comfort of the animals in other respects, the majority of them will be saved.

This disease occasionally appears in lambs, deer, and swine. The mode of treatment should be the same as for calves.

Vol. V.—3 0

[THE PENNY CYCLOPAEDIA.]
BRONCHOCELE (Bröycouchela), from Βρόχος (bronchos), breath, and κελευθρόν (keleuthron), a swelling, is a swelling in the upper and upper part of the neck, occasioned by a preternatural enlargement of the thyroid gland. The tumour is free from pain, generally of the natural colour of the skin, does not readily inflame, and is but slightly compressible. Often the swelling is rather a deformity than an inconvenience; but occasionally, and especially when the tumour is large, it causes serious evil, by obstructing the voice and the respiration.

When the swelling first appears, it is soft, spongy, and elastic; after some time it assumes a more firm and flabby consistence, being however firmer in some places than in others, and it gradually spreads towards each side of the neck until it attains in some cases a prodigious magnitude. In many cases the disease affects the larynx, but occasionally only one lobe is enlarged. When the swelling attains a great size, and the lower part of the gland is more especially involved in the disease, the tumour hangs pendulous from the neck. On examining the interior of the gland, it is found that the tumours are of different sizes, which are all filled with a transparent viscous fluid. Nothing is known of the real nature of this disease. Little is ascertained of the causes which either predispose to it or which produce it. A few cases are recorded, which are somewhat exceptional, but in some cases when no cause is known.

In the present instance, several of the causes assigned are contradictory. What is certain is that there are countries, or rather particular places in certain countries, for example, France, Flanders, Tyrol, Germany, and parts of America, and some places in Great Britain, as Devonshire, in which the disease is endemic (common to the inhabitants of the same country, from some cause specially connected with that country). It is much more common in females than in males. In Great Britain it is very seldom seen in males, but in Switzerland, and in other places in which it is very prevalent, males are more often attacked than in Britain. It commonly occurs about the age of puberty, and in girls seems to be strictly connected with an irregularity in the menstrual system. In this country, and in the Alps, we have considered a number of cases which have come before me in females, I have never met with any before the period of commencing puberty, nor even at the Infirmary for Children, although the menses have often been delayed for a year or two, or even longer, when the tumour has appeared. I have often observed an instance in this sex unconnected with any irregularity of the menstrual discharge, or disorder of the uterine functions. In two cases occurring in married females, who were under my care, unhealthy or irritable individuals, the disease was connected with the obstetric condition of the goitre; in one case for eight years, in the other for five; upon its disappearance pregnancy took place in both. Suppression of the menses has sometimes caused its sudden appearance and rapid development; and it more rarely has occurred during the puerperal or post-natal state and the amenorrhoea of the puerperal state. An author has added conclusive proofs of its occurrence here, independently, of endemic influence.

It has been said to have an intimate connexion with poverty and bad food, the rich being comparatively exempt from it, but on this point our observations are conflicting. It has been very generally attributed to water used as drink, and more especially to snow-water; but the disease occurs where there is no snow, as in Sumatra and several parts of South America; the persons who drink snow-water are free from it, and those who have not water which has a hard spring resist it. It appears to be a peculiarity of the districts, in a district in Switzerland, to the use of spring-water impregnated with calcareous or mineral substances; and he states that those who use not this water are free from both goitre and cretinism. Dr. Coiner observed that those who drink milk or other water, who drink from the two sources, are those most liable to bronchocele. Its prevalence in Nottingham is ascribed by Dr. Manson to the same cause; which also seems to occasion it in Sussex and Hampshire, in the valleys of which counties it is frequently met with.

In Switzerland, and in many other countries, and in warm valleys even in the very districts in which it is endemic, the inhabitants of dry and elevated situations are exempt from it; but it is probable that the malaria of those places operates only as a predisposing cause, favouring the disease upon the seat of its otherwise acquired agency.

But in whatever obscurity the nature and cause of this disease may be involved, there has been recently discovered for it a very effectual remedy in the substance called iodine. This remedy has been employed with great advantage at Lissabon, and particularly by the late Dr. Manson of Nottingham states, that out of 120 cases treated with it by him, 79 were cured, 11 greatly relieved, and 2 only were not benefited by it. Other physicians, who have had considerable experience of bronchocele, bear the like testimony as to the efficacy of iodine. For the remedy is a very easy one; it is taken internally by the patients, and, after being largely diluted, should be employed. In obstinate cases the external use of it may be combined with its internal administration, but great care should be taken that the ointment which is rubbed into the tumour should not be of sufficient strength, about 2000, on the affluents of the Simathius or Giarrera (Cluverius). It has a manufacturing process which is called to the woollens. Pop. 9400. (Smyth's Sicily.) Bronte is a modern town (notwithstanding the fabulous tradition which derives its name from one of the Cyclops), and has grown out of the convent of the same name. (Ferrara Storia dell' Etina.) It was formerly a fief with the title of Duchy. Admiral Lord Nelson was made Duke of Bronte in 1799, by King Ferdinand, as a reward of his services in the cause of that prince, with an income of 6000 Guerini, and a coat of arms. (Cotta's Storia dell'Itina.) It is 22 m. N.W. of Catania, and 55 m. S.W. of Messina.

BRONZE, Ital. bronzo; Fr. bronze; Gr. χάλκος (chalcos), Lat. aes, is essentially a compound of copper and tin, which metals appear to have been among the earliest known to man. Copper is a hard, malleable, ductile, and fusible metal; it is highly malleable when it contains 85 to 90 per cent. of copper; it is tenacious of its form; it oxidizes very slowly in moist air, and hence its application to so many purposes. The density of bronze is always greater than that of either of the metals which compose it; for example, an alloy of 100 parts of copper and 12 parts of tin is of specific gravity 8.80, whereas by calculation it would be only 8.63.

The physical properties of the word 'bronze' has not been ascertained, but it is first met with in Italian writers to express this mixture of metals, and it is not very improbable that it is a corruption from the Italian, which signifies brown, the bronze of the Italian, and particularly the Finish people. The name agrees with the pump-patching of that colour, which is nearly the original tint of the metal when left in its natural state. The green hue that distinguishes antient bronzes is acquired by oxidation and the combination of carbocondic acid, and the moderns, to imitate the effect of it, have found some times advance that process by artificial means; usually by oxidating the surface of the article with an acid. Varisi alludes to this practice among the artists of his time, and to the means they adopted to produce a
was Hiram, a native of Tyre, 'who was cunning to work all works in brass.' (1 Kings vii.) These works, we are told, were cast and wrought.

We know so little of the earlier history of the arts in India, that we must be satisfied with observing that many specimens of their bronze works, of which we possess some curious examples, have come down to us from the time of their discovery. It is clear however that, for a long period, copper, if not the only metal known, was at least the most abundant, for we find it was employed universally for arms, ornaments, and utensils, domestic and agricultural. India has a long history of metal-working, and the processes of metallurgy seem to have been practised at a very remote date both in Asia and Egypt. On this subject the Old Testament is our best authority, and the accounts we there find lead us to believe that considerable skill had been attained by the very earliest nations. Tubal Cain was, we are told, a great worker in metal. Among the earliest allusions to works in metal in the Books of Moses is the mention made of the presents offered to Rebecca: Abra- ham's servant gave her a 'golden earring of half a shekel weight and a gold bracelet of half a shekel weight of gold,' and spoke to her of his master's riches, particularly mentioning silver. (Gen. xxiv. 22.) The accounts of the ornaments and utensils in the history of Jacob, and of Joseph, and in various other passages of the Old Testament, witness to the extensive use of metals at that time; and their being applied to purposes of luxury indicates that considerable progress had been made in the art; long use naturally preceding any attempt at refinement. The earliest recorded names of sculptors (and perhaps the earliest process of working in brass) are those of Moses and Aaron. One was Bezaleel, of the tribe of Judah, who was filled with the spirit of God, in wisdom, and in understanding, and in knowledge, and in all manner of workmanship, to devise cunning works, to work in gold, and in silver, and in bronze, and in stone, and in wood, in purple, and in blue, and in red, and in fine twined linen, and in electronics, and in all manner of work in wood. He was of the tribe of Dan. They were the artists appointed to execute the works of the Tabernacle. (Exod. xxxi.) Among the Egyptians also the employment of metal was known in times prior to any historical record; and it is probable that the metal-working knowledge possessed by other countries was derived directly or indirectly from this source. Among other proofs of this, the casting of the golden calf by the Israelites may be cited. It is remarkable however that, among the remains of the ancient art, no works in metal, seen or heard of in various parts of Egypt, none have been found of large dimensions. Some of the most remarkable early works in metal mentioned in history are those recorded by Diodorus Siculus, who in this part of his history followed Ctesias; the only other genuine and reliable author is Xenophon. He describes works in gold and bronze which decorated the gardens of Semiramis, of such a magnitude, and representing so great a variety of subjects, that, if we are to place any confidence at all in the testimony of this writer, we must conclude that the Assyrians and Babylonians had attained very great proficiency in the arts connected with metallurgy. That the statements of Diodorus, which in fact are those of Ctesias, to be received with some qualification, must be granted; but we must not refuse to admit that there were works in metal, which were certainly possessed of many useful arts, and at one time commanded the resources of western Asia.

It is much to be regretted that we have no remains of Phoenician art. The skill and enterprise of this people gained them a command over the commerce of all nations, and they must have materially influenced the civilization not merely of neighbouring but of remote countries; but unfortunately the few monuments that can be referred to Phoenician origin (namely, those found at Carthage, Phoenicia, with which we have no connection and no date except that the brilliant epoch of the Phoenician nations to be fairly quoted as specimens of original taste or practice. Their contacts with Britain furnished them tin, or probably they procured it from Spain or Eastern Asia.

Homer has immortalized the Sidonians with the distinguished title of *Σέλενος σιδηναίων,* the Sidonians the skillful workmen. The artificer employed by Solomon in the decoration of the Temple (about 1000 years before our era)
with a centre or core to limit the thickness of the metal. The first artists who are celebrated by the historians of Greek art for their success in metal-casting are Rhoeus (who is said to have invented the casting of tussul), Theodorus, and Telecleus, natives of Hermione (Herod. i. 50; Paus. viii. 17. 1 Plin. N. H. xxxv. 12); and the manner in which they are spoken of proves that their works were held in high estimation long after their own time. There is some difficulty in fixing their date with precision, as there were two or three of them, but it is certain that the first artists so called lived between 700 and 600 B.C. Theodorus is made by Herodotus the contemporary of Crossus, who was defeated by Cyrus B.C. 537. Cadias of Sparta and Glauca of Aegina hold also a distinguished rank among the earliest casting artists, for whom Herodotus (v. 77) says that four bronze horses were made by the Athenians from the tenth part of the value of the ransom of the Boiotians and Chalcidians: the horses were placed at the entrance of the propylea on the Acropolis, with an appropriate inscription. The ancient artists do not appear to have considered it important to cast their statues entire, for Pliny acquaints us with the composition used for soldering the parts together. The finest collection of antient bronzes, taking it as a whole, is at Naples: among its crowning ornaments are several statues, in the manner in which the ringslets of hair, worked separately, are fastened on: many of these are the size of life. Bronzecasting seems to have reached its perfection in Greece about the time that the so-called Great, or Salt, statues were given of the works executed about that time almost exceed credibility. After Lysippus, the favourite sculptor of Alexander, who executed, according to Pliny (xxxiv. 8), above 600 works, the art declined. The reason seems to have been extremely choice in their selection and composition of bronze. Two of the most celebrated, contemporary with Phidias, carried their rivalship so far as to employ bronze of different countries: Polykleus preferring that of Aegina, while Myron always used that made at Delos. The artists seem to have had a method of running or welding various metals together, by which they were enabled to produce more or less the effect of natural colour. Some works are described that were remarkable for the success which attended this curious process, and one of the most celebrated, called by the Corinthians, has been too often repeated to require further notice here. Pliny himself refutes the story which he records. He informs us also that there were three sorts of the Corinthian bronze. The first, called candidum, received its name from the effect it produced when mixed with gold; the second had a greater proportion of gold; the third, Pliny says, was composed of equal quantities of the different metals. The antient writers mention several of the bronzes that were used. (Antichit. ii. 6; Plin. xxxvi. 8; Aristotle, Hepaticus, or live coloured; As Deliacum, and As Agelinetum — Pliny refers the composition of the Delian brass was a secret lost in his time — As Demonneseus, As Nigrum, and, last, Tartessian bronze (Tartessenus, or colourate), of which it must be confessed, we know little or nothing beyond their titles. An analysis of a few specimens of bronze of undoubted antiquity, namely a helmet with an inscription (found at Delphi, and now in the British Museum), some nails from the treasury of Atrius at Mycena, an antient Corinthian coin, and two harps spoken of by Pliny as of antient make, and also in the British Museum, affords about 87 or 88 parts copper to about 12 or 13 of tin per cent. The experiments of Klaproth and others give nearly the same results as to ingredients; the quantities sometimes differ slightly, but are in general well agreed, and no mixture has not been found in any quantity sufficient to warrant a belief that it was intentionally introduced; indeed it is thought that its nature was not understood by the antients. In an analysis of copper ores made in a later period, the proportion in 100 parts was 87-47 of copper to 12-53 of tin, with a portion of zinc so small as not to be worth noticing (Monges, Mém. de l'Instit.); the same may be observed of minute portions of silver that have sometimes appeared in the分析 of a few specimens of bronze of undoubted antiquity, namely a helmet with an inscription (found at Delphi, and now in the British Museum), some nails from the treasury of Atrius at Mycena, an antient Corinthian coin, and two harps spoken of by Pliny as of antient make, and also in the British Museum, affords about 87 or 88 parts copper to about 12 or 13 of tin per cent. 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couraged his assistants, till overcome by anxiety and fatigue he retired in a raging fever to lie down, leaving instructions respecting the opening of the mouth of the furnace, and the running of the bronze. He had not, he says, been quite very long before one came running to him to announce evil tidings: the metal was melted but would not run. He jumped from his bed, rushed into his studio like a madman, and threatened the lives of his assistants, who being frightened, one of them, as was desired him to give his orders and they would obey him at all risks. He commanded fresh fuel to be thrown into the furnace, and presently, to his satisfaction, the metal began to boil. Again however it appeared thick and sluggish, and tin in vain was thrown, or other alloy added, and other articles of domestic use in his house to be brought to him, which he threw pell-mell on the metal, when it immediately became fluid and the mould was soon filled. He adds that he fell down on his knees, and poured forth a fervent entreaty to Almighty God for the success in which he had crowned his exertions. In the processes above described the metal was allowed to flow at once from the furnace into the channels or ducts of the mould. The stature of Louis XIV., by Girardon, one of the most celebrated sculptors of France, was cast in this manner. The work was a success. The wax which regulated the thickness of the metal being entirely melted out, and the mould fixed in the pit, with the necessary vents for the escape of the air, the mould was then covered, completed above, into a sort of trough or basin. In this were three apertures, closed by plugs, immediately over the chief channel or conduit by which the metal was to be conveyed into the mould. These, by a mechanical contrivance, were opened and closed when the metal had reached at once into the mould. This group was cast entire.

The more modern practice of the English, French, Italian, and German artists does not differ materially in its principle from that of the earlier Italians. Some however use what is called the 'sand-cast,' which is the most generally used. A few observations on the mode practised in Mr. Westmacott's foundry, where the chief colossal as well as other works that have been produced in this country have been cast, may not be misplaced here. The moulds, composed of iron, were first packed with sand, and the castings impressed on them in the usual way on the plaster-cast models. A lining of wax or clay is then made within the mould, of the proposed thickness of the metal. The mould thus lined being then put carefully together, the space or interior is filled up solid with a mixture of plaster and different, &c. It is called the core. The whole now consists of three parts—the mould, the lining of wax or clay (which represents the metal), and the core. When the mass forming the core is set, and fixed with iron and keys to preserve it in its just position, the wax or clay is removed; the channels for distributing the metal and vents for the escape of the air are then made, and the whole being put together is placed in a stove or oven to be dried. When perfectly dry, it is then placed for the mould in a horizontal position. At the lowest point, the slightest damp might occasion fatal consequences by the bursting of the mould when the boiling metal descends into it, the whole is carefully lowered into the pit, and closely rammed down with sand, &c. to prevent its moving; the channels for the metal and the vents for the escape of the air being of course kept perfectly clear. When the metal is ready for running, the mouth of the furnace, which is placed rather above the level of the top of the pit, is opened, and the bronze descends immediately, down the middle of the metal, previous to the above-mentioned sculptor is that used for casting guns [CANNON], to which he adds about 30 per cent. of pure copper, extracting from 3 to 4 per cent. of tin. In modern practice it is not considered important to cast the whole work in one cast. The mind of metal, prepared in the above-mentioned method of sculpturing, renders the jointed portions even firmer or stronger at their point of junction than the general body of the cast.

It has already been stated that bronze for different uses varies in composition. Tin, however, is invariably composed of 100 copper and 11 tin. Bronze for cymbals and tambour is composed of 78 copper and 22 tin; its specific gravity is 8.915. Some cymbals yielded however 80 per cent. of copper. Dr. Thomson found English bell metal to consist of 80 tin 101 zinc 5¢ lead 43

Reflectors for telescopes consist of 66 parts of copper and 33 parts of tin: they resemble steel in colour, are very hard and brittle, and susceptible of a fine polish.

Bronze for medals is formed of 100 copper and 7 to 11 of tin and zinc.

This short history of bronze-casting is purposely limited to its reference to the fine arts; and though, in speaking of celebrated productions or artists, it has been considered right to introduce, incidentally, such particulars of practice as might tend to illustrate the subject, the details of the various processes of modelling, coring, melting, chasing, &c. &c. are omitted, as belonging more properly to founding and casting.

BROOKE, HENRY, is one of the occasionally recurring instances of men of letters who having, from accidental circumstances, enjoyed during life a reputation beyond their merits, afterwards sink into an oblivion so complete, that it might be said to be almost equally undeserved, as was the fate of the same artist in literature, poetry, almost the same as worthlessness. Henry Brooke published his first poem, 'Universal Beauty,' with the approbation and sanction, and even with the direct encouragement and under the patronage of Pope; he was received by him in那 a noble mansion in Chelsea. In a letter of Pope's to Swift, if not written before, the poet was mentioned in one of their class; and his tragedy of 'The Earl of Essex' long ranked, we believe, among what are called stock plays. Yet now the author is all but forgotten; he was not allowed a place in the list of Johnson's poets; and his 'Universal Beauty,' though deformed by awkwardness and even incorrectness of language, admitted for the sake of metre and rhyme, displays considerable imagination and descriptive power, is now, and for years has been, so absolutely unknown, that later poets have borrowed ideas from it without fear of detection.

Henry Brooke, born A.D. 1706, was the son of an Irish clergyman. At Trinity College, Dublin, he was a pupil of Dr. Sheridan, through whom, upon going to London to study the law, he was first introduced to Pope and Swift, who were the promising talents seem to have gained him their favour. After the publication of his great poem he was presented to Frederic Prince of Wales, and received by him as one of the band of men of letters whom that prince considered as powerful agents in his administration. In 1736, when the character Brooke had accused of having written his tragedy of 'Gustavus Vasa,' not merely with a view of exciting and fostering a spirit of liberty, but in order to vituperate the premier, Sir Robert Walpole, the author of this pamphlet was committed to prison by the suspicion has since been indignantly repelled by Brooke's admirers; but it was so universally entertained at the time, that the stage licenser prohibited the representation of the piece, and the author, in consequence, made far more by its publication and sale than he could have hoped from its utmost success upon the stage, to wit, 1000l.

Ill health and the persuasions of his wife, who dreaded and sought to withdraw him from his political connexions, induced Brooke to return to Ireland, where he spent the remainder of his life, and obtained from the Archbishop of Armagh (when vicaroy) the post of barrack-master, which he held till his death. He had a large family, and though possessing, it is believed, no means beyond his official salary and his literary earnings, he generously supported a brother with an equally large family. He thus incurred many inconvenient difficulties, which, together with the loss of his wife, after a happy marriage of 50 years, and of several of his children, so preyed upon his mind, already weakened perhaps by age, as to impair his intellect; and, unfortunately for his fame, he continued to write and to publish after the decay of his faculties had become too apparent. He wrote in all 13 tragedies, of which only 'Gustavus Vasa' and 'The Earl of Essex' could boast any success, many ballads, tracts, pamphlets, and a translation of the 'Helvetic Republic.' His novel of 'The Fool of Quality' was much admired in its day; and his 'Farmer's Letters,' ad-
dressed to his Irish countrymen, are said to have had considerable influence in producing and maintaining the tranquillity of Ireland during the rebellion of 1745. Nor must the fact, honourable alike to both laws, enlightened judgment and to his countrymen, be omitted, that he was one of the earliest advocates for the repeal of the penal laws, at that time in full force against the Roman Catholics. Henry Brooke died in the year 1783. (Campbell’s Speci-
mens of American Birds.)

BROOKLYN, a post-town in King’s County, on the W. end of Long Island in the state of New York, situated in 40° 42′ N. lat. and 74° 1′ W. long., on the shore of East River, the channel which divides Long Island from the city of New York, and which at this part is little more than half a mile wide.

Brooklyn is an incorporated town and contains the private residences of many merchants of the city of New York. The communication between the two places is kept up by steam-vessels which are constantly passing and re-passing the bay throughout the day. The growth of Brooklyn within the present century has been very rapid. The pop., which, in 1800 amounted to 3278, was 4402 in 1810, 7175 in 1820, and 12,043 in 1830. It contains two banking corporations with capitals of 200,000 and 200,000 dollars respectively, and three insurance companies with aggregate capital amount to half a million of dollars: it has also some manu-
factures and trade. Many of the houses are spacious and of handsome elevation, and the view of New York and its bay from the eastern shore of East River is very fine. To the E. of Brooklyn, at Wallabout, is a naval station and a government dockyard which belong to the general government of the U.S. Near Flatbush, to the S. of Brooklyn, a battle was fought between the British and Americans in the revolutionary war. BROOM. [See.]

BROSCUS, a genus of coleopterous insects, according to Latreille belonging to the section of the Carabidae called Simpleximani. In Latreille’s work, however, this genus re-
tains the name of Cephalotes (given to it by Bonelli, from the circumstance of the species possessing an unusually large head), which has been expunged by many naturalists owing to its having been previously used to designate a genus in some other branch of natural history.

The insects of this genus are remarkable for the almost total absence of the inner wings striæ of the elytra. N. pr. species on the elytra. Some, it is observed in the insects of the tribe to which they belong, and for the large and strong mandibles, the elongate form of the body, and the somewhat heart-shaped thorax, which is much attenuated posteriorly. The subcutaneous palp—pala with all their joints of nearly equal thickness, the terminal joint of the maxillary palp short and truncate: the antennæ if extended back-
wards reaching to the base of the thorax: mandibles unidentate internally: labrum entire: anterior tarsi of the max. well developed, and joints of the tarsi equal.

The species are generally found under stones, and often accompanied by fragments of numerous other insects de-
voured by them. When taken in the hand they will often pretend to be dead, extending their limbs stiffly, and it is then with difficulty they can be made to mock at the.

But one species of this curious genus is a native of this country—Broscus cephalotes. It is of a dull black colour, and varies from three-quarters to an inch in length: its form is elongate; the head is nearly equal to the thorax in bulk, and is only slightly smothered with a noticeable sized head, which is being scarcely discernible. It seems to be confined to the sea-
coast, where it is frequently found under stones or rubbish.

In Stephens’s arrangement of British insects this genus is classed among the Harpalidae.

About six or seven exotic species have been discovered.

BROSELEY, a m. t. and par. on the Severn, in the ex-
tensive district called Wenlock Franchise, Shropshire, 13 m. E. from Shrewsbury, 9 m. N. from Bridgnorth, and 130 m. N.W. from London. Its area contains 1550 English statute acres. It is in the 18th century, and 28 persons of both sexes. The market-day is Wednesday; an annual fair is held on Easter Monday. The living is a rectory, united with the rectory of Linley, the gross annual income of which is £300. The pop. of Broseley are chiefly employed in the coal and iron mines of the district. In the Population Returns of 1811 it is stated that ‘the par. of Broseley has experienced a decrease of pop. 515 persons,’ ascribed to the cessation of five iron blast furnaces; 126 persons are employed in mines.’ The par. is divided from Coal-Brooke Dale by the Severn.

Broseley contains three daily schools, four day and board-
ing schools, and six Sunday schools. (Education Returns, 1835.)

A spring of petroleum or fossil tar was discovered here, in 1711, by an inhabitant of the place. This individual heard a noise in the night, about two nights after a remarkable day of thunder. At a boggy place, under a little hill, about 200 yards from the Severn, on digging up a part of the earth, water rose to a great height, and a candle set it on fire. The ‘burning well,’ as it was termed, was shown for several years as a curiosity, until the supply of petroleum failed. The spring broke out again, in 1747, in a similar way, about 10 yards from the old well. About 1752, the spring was cut into by driving a level in search of coal. The quantity of petroleum which then issued was about three or four barrels a day; but in 1797 there seldom flowed more than half a barrel in the same time. In 1803 the produce was about 15 gallons, but, in 1850, a few barrels from Broseley, is a coarse-grained sandstone, highly im-
pregnated with petroleum.

In the par. of Broseley salt is said to have been made from water taken out of pits, still called the Salt-house Pits. (Phil. Trans., vol. xxvii., 1712; Gent. Mag., vol. xxv., 1755, and vol. lxxxvii., 1807; Archdeacon’s Plymley’s (Cor-
et) Survey of Shropshire; Aikin’s Tour, 1779; Eccle-
s. Educ. and Pop. Returns; Boundary Report on Wenlock.)

BROS’UMINUM, a genus of Urticaceae, one species of which is believed to be the cow-tre, or Palo de Vacas of South America. As this however is not certainly ascer-
tained, we refer for an account of that remarkable vegetable production to the article Cow-Tree.

BROS’MIUS, a genus of fishes belonging to the section Subbrachialia Malacopterygii, and family Gadidae. Generic characters:—body elongate, and furnished with a single dorsal fin which extends from near the head to the tail: the anal fin is also of considerable length, and extends from the base to the tail: ventral fins small and fleshy: chin furnished with but one barbule. This genus was established by Cuvier; it is the genus Gadus of Pennant (British Zoology), and Brosmius of Fleming (Brit. An.).

[From R. M. Alcock.]

But one species of brosmius has been found on our coasts, and that appears to be confined to the northern parts; it is the B. vulgaris of Cuvier, commonly called the Torsk, and in the Shetlands the Tusks and the Bismack; in this northern location it is abundant, and when a full or dried, a considerable article of commerce. In Yarrell’s History of British Fishes we are informed that this species also recurs plentifully in Norway, as far as Finnmark of the Faroe Islands, and the W. and S. coast of Iceland, and other parts.

Not having an opportunity of examining a specimen, we subjoin the description of one given by Pennant:—Length twenty inches, and depth four and a half: head small: upper jaw a little longer than the lower: both jaws furnished with a multitude of small teeth; on the chin was a small single beard: from the head to the dorsal fin was a deep furrow: the dorsal fin began within six inches of the tip of the nose, and extended almost to the tail: pectoral fins small and rounded: ventral short, thick and fleshy, ending in four cirri: the belly, from the throat, grows very prominent: anal fin long, and reached almost close to the tail, which is small and circular: colour of the head dusky: sides and back yellow, belly white, edges of the dorsal, anal, and caudal fins white, the other parts dusky: pectoral fins brown. We are only enabled to add, that this description seems to agree well with the characters of the fish as given by other authors. For further information we refer our readers to Mr. Yarrell’s work before cited.

BROTHERS, RICHARD. The birth and early years
of Brothers are not well known; nor indeed would the events of his after life deserve to be remembered, if his ravings had not exercised a considerable influence on his contemporaries, and thus connected his history with that of the world, which is the subject of this chapter.

Richard Brothers held for several years the rank of lieutenant in the British navy, where he quoted in 1789. A controversy with the lords of the Admiralty about his half-pay first developed that character of his mind, which ultimately ripened into a complete delusion. With respect to taking a certain oath in order to qualify himself to receive his pay, he sent a well-written letter to Philip Stephens, Esq., of the Admiralty, dated September 9th, 1790, which appeared in the Public Advertiser at the time. In this letter he exposes the enormities of the practice, and declares his determination never to swear that he takes a certain oath voluntarily, to which he may have an unconquerable objection. The absurdity of this practice he made so apparent, that the earl of Chatham had the word 'voluntarily' erased from the form of the oath. This he afterwards endured, proved that the man was no impostor, but that he deceived others no more than he did himself, being firmly persuaded that his mission was from heaven. He affirms, in a book which he published in two parts, entitled 'The Oracle of the Deity, in which he proves that God is the supreme power of the universe,' which was eagerly bought by all classes, both in town and country. —'It is from visions and revelations, and through the Holy Ghost, that I write this book for the benefit of all men; this book will, if I am mad, am an impostor, have a devil, or am out of my senses, constitutes the dangerous sin of blasphemy."

From the year 1790 Brothers dates his first call, and soon after entered on what he considered his mission. On the 12th of December, in the presence of the King, the Duke of York, the Duke of over, and Mr. Sharp, a man of talent, he was to be delivered up to him, he was committed to Newgate, where, if his statement be true, he was treated with great cruelty. But imprisonment did not damp his ardour. On his liberation, he continued what he denominated his mission; and, after the action of the French Revolution, the robberies of the French revolutionists, and the failure of the baton, were the result of his mission. The first notice of the breach of faith was in the year 1796, when the French army was restored—an earthquake to swallow the parliament when sitting, and great part of London. America to go with England—France to lose her West Indian islands. The cardinals to quarrel, and Rome to be overthrown by an earthquake, &c.

Brothers, when in London, resided for some time at 5, Beaufort-buildings, Strand, and afterwards at 57, Paddington-street, where he wrote his prophecies. He was unassuming in his manners, careful not to give personal offence, and courted neither too much nor too little; his happiness in the complete conviction that in due time all his prophecies would be accomplished.

BROTIER, GABRIEL was born at Tannay in the Nivernois, Sept. 5, 1733, and received the appointment of Physician to the King of Louis XV. at the age of 26. He was educated among the Jesuits, where he was educated. On the suppression of that order he lived in privacy, and devoted himself to literature. In 1781 he was elected member of the academy, and died in Paris, Feb. 12, 1789. His original works hardly deserve notice; and it is upon his editions of Tacitus that his reputation is chiefly founded. The Paris editions, 4 vols. 1771, and 7 vols. 1776, differ considerably from each other, but in the English editions the two are incorporated. Brotie published also an edition of Pliny's 'Natural History,' in 6 vols. 1772, the revised edition of Pliny, 1789, and Amyot's translation of 'Plutarch's Lives,' in 22 vols. 1783, revised and republished in 25 vols. 1801.

BROTULA, a genus of fishes, of the order Subbranchial Malacopterygi and family Gadidae, chiefly distinguished by the dorsal and anal spines being of the caudal and forming one fin, which terminates in a point. The only species known (B. barbatus of Cuvier) is from the Antilles.

This genus is closely allied to Brosnita.
BROUGH. [WESTMORELAND.]

BROUGHON ARCHIPELAGO is a cluster of rocky islands in the Pacific Ocean to the E. of New Zealand, between 44° and 45° S. lat., and 180° and 182° E. long.; it consists of a great number of small islands and islets, and a few of moderate size. The largest is Chatham Island, and next to it Pitt's Island and Cornwallis Island.

BRONCKER, or BRONNER, WILLIAM, Viscount Bronner of, Castle-Lyons in Ireland (which title was created in 1585) and who had been in the office of Muster of Munster in 1645), was born about 1650. In 1646 he was made Doctor of Physic at Oxford. In 1660, having then succeeded his father, who died in 1645, he subscribed the declaration issued in April by the friends of the restoration. In 1660 and 1668 he was named President of the Royal Society in the charters of incorporation then granted; which office he held for 15 years. He was also chancellor of the Queen, a lord of the admiralty, and master of St. Catherine's Hospital. He died April 5th, 1684.

Lord Broncker was a mathematician, and is the author of two remarkable discoveries. He was the first who introduced continued fractions, as follows. When Wallis was engaged upon the interpolation which led him to his well-known theorem on the quadrature of the circle, he applied to Lord Brourell to ask the question; and the latter arrived at the following conclusion, if \( r \) represent the ratio of the circumference to the diameter, then

\[
\frac{4}{\pi} = 1 + \frac{1}{2 + \frac{9}{2 + \frac{25}{2 + \infty}}}.
\]

This theorem was first given by Wallis (Arith. Inf., Works, vol. i. p. 469) with a demonstration, the heading of which is so ambiguously worded, that we are left in doubt whether it was his own demonstration, or his own account of Lord Brooncker's. Montucler states the first in one place, and in another ('Hist. Math., vol. ii. p. 355).

Broncker was also the first who gave a series for the quadrature of a portion of the equatorial hyperbola ('Phil. Trans.', 1668, No. 34). There is also a paper of his (1673, 'Phil. Trans.') in which he shews how to discover the discovery of the Neumann parabola; and another (to which we cannot find the reference) on the recoil of guns. Some letters of his to Archbishop Usher are at the end of R. Parr's life of the latter; and some to Wallis, in his 'Commensuratio Epistolicum' (Prop. 17, &c.).

BROUSONNETIA, a dicotyledon tree, from whose inner bark the Japanese and the Chinese have manufactured a kind of paper and the South Sea Islanders the principal part of their clothing. The only known species forms a small tree with soft, brittle, waxy branches, and large, hairy, rough leaves, either heart-shaped and undivided, or cut into deep irregular lobes. Some of the individuals are sterile, others fruitful. The flowers of the sterile trees grow in a cluster, but into one after a year and a half, and are pollinated by the pollen; these catkins are composed of little greenish-purple membranous calyces, each seated in the axil of a hairy bract and containing four elastic stamens. The flowers of the fruitful trees are collected into round green heads, and consist of a calyx like that of the sterile tree, with a small simple pistil occupying its centre, and having a long downy stigma. The heads gradually push forth little oblong greenish bodies, which are the ripening fruits, which at maturity have a bright scarlet colour, and are of a pulpy consistence, and a sweetish taste, which is bitter and dry; one of its qualities is the great virtue it has in producing the discovery of the Neumann parabola; and another (to which we cannot find the reference) on the recoil of guns. Some letters of his to Archbishop Usher are at the end of R. Parr's life of the latter; and some to Wallis, in his 'Commensuratio Epistolicum' (Prop. 17, &c.).

Broussonetia papyrifera, or the paper mulberry, as it is usually called, is not uncommon in the shrubberies of this country, where it proves perfectly hardy; but it is liable to be broken by winds, and soon becomes an unsightly object. It produces leaves like that of many other trees, but are soft, spongy, and of no value. In the tenacity of the woody tissue of its liber or inner bark it also corresponds with the general character of that order. It is from that part that the 'pharmaceutical' bows and arrows have been obtained by the Chinese.

James Smith gives the following abridgment of Kempfer's account of the preparation of paper from its bark by the Japanese. 'For this purpose the branches of the present year, after the leaves are fallen, in December, are chosen, and the trees are cut down. They are boiled in the bark shrinks and is easily separable from the wood, which is then thrown away. The bark being dried is preserved till it is wanted. In order to make paper it is soaked for three or four hours in water, after which the external skin and the green internal coat are scraped off; at the same time the stronger parts of the pieces are selected, the produce of the youngest shoots being of an inferior quality. If any very old portions present themselves they are, on the other hand, rejected as too coarse. All knotty parts, and every thing which might impair the beauty of the paper, is removed. The remains are then ground strong; if strong, but deficient in strength and solidity. Upon the various degrees and modes of washing the pulp, much also depends as to the quality and beauty of the paper. Mascage obtained from boiling rice, or from a root called Ormum, and some of the mallows tree, is after, carried to the pulp. The paper is finished much after the European mode, except that stalks of rushes are used instead of brass wires.'

BROUWER. [Brovwer.]

BROWN, CHARLES BROCKDEN, the first eminent American novelist, in point of time, was born at Philadelphia in 1771. From childhood he manifested an engrossing love of study. He chose the law for his profession, but took a distaste to it, and was never called to the bar. Thenceforward he devoted himself to literature, politics, and arts. His first work was 'Alcune,' a wild series of speculations on the fancied evils of marriage; for which, however, he found himself unable to avail a remedy. 'Wieland,' his first novel, appeared in 1798. It was followed by 'Lowood,' which is a tale of the life of a young girl, 'William Howard,' before 1801; and by 'Jane Talbot,' in 1804. 'Carwin,' and some other unfinished pieces, were published after his death, in 1822. He established two literary journals: 'The Monthly Magazine and American Review,' commenced in 1802, and continued to the end of 1809; and 'The Literary Magazine and American Register,' commenced in October, 1803, and continued five years. In 1806 he commenced a half-yearly work, 'The American Register,' of which he lived to complete 9 vols. He published almost a score of novels, some of which are pedestrian, others ingenious and satirical, and others religious and pious. He was the first who brought into English such authors as Rousseau, Diderot, and Voltaire, and was the most powerful supporter of the French mode of writing. He was the first who brought into English such authors as Rousseau, Diderot, and Voltaire, and was the most powerful supporter of the French mode of writing. He was the first who brought into English such authors as Rousseau, Diderot, and Voltaire, and was the most powerful supporter of the French mode of writing. He was the first who brought into English such authors as Rousseau, Diderot, and Voltaire, and was the most powerful supporter of the French mode of writing. He was the first who brought into English such authors as Rousseau, Diderot, and Voltaire, and was the most powerful supporter of the French mode of writing.
the events of his life, as they are now of little interest. He was born in 1735 at Dunse, in Berwickshire, of parents in very limited circumstances, who designed him for the occupation of a weaver; but a love of learning, which he acquired when a child, he thought might dispose him to study for the church. Accordingly he went to Edinburgh, and while pursuing his own studies, he taught Latin to obtain a livelihood. Having been employed to translate a medical thesis for a friend, and having been recommended to Dr. Cullen, he was admitted to his medical studies, and began to attend the lectures of several of the medical professors of the University, among others, those of Dr. Cullen, who having discovered his knowledge of Latin, made him tutor to his sons. Having completed the requisites for a medical degree, he was enabled to obtain a degree of doctor from the University of St. Andrew's. His improvment habits soon involved him in pecuniary difficulties, and his hasty temper in quarrels with his medical brethren. He imagined that Dr. Cullen did not assist him to the extent he had expected, and he conceived a dislike to his former preceptor and benefactor, which he displayed in a way that he thought would be most annoying and humiliating to Cullen. It is most probable that Dr. Cullen had withdrawn his countenance from Brown on account of his immoral language and conduct. Cullen's system of medicine was then in the highest repute, and Brown conceived the idea of bringing forward a rival system, which would supersede that of his master. Actuated by these motives, he proceeded to frame a system, of which, with the approbation of General Johnson, the system of anatomy should be the basis and recommendation. This was the origin of his Elements of Medicine. The fundamental doctrine of this system was that life was a forced state, only sustained by the action of external exciting agents. The body was endowed, at the commencement of existence, with a certain amount of excitability. If the power or force of the external exciting agents was within a certain limit, the body was maintained in equilibrium, or in health: if the force fell short of a certain amount, the excitability acquired in the body, and produced diseases which he termed asthenic; while the external agents, if in excess, exhausted the excitability too rapidly, and produced asthenic diseases. The means of remedying these diseases were in accordance with his system. He made few drugs, but he employed, and confined himself to two—alcohol in any of its forms, as wine, brandy, &c., as a remedy for the one set of diseases, and opium for the other. He kept the students, but the fatal results which followed the application of these doctrines to practice brought discredit upon them in Edinburgh; and their author, hoping for greater success, removed to London, where he died of apophlegm in 1756. Brown, however, possessed distinction and fortune, which he expected. His system never found much favour in this country, except among a few whose minds inclined them to the adoption of hasty generalizations, such as Dr. Beeldoes, who edited an edition of the Elements of Medicine, 2 vols. 8vo. London, 1795, with a life of Brown prefixed. His whole works, with a more ample life, were published by his son William Cullen Brown, 3 vols. 8vo. Lond. 1804.

Brown's doctrines met with a more general reception in Germany and Italy; in the former country they were propagated by a writer who claimed them as his own. Rakov made them known in Italy, and at first believed them to be well-founded, but experience convinced him of their inaccuracy, and he subsequently renounced his belief in them. 

BROWN, THOMAS, son of the above, died at Kirkcudbright, 29th of January, 1776, at the instance of the parish of Kirkmabrook, in the Stewart of Kirkcudbright.

About a year after her husband's death Mrs. Brown removed with her family to Edinburgh. Before he was three years old Thomas prevailed with his mother to return with him to Kirkmabrook; but, when he was seven years old, having left school, he was induced by a desire of obtaining a place in a family to return to Kirkcudbright. He was then about six years old. He was placed in the family of the Black family of Blackhall, at Kirkcudbright. He was placed in the family of the Black family of Blackhall, at Kirkcudbright. He was placed in the family of the Black family of Blackhall, at Kirkcudbright. He was placed in the family of the Black family of Blackhall, at Kirkcudbright.
and they were soon after joined by Lord Webbe Seymour, Horner, Jeffrey, Smyth, Gillespie, &c. This society gave rise to the 'Edinburgh Review,' to which Brown contributed two or three articles in the beginning, but owing to some difference of opinion on a point of connexion with it ceased. The first article in the second number is by Brown, on the 'Philosophy of Kant;' a subject of which he knew very little. All he knew of Kant's doctrines was derived from a fantastic French account of them; and though acute and just remarks occur in his critique, it is as bad as his preparation of writing it was imperfect.

A few months after taking his degree Brown published two volumes of poems written while he was at college. They pleased, it is said, the ladies and great people whom they praised; but poems on the 'Sun,' the 'Moon,' 'Pursue of Love,' and the 'War Fiend,' attracted little notice from any one else.

In pursuance of a system they had long adopted, the high church party, on the promotion of Professor Playfair to the chair of Natural Theology in the University of Edinburgh, determined to elect a clergyman to the chair of Mathematics, although the superiority of Mr. Leslie, the lay candidate, was incontestable. The approbation which this gentleman, in a note to his 'Essay on Heat,' had expressed of Mr. Leslie's doctrine of heat, was made the ground of a charge of infidelity. Brown published a pamphlet on the occasion, in which he proved that no such consequences flowed from the doctrine. The 'Edinburgh Review' alluded to the pamphlet in the most flattering manner, and that Brown was the most probable candidate in the north of Scotland for the chair of Mathematics.

A second and considerably enlarged edition was published in 1806, and in 1818 a third, in which the work was improved and matured; the fourth and last edition of this excellent work was published in 1835. The peculiar cause of causation which it contains is this: "A cause is that which immediately precedes any change, and which existing at any time in similar circumstances has always been and will always be immediately followed by a similar effect. The causes of the variation of antecedence in the past and future sequences supposed, are the elements and the only elements combined in the notion of a cause. By a conversion of terms we obtain a definition of the correlative effect; and power is only another word for expressing abstractly and briefly the antecedence itself, and the invariability of the relation. The words property and quality admit of exactly the same definition, expressing only a certain relation of invariable antecedence and consequence in changes that take place on the mind, and are a species of the latter. This is a difference, that property and quality as commonly used comprehend both the powers and susceptibility of substances—the powers of producing changes and the susceptibility of being changed—and with this difference only, power, property, and quality are terms exactly synonymous. Water has the power of melting salt; it is a property of water to melt salt; it is a quality of water to melt salt: all these varieties of expression are synonymous. When water is poured upon salt the solid will take the form of a liquid, and its particles be diffused in continued combination through the mass. When we speak of all the powers of a body we consider it as existing in a variety of circumstances, and every time all the circumstances may be in these circumstances, its immediate effects. When we speak of all the qualities of a body we mean nothing more and we mean nothing less. For an estimate of this doctrine see Causation.

Brown had a very unusual success; he convinced on one point the person at whom it aimed. On the question whether even after experience we are able to infer the relation of cause and effect as to the phenomena of the nature of matter, the composition of forces, and such like subjects, Professor Playfair declared himself completely convinced by his arguments.

In 1806 Dr. Brown became the partner of the eminent Dr. Gregory in his large practice. But his bias was to a literary life. In 1799 he was a candidate for the Rhetorical chair in the University of Edinburgh, but was defeated. In both cases unsuccessfully. Owing to the decline of his health Mr. Stewart required a substitute in the Moral Philosophy class who could read lectures of his own. This Brown undertook, and lectured for a short time in session 1808-9. A similar request in the ensuing session led him to deliver a series of lectures, which were honoured by the attendance of many distinguished members of the bench, bar, and pulpit. When Mr. Stewart resumed his lectures, Brown took a seat in the lecture-room, and in the opening of their number to congratulate him on his recovery, and express their admiration of his substitute. Stewart, anxious to have Brown with him in the chair as assistant and successor, personally solicited every member of the town-council in his behalf, and according to the express instructions of Dr. Gregory, Professor Playfair, and Lord Meadowbank he was elected in May, 1810.

Devoting himself to the cultivation of his health by air and exercise during the vacation, Dr. Brown made no preparation for the labours of the winter. He seldom began to write his lectures until after tea on the evening before the day on which he was to deliver them; he then wrote until two or three o'clock, slept a few hours, and resuming his work, wrote until twelve, when he hurried off to his class. Light reading or a walk occupied the time until the recommencement of this routine. His lecture and theory of avarice were begun after one o'clock in the morning, and finished before twelve next day. Under colour of disagreeing with Dr. Reid he covered his differences with Stewart, his colleague. Nearly all the lectures contained in the first three volumes were written during his first session, and all the rest in the next. They have been published almost verbatim. The following are the more important of the peculiar and new opinions which they contain.

In physics he expressed a great anxiety to discover the parts of which bodies are made up, or to ascertain the changes they undergo—the elements which compose them, and their causes and effects in relation to each other. Bodies which, in relation to our sight, are one, and which the author considers as two, are only simple because we cannot see the spaces which intervene between the corpuscles of which they are made up. What we can now perceive only by means of chemical and mechanical decomposition, finer powers of perception would perceive without decomposition. The author also argues, and justly, that we can see the second object of physical inquiry—the changes of bodies—in the relations of the parts to each other, and of the whole to other bodies; and on this point reason is equally incapable a priori of assisting us. More we can never know of any substance than the parts of which it is compounded, and the changes which it undergoes.

Every one will admit that the changes of the mind are as capable of investigation as the changes of a material object; but some will not see so readily how the mind is also divisible into parts, and that these parts are analogous to the elementary parts. But the inquiry is not into the parts and changes of the mind itself, viewed as a substance, for this is quite inscrutable; the object of investigation is thought, which being both changeable and complex, may be examined in respect of both the causes of its changes and the parts of its combinations.

The phenomena of mind, which may be considered either as successive or complex, as causes and effects, or as subjects of analysis, are the qualities, states, or affections of the mind of which we are conscious, such as perception, memory, reason, and emotion. Since the states of the mind are made known by consciousness, and relate to itself, a consideration of them involves an examination of consciousness and personal identity. Consciousness is a general name for the states of which the mind consists. The supposition of the existence of the mind in two separate states, sensation and consciousness, at the same moment, is absurd. The proposition, 'I am conscious of a sensation,' involves, besides the feeling of the sensation, a reference to self. When it means a present feeling, it adds to it a retrospect of some past feeling and the relation of both to the mind. Belief in our personal identity resolves into intuition.

Brown divides the states of mind, according to his supposed, internal and external states or affections; the external are the perceptions or sensations of bodies affecting the senses; the internal affections he subdivides into two great classes, the intellectual states and the emotions.

Reid defines perception to be the feeling of the organ of sense and the intellectual sense to be the reference of this feeling. In opposition to this, Brown maintains that the sensation is referred to its object by the power of association, and not by a peculiar mental power.
The intellectual states he divides into two generic capacities, simple and relative suggestion. Simple suggestion is that which gives rise to the successions and connexions of ideas and emotions, which occur according to certain primary and secondary laws. The primary are resemblance, contrast, and nearness in time or place; the secondary, by which the former are modified, are, 1st, the length of time of resemblance; 2nd, degree of liveliness; 3rd, frequency; 4th, recurrence; 5th, existence; 6th, original constitutional differences; 7th, differences of temporary emotion; 8th, changes on the state of the body; 9th, general tendency produced by prior habits.

The faculty of conception, memory, imagination, and habit, he reduces to Perthampton’s laws. The arguments by which he resolves memory into simple suggestion are these:—remembrances are conceptions of the past; the state of mind is complex; the conception and its relation of resemblance to the present time; conceptions and suggestions are the same, Annales, which he put in operation on account of memory in time, attributable therefore to the capacity of relative suggestion. When combined with desire, perception becomes attention, and memory becomes recollection, and a similar difference is produced on the phenomena of imagination, as it occurs with or without desire.

Imagination without desire is reverie, and with it, combined with simple suggestion and the feeling of relation, all its phenomena are produced. Habit is suggestion and nothing more, and the increased tendency to certain motions by repeating them is explained by its primary and secondary laws.

Relative suggestion is the feeling which arises in the mind when two or more objects are perceived or conceived, with the relation of the Quam in relationes, and the Nomina in connection. The relations which do not involve any regard to time he subdivides according to the notions, 1st, of position; 2nd, resemblance or difference; 3rd, of degree; 4th, of proportion; 5th, of comprehensiveness or the relation of the whole to its parts. The individual resemblance is the source of classification and definition. The process of reasoning he defines to be the succession of analyses. Judgment, reason and abstraction are reduced to relative suggestion.

Brown finished his 'Paradise of Coquettes,' which he had begun six years before. It was published anonymously in London. Anxious to learn its fate, he came to London, and was received into the society of the principal persons connected with the Whigs in politics. The poem was reviewed in some of the reviews as the production of a noble author of political eminence. In the winter of 1815 he published another volume of poetry under the name of 'The Wanderer in Norway.' After the rising of his class he generally spent the summer in some rural retreat in New England, and his 'Spring in the Air' appeared in the autumn of 1816. In 1817 he gave his opinion on a case of great difficulty,—the accusation of child-murder brought against a woman who was born deaf; and in the summer, while living at the house of Belmaclaine, he wrote his 'Scriptures of Spring,' which was published in 1819.

In the end of autumn, 1819, on his return to Edinburgh, in high health and spirits, being anxious to publish outlines of his lectures, he engaged in the preparation of them with great labour. After Christmas he felt unwell, and was other wise, but he died suddenly on the 11th of April 1819. His illness increasing, his medical advisers recommended him to take a voyage to London. He died at Brompton, near London, in 1820.

Brown’s metaphysical genius was of the highest order, and the possession of that essential faculty, the power of analysis, in a higher degree than any other philosopher of this country. His style is bad in the estimation of persons of chastened taste; but its very exuberance has given such a degree of popularity to his lectures that they have preserved more of his orations than any other public speaker. His methodical and analytic nature had the good fortune to find a biographer in Dr. Johnson, whose memoir we shall do more than compress. Brown was born in St. Michael’s, Cheapside, October 19, 1605: during his childhood his father (a merchant of ancient family at Upton in Cheshire) died, leaving him what in those days was considered an ample fortune. He was educated at Winchester, and afterwards entered as a gentleman-commoner at Broadgate Hall (now Pembroke College), Oxford. Having graduated, he entered on the study of medicine, and practised for a short time in Oxfordshire. He then visited Ireland with his father-in-law, who had some public employment in the inspection of the fortifications of that country; and after having rambled through France and Italy he took the degree of Doctor of Medicine in 1646. The ‘Religio Medici,’ which appeared surreptitiously in 1642, is supposed to have been written about seven years before, on his return to London from the Continent. It had great success, and was translated into Latin, Italian, German, Dutch, and French. In 1646, with the Duke of Buckingham, he having obtained considerable practice was in the next year incorporated Doctor of Physick at Oxford. Notwithstanding very ungodly opinions advanced in the ‘Religio Medici,’ he married a lady who is described as both beautiful and attractive. Miss Ingram, a daughter of the folk family, bore him ten children, of whom a son and three daughters survived their parents. In 1648 he published with his name a work evincing most extensive learning and observation, and on which his name is principally founded: ‘Inquiries into Vulgar and Curious, and Informed Wit.’ It was a Letter on six editions in 27 years. A reply to it was attempted by Alexander Ross, a great lover of the marvellous. It was immediately translated into Dutch and German, and in later years into French, Hebrew, French, and Latin. The ‘Inquiries’ was a complete with antiquarian knowledge, and occasioned by the discovery of some antiquities in Norfolk. To this work was added a much more fanciful essay, entitled ‘The Garden of Cyrus, or the Antiquity of the Quakers.’ In 1650 he published a Letter to Mr. Hawks and Falconey, Antient and Modern.’ He was one of the Antients, artificially, naturally, and mystically considered.

So imbued was Browne with respect for his fx vourite figure, that an incautious reader (to use the powerful language of Johnson) ‘would imagine that decuswas was the great business of his world and that patch, and art had no other purpose than to exemplify and imitate a quincunx.’ These were all the works published in his lifetime. Two collections of posthumous tracts found among papers transcribed and corrected by his own hand contain the following titles:

1.‘Observations on several Plants mentioned in Scripture.’
2. ‘Of Garlands, and coronary and garland Plants.’
3. ‘Of the Fishes eaten by our Saviour with his Disciples after his Resurrection from the Dead.’
4. ‘Answers to certain Queries about Finches and Birds.’
5. ‘A Letter on Hawks and Falconey, Antient and Modern.’
6. ‘Of the Cymbals of the Hebrews.’
7. ‘Of Ropetie or gradual Verses.’
8. ‘On Languages, and particularly the Saxon Tongue.’
9. ‘Of artificial Hills, Mounts, and Barrows in England.’
10. ‘Of Theocritus, and the Oracle of Apollo at Delphos to Crousus King of Lydia.’
12. ‘A Prophecy concerning the future State of several Nations.’
13. ‘Museum clausum sive Bibliotheca adscendit.’

The above were published in one volume folio, together with works acknowledged by Browne himself, by Archbishop Tennyson in 1684; to which were added in 1722 in 8vo. Repertorium, or some Account of the Tombs and Monuments in the Cathedral of Norwich. Other pieces by Browne were published by his son in 1700. ‘1. An Answer to Sir William Dugdale’s Inquiries about the Fen.’ 2. ‘A Letter concerning Ireland.’ 3. ‘A Letter concerning the Ursi newly discovered.’
4. ‘Short Strictures on different Subjects.’
5. ‘A Letter to his Friend,’ and in the Biographia Britannica is inserted a Letter containing Instructions for the Study of Physic.

In 1655 Browne was chosen honorary member of the College of Physicians of London, being, with others, made a freeman and themselves in their volume a Virtute et litteris ornatissimius. Charles II. knighted him in 1671 at Norwich, where, after a short illness, he expired on his birthday, 1662. He was buried in the church of St. Peter Mancroft, in that city, and a short and unpretending Latin inscription on a murr table on the south pillar of the altar records his memory. His surviving son, Edward Browne, published an account of his own travels in Germany and Turkey, and practised as a physician with much reputation during and subsequent to the reign of Charles II.

The life of Browne by Dr. Johnson was prefixed in 1756.
to a second edition of 'Christian Morals,' 12mo, which first appeared in 1716 printed from the original correct MS. of the author by John Jeffery, D.D., archdeacon of Norwich. This edition, which he dedicated to his father, in the belief that he had had a great influence on the style of Dr. Johnson. It is a style too peculiar and idiosyncratic ever to be generally liked, but Browne wrote at a time when our language was in a state of transition, and had scarcely assumed any permanence. The effect of this is still apparent in his writings, which may be answered that it would be difficult to substitute adequate English words for those which he has employed, and that he by no means seeks to give false elevation to a mean idea by sounding phrases, but that he is compelled, by the form, which had his origin from the unconscious apprehensions of the East, to express ideas. It is only possible to read it without acquiring a strong conviction of the author's sincerity. In the summer of 1800 Mr. Browne went by way of Berlin and Vienna to Trieste, where he embarked for the Levant. After seeing a great portion of Greece and Turkey he proceeded by a land journey from Constantinople to Adrianople, whence he went to Cyprus and Egypt. In 1802 he visited Salonika, Mount Athos, Albania, the Ionian Islands, and then went to Venice. In 1803 he carefully examined Sicily and the Lipari islands, and then returned reluctantly to England. Of this extensive and interesting tour he himself never published any account, but seven years after his death some curious extracts from his journal were included in Mr. Walpole's 'Memoirs relating to European and Asiatic Turkey.'

After a long interval of repose Mr. Browne resolved to penetrate to the Tartar city of Samarcand and the central regions of Asia. He left London for Constantinople in the summer of 1812: at the end of that year he went from the Turkish capital to Smyrna, which city he left in the spring of 1813 to resume his journey. Accordingly he left England towards the close of 1791, and arrived at Alexandria, in Egypt, in January, 1792. After visiting the Oasis of Siwah (the antient Ammonium), he returned to Alexandria in the month of April. On the 25th of June he arrived at Esna, where he diligently studied the Arabic language and cultivated the habits by which he made himself so familiar as to pass for an Arab even among Arabs.

In September, 1792, he started for Abyssinia, but a Mamblik, or nomad, in an ill humour, prevented him from getting farther than Assosan (Syene) and the first rapids of the Nile. On his return down the Nile he turned off at Kenne, and visited the immense quarries near Cosseir, on the Red Sea.

In the month of March, 1793, Mr. Browne set out from Egypt with the great Soudan Caravan (Caravan of the country of the Negroes), whose destination was Dar-Fur, a Mohammedan country west of Abyssinia and north of the great western branch of the Nile—the Baher-el-abiad, sometimes called the White River. He hoped to penetrate in this direction into Abyssinia; and the novelty of this route into the interior of Africa, and the circumstance that Dar-Fur had never yet been visited by a European traveller, were in themselves very strong inducements. After many hardships and exposures, which annoyed the caravan, the Mamblik, prepossessed with the idea of catching him from getting farther than Assosan (Syene) and the first rapids of the Nile. On his return down the Nile he turned off at Kenne, and visited the immense quarries near Cosseir, on the Red Sea.

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In January, 1797, Mr. Browne embarked at Damietta for Syria, and in the course of that year he visited Acre, Tripoli, Damascus, Balbec, &c., and then, proceeding through the interior of Asia Minor, arrived at Constantinople on the 9th of December. He returned to London in September, 1798, having been absent nearly seven years. In the spring of the year 1800 he published his Travels in Africa, Egypt, and Syria, from 1792 to 1798. As a writer Browne has no great merits;—he was frequently quaint and odd without being amusing; and not a few occasions he trespassed on delicacy, and he indulged in extravagant paradoxes. One of these he says was the belief that the Latin states of the East were far preferable to those of civilized Europeans, and that they excelled us as much in virtue as they did in happiness. But notwithstanding these blemishes his book contains a great deal of information which was then new and valuable, and it is impossible to read it without acquiring a strong conviction of the author's veracity.

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article, 'Had Mr. Browne only worn an English hat he might have gone safely through Persia.' The only public fruits of this last journey are a few short extracts of letters from Mr. Browne to his friend Mr. Smithson Tennant, which were not published until Mr. (Sir) Robert Brown's Own Book of Travels; and Memoirs relating to European and Asiatic Turkey, edited by the Rev. Robert Walpole. (1829.)

BROWN1818, a name given to a religious party which arose during the 16th century. The reformation recognized the principle of independent judgment in spiritual matters; and it was a natural consequence of the removal of the restraints imposed by the church of Rome, that the period in which the liberty of private judgment was first enjoyed was distinguished by the diversity and contrary opinions. In the 16th century contests were perpetually recurring between parties who desired a more complete reformation than yet taken place, and those whose sympathies were connected in some degree with the past, and whose views having been satisfied by the reforms which had already been effected, wished to arrest the religious movement of the age. It was at this period that the Brownists arose; at least we have the authority of Neal and Mosheim for the fact. In Adama's Dictionary of all Religions it is stated that the sects of the Brownists had been professed in England, and churches established in accordance with their rules, before the date usually assigned, and that therefore Robert Brown was not their founder. The writers whom we have named, however, look upon him as the first important and conspicuous figure of the sect together. Neal, in his History of the Puritans, enumerates the leading principles of the Brownists. He says, 'The Brownists did not differ from the Church of England in any articles of faith; but were very rigid and narrow in their modes of worship, and religion. As England to be a true church, and her ministers to be rightly ordained. They maintained the discipline of the Church of England to be Popish and anti-Christian, and all her ordinances and sacraments invalid. They apprehended, accordingly, that the church in the true and strict sense, for the above reasons, was confined within the limits of a single congregation, and that the government should be democratical. The whole power of admitting and excluding members, with the deciding of all controversies, was in the brotherhood. Their church officers, for preaching the word and taking care of the poor, were chosen from among themselves, and separated to their several offices by fasting and prayer, and imposition of the hands of some of the brethren. They did not allow the priesthood to be a distinct order, or to give a man an inordinate estimation. At the same time they would not consent to the name of an officer, and gave him authority to preach and administer the sacraments among them, so the same power could discharge him from his office, and reduce him to the state of a private brother. Every church or society of Brownists met in a place open to the view of the Brownists, a body corporate, having full power within itself, to admit and exclude members, to choose and ordain officers, and when the good of the society required it, to depose them, without being accountable to classes, convocations, synods, councils, or any jurisdiction whatsoever.' (Vol. p. 376. Edition 1732.)

Robert Brown, the founder of the sect, was nearly connected with the Lord Treasurer Cecil. He was educated at Corpus Christi college, Cambridge, and preached some time in the same college. He seems to have derived much of his delivery gained him reputation with the people. He was subsequently a schoolmaster, and afterwards a lecturer at Islington. Neal terms him 'a fiery, hot-headed young man;' and Mosheim, 'an insinuating man, but very unsettled and inconsistent in his views and notions of things.' He went about the country inveighing against the discipline and ceremonies of the church, and exhorting the people by no means to comply with them. In the year 1580 the Bishop of Norwich caused him to be taken into custody, and in 1581 he was in the Tower, where he was released. In 1582 he published a book entitled 'The Life and Manners of True Christians;' to which was prefixed 'A Treatise of Reformation without tarrying for any; and of the wickedness of those preachers who will not reform themselves, till they be driven from their post, be garrisoned, and compel them.' He was again taken into custody, but released on the intercession of his relative the lord treasurer. Four years afterwards he again travelled through various parts of the country preaching against bishops, ceremonies, ecclesiastical courts, ordaining of ministers, &c., for which, as he afterwards boasted, he had been committed to thirty-two prisons, in some of which he died at the stake.

At length he formed a separate congregation on his own principles, being forced being forced to leave the kingdom in consequence of the persecutions which they met with, they accompanied Brown to Middleburg in Holland. Neal observes, that 'when this handsome support was delivered to them, they crumbled into parties among themselves, insomuch that Brown, being weary of his office, returned into England in the year 1589, and having renounced his principles of separation, became rector of a church in Northamptonshire, where he lived an idle and dissolute life (according to Fuller) far from that sabbatarian strictness that his followers aspired after. He had a wife, with whom he did not live for many years, and a church in which he never preached. At length, being poor and proud, he struck the constable of his parish for demanding a rate; and being belched by nobody, the officer summoned him before Sir Rowland St. John, who committed him to Northampton gaol. The decrepit old man, not being able to walk, was carried thither upon a feather-bed in a cart, where he fell sick and died in the year 1630, and 51st year of his age.'

After Brown's death his principles continued to gather strength in England. The Brownists were subsequently known both in England and Holland by the name of Independents.

BRUCE, EDWARD, second son of Edward Bruce of Blairhall, in the county of Elgin, was born about the year 1549; and having passed advocate at the Scottish bar, was early appointed one of the judges of the Commissary Court of Edinburgh—a court instituted soon after the Reformation in the place of the pre-existing Church Courts. He was descended from an ancient Cornish family. In this chair he succeeded Robert, Dean of Aberdeen, who had been also a lord of session, and was superseded, in January, 1576, on account of his 'inhabitability.' The date of Bruce's appointment, however, is, from the loss of records, uncertain; and it is to be observed that in the rotuli archivii, vol. iv., p. 468, there is an entry under the date of 1574, which is thus transcribed: 'Ad Eri. (Eri.)'—we learn that on the 14th July, 1574, Bruce appeared before the Judges of the court of session, and declared, that though nominated Commissary of Edinburgh in the room of the Dean of Aberdeen, yet he would take no benefit therefrom; and, after the Lord George Stewart, and Sir Archibald Grant, and the other lords, had declared that he was not to take a benefit, he withdrew from their favors, and sought to divert himself from their places in the church, and now thought to exclude them also from their places in the state, which the prelates hoped his majesty would not suffer, but would punish as a presumptuous arrogance. Mr. Robert Pont, a presbyterian minister, and one of the commissioners, was stopped in his reply by the king, who will him to be quiet, and present their petition orderly to the lords of the articles, through whom they should be answered. When the petition came before the lords of articles, it was rejected without observation.

In 1594 Bruce was dispatched on an embassy to England—an employment which at that time not unfrequently devolved upon the judges of the court of session or other superior courts of justice to complain of the same sort, given by the solicitor of the Scottish court to Mr. Bruce, and of the harbour afforded him in his dominions; and though Elizabeth refused to deliver up Bothwell as desired, yet, in consequence of the remonstrances of the ambassadors, she commanded him to depart the realm. In 1597 Bruce was named one of the commissioners of the election of the bishop of Aberdeen, by parliament to the king for furnishing ambassadors, and other important purposes; and on the 2nd December same year he was made a lord of session. In 1598 he was again sent to England on the same commission; and in 1600 he was reappointed to the commission for the election of the bishop of Aberdeen, and on the 11th September of the same year he was appointed judge of the court of session.
BRUCE

478

BRUCE

ambassador to England. He failed in securing the main object of his mission, which was to obtain the queen's recognition of his accessions; but his qualities, his skill and address, he gained over many of the English to his master's service. He was once more sent to England in 1601, in company with the Earl of Marlborough, to intercede for the Earl of Essex; but arriving too late for their purpose, the attempt was unsuccessful, and the Earl of Essex was beheaded. He wrote to his friend, Sir Francis Pickering, congratulation on her escape from the consciencers. On this occasion Bruce had the good fortune to settle a correspondence between the kinsmen, which contributed not a little to James's peaceable accesion to the English throne. In reward for these services Bruce was knighted, and created a peer by the style of Baron Bruce of Kinloss; and having accompanied James to England, he was, on 3rd March, 1603, called to the king's council board, and then made master of the rolls, when he resigned his seat on the Scottish council board. He was also made master of the rolls, in 1619, by Sir Edward Phillips, and died on the 14th January, 1611, in the 62nd year of his age. By his wife, who was daughter of Sir Alexander Clerk of Balbirnie, some time Lord Provost of Edinburgh, he had two sons and a daughter. Through the former he was ancestor of the noble houses of Aylesbury and Elgin; and, with the daughter, King James gave 10,000l. with his own hands, as a marriage portion to William second Earl of Devonshire.

BRUCE, JAMES, was born at Kinmonth, in Stirlingshire, the 26th April, 1639. He was the eldest son of David Bruce, Esq., of Kinmonth, and of Marion Graham, of Airth. When eight years of age he was sent to London to school, and after three years he was removed to Harrow, where he remained till 1716. At Harrow he became acquainted with David Hume, and made their friendship the life-long object of his affection. On his return to Scotland he was entered, by his father, at the University of Edinburgh, to study the law, in which he made but little progress, and he shortly after removed into the country on account of his health. In the country he found much more agreeable employment, and his studies were taken up with reading, and he was a good marksmen. In 1753 he set off for London with a view to obtain leave to settle in India as a free trader. In London he made the acquaintance of Mrs. Allan, the widow of a wine merchant, whose daughter he soon after married, and became a partner in the business after two months. In 1757, before his marriage his wife died; Bruce however continued for some years in the partnership, and, in 1757, he made a journey through Portugal, Spain, France, and the Netherlands, partly on business and partly for his own information. Some of his remarks on those countries are quoted in his life, by Dr. Murray, from Bruce's MS. journals. His father died in 1758, and Bruce returned to England to succeed to the family estate, with a moderate income, which, however, he increased by business. His education was increased in consequence of the establishment of the Carolina Company. In 1761 Bruce dissolved his partnership in the wine trade. He had for some time past applied himself to the study of Arabian, and had likewise turned his attention to the East India Company. He became engaged in this country, and drawing, under able teachers. By means of his friend, Mr. Wool, the under Secretary of State, he became known to Mr. Pitt, who consulted him about an expedition intended against Ferrol, which however did not take place. At the beginning of 1762 Lord Halifax, at the suggestion of Mr. Wool, appointed Bruce Consul-general at Algiers, with the understanding that he was to visit the interior of Barbary, and make sketches of the antiquities which, according to Shaw, existed there. In a conversation which Bruce had with Mr. Pitt, it was arranged to send the Consul to the Morea, the year 1181, or 66 Hen. 11, and no doubt "Guillaumes de Bourbon, regis cancell.", to witness to the deed of donation by Emile Henry, son of David I. of Normandy to the Bishop of Flushing, for the church of St. George, on the occasion of which he was granted the estate of the monks of Rouen, the church of St. George. Consequently that Dugdale and his followers have erroneously inserted the dukedom of Normandy instead of the dukedom of Rouen; and this, too, fifty years later than their cited authority would direct. Prince Henry, the greater of the duke in question, having died in the year 1180, and some of the Winchester MSS. still persist.

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the medical art. After spending about two years in Syria he proceeded to Alexandria in June, 1768. At Cairo he was introduced to All Bey, the Mameluke chief, whose Coptic minister, Maimer Rish, had conceived a high opinion of Bruce, whom he fancied to be a great astrologer. Bruce had fixed his plan of going to Abyssinia. He met at Cairo Faiz, the bey of Algiers, and who was now Archimandrite under Mark, Patriarch of Alexandria. He also obtained letters from the patriarch for several Greeks who were in high stations in Abyssinia, and from All Bey for the sheereef of Mecca, the mayyid of Constantinople, and the Bey of Mecca. Travelling on, he set off for Upper Egypt, a country which was then far from being accurately known. Whatever interest Bruce's account of Egyptian antiquities which he gives in the first book of his travels might possess at the time, has now passed away into the background of the history of the country; but he corrected several common errors; he confirmed Pococke in fixing upon Monastery as the site of Memphis, and he visited some of the painted tombs at Thebes. From the Nile he crossed the desert to Cosseir, from whence he sailed for Jida in April, 1769; but instead of going direct to Jida he went, according to his own statements, up the gulf to Tor, and thence along the Arabian coast to Jida. He gives his observations on the hydrography of his courses, the position and bearing of the towns and harbours, &c. The number of the ships which, under the different charters of the straits of Bab el Mandeb, have been by some considered as fictitious, and Dr. Murray himself in his correspondence with Salt (Hall's Life of Salt) acknowledged that 'the dates are contrary to their existence,' but yet it is a fact that Bruce sailed once round the coast of Arabia and the southern part of the coast of the Red Sea (Notes on Bruce's Chart in the Journal of the Geographical Society, vol. v) made under the orders of the Bombay government.

At Jida Bruce received every encouragement for his Abyssinian voyage. The Englishman, a Jida, and especially Captain Price of the Lion East Indianam, kindly exerted their influence with the authorities of that place. Mehetel Aga, the minister of the sheereef of Mecca, originally an Abyssinian slave, was well acquainted with Ras Michael, the Bey of Mecca, and at that time the most powerful chief in Abyssinia. At Captain Price's suggestion Mehetel Aga agreed to send one of his confidential servants, Mahomet Gibberiti, a native of Abyssinia, to accompany Bruce in his journey, and he went to Ras Michael, recommending the traveller as an English physician, and of his protection against the nayib of Masowa, a kind of independent chief, whose cruelty and avarice were the dread of strangers. This precaution of Mehetel Aga proved very useful to Bruce.

On arriving at Masowa, Gibberiti went on shore first and dispatched the letters to Ras Michael, after which Bruce was detained several weeks, annoyed and threatened by the nayib, and in some danger of his life. Bruce exhibited his works to the nayib, and in particular his treatise on the tigers of Abyssinia; he obtained his secret by Ahmed, the nayib's nephew, and a better man than his uncle, for whom Bruce had brought a letter from Mecca. At last messengers came to Masowa from the interior, bearing letters from Ras Michael and from Jami, his agent at Aden, persuading the nayib immediately to forward the foreign physician. On the 15th November Bruce left Arkeeko with the caravan, and after crossing the Tarat mountain arrived at Dixin, the frontier town of Tigre. On the 6th December he arrived at Tigre, where the chief was absent on a campaign in Ambra. Bruce was kindly received by the deputy Jami, with whom he remained till the middle of January, 1770. He visited Axum and other places in the neighbourhood, and continuing his journey through Sire and other places he passed through Ambra, a part of the Samen range, and arrived at Gonder about a month before the middle of February. The Ras and the young king were still absent with the army, but Bruce became acquainted with Ayto Ahn, a man of rank and very partial to foreigners, and with his help he frequented the Haggare queen dowager, and afterwards to her daughter Orozoro Esther, Ras Michael's wife, who continued Bruce's constant friend during his residence in Abyssinia.

Bruce remained nearly two years in Abyssinia, which he spent entirely in that division of the empire called Ambra, and in that part of it which borders on the lake Debs, without ever again visiting Tigre. Concerning the physical geography of the country his information is scanty and inaccurate. The southern provinces of Shoa, Efat, &c., he did not visit. The country was in a state of confusion, owing to a civil war between Ras Michael and otherchieftains. The campaign of that year 1770, after beginning unfavourably to Michael's cause, ended by his complete triumph, which was attended by the speedy flight of Abdallah, that clever but cruel chief of Meke. In November of that year Bruce succeeded in reaching the sources of the Abawi, which was then considered as the main stream of the Nile; thus accomplishing what he had from the beginning fixed as his main object of his chief's design and purpose.

As Bruce's narrative of his residence in Abyssinia has been the subject of much controversy, and as doubts of its veracity have been by some carried to an unreasonable extreme, it is well to state here what credible native witnesses who have known him at first hand have had to say of him. Salt, in his second journey to Abyssinia, became acquainted with Dofter Esther, a learned old man, much respected in the country, who, when a young man studying at Gonder, had been intimately acquainted with the inhabitants of Ambra, and, after forty years, still spoke of him in terms of friendly regard. He said that when Bruce first arrived at Gonder, Ras Michael was absent with the army, but that having questioned two Greeks, Sydros Petros and Paulos, who gave a favourable account of him, and that they would like to see him, he was received with great attention. Bruce's reputation was greatly increased by his having cured one of Ras Michael's children, and also Ayto Confu, Orozoro Esther's son by a former husband, of the scurvy. Orozoro Esther, the aged chief, was afterwards taken down by Ayto Ayh, who, finding himself the leader of the country, turned him out of his house. After remaining some time at Gonder, he set out, with the king's permission, to visit the sources of the Abawi, under the protection of Faizi, the governor of Damot and Gonder, who had then made peace with Ras Michael. Bruce went with Balgani, a Christian man, who attended him on his travels. After failing in a first attempt, in which they were plundered, they succeeded in a second, and returned safe to Gonder. Dofter Esther described Bruce as a man of mark, who conducted himself remarkably well on a black horse of his own; the king sometimes lent him a horse out of his stud. Bruce was greatly noticed by the king, and was one of the favourites or favourites at court, Ras Michael was also attached to him, but seldom gave him anything. After residing a little at Ambra he went to a seat partly at a house near Kedus Raphaël, which was given him by the king. Kella Yasous and many other persons of rank in the country were much attached to Bruce, and when the latter quitted Abyssinia, Dofter Esther said 'he left behind him a very great friend in Abyssinia.' But when he arrived in the country, he could read the written characters of their books, but did not possess any great knowledge of the Geez, though in this respect, as well as with regard to the Ambare, he considerably improved himself during his stay. He was conducted on an interpreter of the name of Michael, through whom he generally conversed. He spoke however Arabic with some of the Musulman inhabitants. Bruce never commanded a body of horse, as he stated; the king had no body-guard, though he had a body-guard. Most of the troops were commanded by Idris, a Musulman. Bruce was not actually engaged in war, but he was present at one battle, probably the second battle of Serbraxos. This is confirmed by Bruce's original journals, quoted by Dr. Murray in his edition of the Travels, and which differ immensely from Bruce's text in the narrative. No shummut or district was ever given to Bruce, though he was said to have frequently asked for the government of Ras el Feel, which he had at one time during his residence at Gonder. He was said to have told Orozoro Esther that Ahma Yasous, prince of Shoa, never visited Gonder, and that Bruce's time, all connexion between Shoa and Gonder having been broken off long before. It may be observed here also that in Bruce's original memoranda (see Appendix, vol. iv) there is no mention of this visit as stated in the narrative. The description of the Gallia chief Guangoou, Dofter Esther said was strongly misrepresented; he remembered his visit to Gonder, when
the Gaal was becomingly dressed, as most Galles are when they come to court. With regard to the story of the Worari or plundering parties on a march cutting a piece of flesh from the living animal, Dolter Esther had heard of the practice, and believed it true. In a letter to the author fully described it (Salt's Life and Adventures of Nathaniel Pearce, edited by Hall). On being told of Bruce's disgust at the destruction of Abyssinian banqueters, Dolter Esther said he had never witnessed such practices, and expressed great abhorrence at the thought. He admitted that the levities of the higher orders was carried to much greater lengths in Amhara than in Tigre (see also Peace's Life, and Coffin's account of his excursion to Gondar annexed to it), but said that the scene described by Bruce was certainly greatly exaggerated, and as a proof of its insincerity, he pointed at the drinking of healths, a custom unknown in Abyssinia (Salt's Abyssinia, ch. 8). Such was Dolter Esther's sober statement, the accuracy of which was confirmed to Salt from other quarters, among others by Janni, Ras Michael's deputy, 'who had always spoken of Bruce with great respect' (Salt, ch. 9). Gobat (a recent missionary to Abyssinia) observes that the description of the feast as given by Bruce, 'I admit that such a feast may have taken place among the most shameless libertines, but excesses of that kind are not customary, either as to their cruelty or their indecency.' It is worth observing, that in speaking of the occurrence on the occasion of the marriage, at which Bruce was present, he merely states that 'all the married women ate, drank, and smoked like the men' (vol. iv. ch. 9), but afterwards, in ch. 11, where he assumes to give a general sketch of Abyssinian manners, he alludes to the custom of the feast, but does not say that he ever saw it.

It appears evident from all this that when Bruce composed his narrative, he did not consult or did not scrupulously adhere to his journals, but borrowed largely from his own imagination, especially with regard to the dates, and jumbled together distinct incidents and circumstances, either through carelessness or for the sake of effect. 'He was become old and indolent,' says his friend Dr. Murray, 'I have reason to believe that after nearly twenty years he had eloped since his return from Abyssinia, his tale to his amansuensis resembled more that of an old veteran by his parlour fire-side in a winter evening, than the result of fresh and accurate observation. He wished to be believed that he had seen and done more than he had in fact seen and done, that he had travelled, but performed — a species of ambition seldom reconcilable with fact.' (Hall's Life of Salt.) There are however some points in Bruce's narrative which cannot be accounted for so easily. The Axum inscription, with the preliminary and explanatory notes of Poclemont, seems to me to be the noblest of these [Axum]. He also totally omits throughout the narrative of his journey to mention Balugani, a young Italian artist whom Mr. Lunisidan had engaged for him at Rome, and who had joined Bruce at Algiers, and had been the constant companion of all his mood, who as far as Gondar and the sources of the Nile, had kept his journals, assisted him in drawing, and had been evidently of material use to him. Bruce mentions in his introduction the fact of his having engaged Balugani, and afterwards says no more. It seems to me that the end of his memoirs speaks of his death in a vague manner, as if it had happened soon after his arrival at Gondar, somewhere about March, 1770, and several months before his journey to the sources of the Abassi, and when he adds that Salt 'in a later part of his narrative' speaks of the visit of a European who had ever visited the sources of the Nile, and that he accordingly throws discredit on the accounts of the Jesuits Paez and Lobo, who had described them before him. He also omits in his narrative to mention the fact of three Franciscan friars from the Propaganda having reached Gondar only twenty years before him, where they rose for awhile into great favour, and made several proselytes to Catholicism, among others Bruce's friend Aytio Ayle and the iehee of queen dowager Ayeje (Salt's Abyssinia, vii.). At the end of February, 1744, we find it stated 'that Aytio Ayle had been converted by Father Antonio, a Franciscan, in 1750.' (Salt, ch. 10, and Appendix III., where the journal of the Franciscans is translated from the Italian MSS. and an account of the last Emperor's Joe's body being dismembered, about which there is a palpable inconsistency between Bruce's original memoranda and his printed narrative (Salt, ch. 5). With regard to Bruce's translation of the Annals of Abyssinia, Dr. Murray says in a letter to Salt, 29th of February, 1772: 'The bulk of the facts are true, but they are often misplaced in time and local circumstance. The Portuguese and Abyssinian accounts are blended together, and the whole does not merit the title of an accurate narrative. Bruce often committed blunders in an unconscious way, classic quotations and minute facts of ancient history, which he was not qualified by literary habits to balance and collate.' (Hall's Life of Salt.) The latter part of this remark leads us to observe that Bruce, though he has had a character for learning among those who have none themselves, was very far from being an exact scholar or a really learned man. His dissertations on various subjects show sometimes great ignorance, and nearly always equal presumption and deficient judgment. Such and the dissertations you will find in the Traité d'Abyssinie, in its earliest Ages, on the 'Origin of Characters or Letters,' the 'voyage to Ophir and Tarshish,' and others.

With these numerous defects, Bruce will always rank high among African travelers, as a journey to Abyssinia forms a part of the annals of discovery, for he may be said to have re-discovered a country of which no accounts had reached Europe for nearly a century, and to have renewed our intercourse with it, which has been followed up since by Salt and his contemporaries Burman, and Rüppel. The Ethiopic MSS. which he brought to Europe formed likewise a valuable addition to our literary treasures. A list of them is given in the Appendix to Bruce's Life, by Dr. Murray, 4to, 1808. Bruce's courage, activity, and presence of mind are deserving of the highest praise.

The campaign of 1771 having turned against Ras Michael, and that chief being deserted by his followers, and taken prisoner, the opposite faction got possession of the king's country. They proceeded northwards by the Red Sea, and reached Assouan, where they disembarked, and proceeded to Assouan, and in which he was near losing his life through thirst and exposure. He then went to Cairo, where he was received with much kindness, and entertained as a friend. Taking leave of them, he proceeded by Ras el Feel, Tea, and Beylah, to Sennar, where he arrived in May. Here he was detained till the month of September, and it was with much difficulty he found means to leave that barren country. He proceeded northwards by Her-bagi, Halfay, Shendi, and across the Atbara or Tabacass to Goz, in the Barabra country, and then plunged into the desert, which he was a fortnight in crossing to Assouan, and in which he was near losing his life through thirst and exposure. He arrived at Assouan, in January, 1774, where he found that Sir John Mackenzie had arrived some time at Cairo, proceeded to Alexandria, where he embarked, in March, 1775, for Marseilles. In France he was received with marked attention by the Count de Buffon and other distinguished men. He thence went to Italy, and at last returned to England in June, 1774, after an absence of twelve years.

Bruce was present at court, and the king, George III., received him in a flattering manner; but he obtained no more substantial rewards, except a gratuity for the drawings which he had made in Egypt. After this the story he told in company about the Abyssinians and the Gallas interested his hearers, but at the same time excited envy and ill-natured strictures. Some even went so far as to pretend that he had never been in Abyssinia. Bruce's vanity and disdainful manner were exposed to much ridicule and sarcastic criticism. After some months spent in London, he went to Scotland, where his family affairs were in great disorder owing to his long absence. Upon these he bestowed much of his time, giving up meanwhile all thoughts about
his Abyssinian journals. He married, in May, 1776, Miss Dunias, with whom he lived in quiet retirement till 1785, when, on the death of his wife and his favorite friends, and especially Daines Barrington, he set about preparing his Travels for publication. This work was published in 1790, in five 4to volumes, Travels to Discover the Sources of the Nile, in the Years 1766-73. The attractions of each of these volumes were considerable, and the character of Ras Michael has been particularly admired, and its truth is authenticated by the MSS. of the ‘Annals of Abyssinia,’ vol. v., which includes the history of that chief down to the murder of the Emperor Jos in 1769 (Appendix to Murray’s Life of Bruce, in 4to), as well as by the current report in the country.

Bruce’s work was sharply assailed in the critical journals of the day, especially in the ‘Monthly Review.’ The Rev. Hugh Blair, Daines Barrington, and others, spoke highly in his favor, but to be the exception. He has written and into German by J. Valkna, with notes by J. F. Blumenbach.

Bruce died on the 27th of April, 1754, at Kinnaird, of a fall down stairs as he was going to hand a lady to her carriage. He was buried in the church-yard of Larbert, in the same tomb with his wife.

In 1805 his friend Dr. Alexander Murray published a second edition of Bruce’s Travels, to which he added a biography of the traveller, and copious extracts from his other works. Murray has seized upon the chief instructive and entertaining parts of their correspondence, and the editor’s notes and remarks in the life, the reader is enabled to separate the reality from the fiction or exaggeration which prevails in many parts of the author’s narrative. Mr. Salt’s two memoirs are of more than a supplementary value in this discussion, Dr. Murray entered into a correspondence with Salt, which serves greatly to elucidate the question. He acknowledged that Bruce’s map of Abyssinia was worth little. A third edition of Bruce’s Travels, published in 1815, is still the best edition of the book. The second edition of the previous edition. The preface by Dr. Murray, in which he advertts to Salt’s correction of several of Bruce’s statements, is deserving of attention.

BRUCE, MICHAEL, was born at Kinneoss, in the parish of Fingask, county of Kinross, on the 27th March, 1746. His father was an operative weaver; and, in his religious sentiments, of that class of seceders called Burghers. He had eight children who, having little or nothing to inherit from their parents, were all brought up to rely on their own industry for their support. One of them we accordingly find an operative weaver like his father; but Michael, who was the fifth child, was destined for the office of a minister of the Gospel. To the great body of the people of Scotland that office has long been one of much reverence; and one of the greatest are the duties of a minister of the Gospel. And it is here to this day an object of nearly universal ambition. The strict and religious parents of Bruce partook in the common feeling; and in his devotion to reading from his earliest years, and the anxiety he felt to make himself fit for the profession which he had in view of.

Optimists indebted for the cultivation of his mental powers, Mr. David Arnot, a farmer on the banks of Lochleven, deserves to be first mentioned. He directed Bruce to the study of Spenser, Shakespeare, Milton, and Pope, supplied him with books, and became at once a counsellor and the constant companion of his favorite pupil. David Pearson, of Easter Balgedie, a village in the neighborhood of Kinneoss, a man of strong parts and of a serious and contemplative turn, also contributed not a little to lead him to the love of reading and the study of poetry. In his youth he was one of these two individuals that spent most of his leisure hours while in the country; and soon after his coming to Edinburgh he contracted an acquaintance with Logan, whose congenial spirit made him the intimate companion of Bruce in his lifetime, and his warm elogist and editor of his works after his death. So long as Bruce remained about his father’s house, his wants, which were then indeed but few, were readily supplied; but after his removal to Edinburgh his resources diminished, while his wants, both mental and bodily, increased. He was discontented, and his desires increased in intensity. But poverty was not the only difficulty with which the youthful Bruce had to contend. He had also the narrow prejudices of worthy but illiterate parents, who seem to have regarded general learning as unnecessary, and especially the study of languages, though he did not but feel how unnatural these prejudices were, what injustice they did to those powers and aspirations with which he was endowed and which glowed within him. He was too dutiful a son, however, to give his parents any cause of offense, and accordingly, when about to return home from college, he took the precaution of sending to Mr. Arnot such volumes in his possession as he thought his father would disapprove of. ‘I ask your pardon, says he, in a letter to Arnot of the 27th March, 1783, ‘for the trouble I have put you to, and I have made you no payment. I have sent you a subscription to the works of various writers that have made me take this method. I have sent Shakespeare’s Works, 8 vols., Pope’s Works, 4 vols., and Fontenelle’s Plurality of Worlds.’

It was about the date of this last letter we find, in his correspondence, the first mention of that morbid melancholy which is frequently the attendant on a poetical temperament, and was in him also the forerunner of a fatal disease. In December, 1764, he writes to Arnot, ‘I am in health, except a kind of settled melancholy, for which I cannot account, of which I have had several fits, and which, if I believe, I should fall into a state of stupidity and delirium. I have some evening scholars, the attending on whom, though few, fatigues me, that the rest of the night I am quite dull and low-spirited. Yet I have some lucid intervals, in the times of which I can study pretty well.’ In these letters he refers to his occupation of a schoolmaster, for though only a youth himself he was already a teacher of youth. He spent the winters at school or college, and in the summer he endeavored to earn a small pittance by teaching a school, first at Garney Bridge and afterwards at Forrest Mill, near Alloa.

‘In the autumn of 1766,’ says Dr. Anderson (British Poets, vol. ii. p. 277), ‘his constitution, which was ill calculated to encounter the austerities of his native climate, the exertions of daily labour, and the rigid frugality of humble life, began visibly to decline. Towards the end of the year his ill health, aggravated by the indigence of his situation, and the want of those comforts and conveniences which might have fostered a delicate frame to maturity and length of days, terminated in an illness which, after a long subdu- tion he quitted his employment at Forrest Mill, and with it all hopes of life, and returned to his native village to receive those attentions and consolations which his situation required, and to which there were nothing to be added by the sentiment of friendship. He lingered through the winter, and in the spring he wrote the well-known ‘Elegy’ in which he so pathetically describes his feelings at that time, and calmly anticipates his dissolution.

Of the latter part of the Elegy, part of which is just quoted, Logan says, ‘It is wrought up into the most passionate strains of the true pathetic, and is not, perhaps, inferior to any poetry in any language.’ This elegy, from the circumstances in which it was written, the nature of the subject, and the state of the poet, may be considered as the last effort of popularity. It was the last composition which Bruce lived to finish; by degrees his weakness increased, till he was worn gradually away. His poems are not numerous—for which his early death may well account—but they evince talents of a very high order. They are distinguished for their elegance and harmony; and what is singular, we find

No. 332.

THE PENNY CYCLOPAEDIA.

Vol. V.—3 Q
disappointed the powerful lords of the house of Brus; but he had already experienced their friendship, as he had no reason to fear the arge of his enemies in his flight from the English crown, and he was now anxious to foster the submission to his award which their retirement held out. Accordingly in 1295, the same year in which the aged De Brus died, Edward appointed the father of Bruce constable of Dunure, and in 1296 made him subject to Edward; and in 1298 they attended the parliament of Berwick, where they renewed their oath of fealty and submission to him. Even the nobler stand of Wallace did not for some time rouse their patriotism; and when those to whom the forms of the western districts had been committed summoned them to Carlisle, Bruce not only obeyed the citation and swore fidelity to Edward, but to evince the sincerity of his declaration immediately after laid waste the possessions of the knight of Liddesdale, and carried off the English prisoners, and in the year 1298. Scarcely however was this act of violence committed, when he abandoned the English party and joined the national standard, expressing at the same time his hope of absolution from the oath which he said had been extorted from him. A few months afterwards the Scots were obliged to capitate at Irvine; and Bruce, with others, made his peace with Edward. Wallace retired into the northern parts of the kingdom with a few adherents.

The signal victory gained by Wallace at Stirling on the 12th September 1297, was a signal blow to the national standard. He took no active part in the struggle however, but while Wallace and his followers fought at Falkirk shut himself up in Ayr Castle, where indeed, by preserving the communication open between Carrick and the Earldom of Galloway, he hindered the English from obtaining service to the cause. Edward, following up his victory marched into the west with a determination to chastise Bruce, who, after burning the fortress, retreated into the fastnesses of Carrick, and Edward at length directed a strong army against it. Meanwhile Robert de Bruce, the son of the baron, accompanied King Edward I. to Palestine in 1269, and was ever after greatly regarded by that monarch. In 1271 he married Margaret, daughter of Carrick, in whose right he became earl of Carrick, and by whom he had 12 children.

Of these Bruce was the eldest son. He was in the tenth year of the reign of Edward, and the father encouraged him with the other magnates of the realm in a solemn acknowledgment to King Alexander III. that his granddaughter Margaret, the maiden of Norway, was heir presumptive to the Scottish throne. Two years afterwards the king died, and a formal contest ensued to the throne; but in September 1296, parties having now begun to be formed among the nobles with a view to a competition for the crown, Robert de Brus, the grandfather, met several important persons of the kingdom at Turnberry Castle, the seat of his son Robert de Bruce, who, probably from a like motive, had about a fortnight before resigned the earldom of Carrick, which he had held in right of his wife, only deceased, to Bruce, their eldest son and heir, and shortly afterwards, retiring into England, left the administration of the same house to Bruce.

Edward could not but see that his determination had
sealed by both parties and confirmed by their oaths of fidelity and secrecy. Comyn however revealed the matter to Edward, who determined on revenge; and having one evening drunk freely, was imprudent enough to discover his purpose to the nobles of his court. The Earl of Douglas, a kinsman of Bruce, had notice of his friend's danger, and anxious to save him, yet afraid in so serious a matter too rashly to compromise his own safety, sent him a piece of money and a pair of gilded spurs. Bruce understood the meaning, and expressed his determination to proceed out for Scotland, accompanied by his secretary and a single attendant. He is said to have reached Lochmaben Castle on the fifth day after his departure from London, and thence repairing to Dumfries, where Comyn was, he sought a private interview with him. There occurred a story which cast doubt on the part of Comyn, the meeting took place in the convent of the Minoret friars. Here Bruce passionately reproached Comyn for his treachery, and after some altercation drew his dagger and stabbed him to the heart. Immediately hastening from the spot he fled for his safety. The alarm soon became general; and the English judges, then holding a court in a hall of the castle, not knowing the extent of the danger, hastily barricaded the doors. Bruce, assembling his followers, surrounded the castle, and with power and might put all within to flight, and expelled those within to surrender. He soon afterwards proceeded to Scone, the antient seat of Scottish inauguration, and was there crowned king of Scots on the 27th January, 1306. Edward had carried the regalia to Westminster, but refused to accept as his son-in-law. The bishop of Glasgow furnished from his own stores the robes in which Bruce was arrayed; and a slight coronet of gold being got from the nearest artist, the bishop of St. Andrew's set it on his head. The bishop of Glasgow also presented to the new king a suit of apparel purchased with the money which he had concealed in his treasury, and under it Robert received the homage of those who devoted themselves to his service. The ears of Fife had from a remote antiquity enjoyed the privilege of crowning the kings of Scotland; but Duncan, the representative of the family, favouring at this time the English interest, his sister, the Countess of Buchan, with a boldness and enthusiasm which must have added to the popular interest felt for the young king, repaired to Scone, and asserting the privilege of her ancestors, placed a crown on his head. At this time the eyes of all Scotland were now directed towards Bruce. Comyn was no more; and the brave Sir William Wallace had been executed by the English. Bruce was therefore without a rival: he was the heir of the throne, and his past conduct had given able proof of his valor and prudence: he was regarded as the last remaining hope of his country.

Edward heard of the murder of Comyn and of the usurpation of Bruce when residing with his court at Winchester. He immediately despatched a messenger to the pope, to pray the assistance of the holy see; he directed the garrison towns on the Marches to be strengthened; and nominating the earl of Pembroke guardian of Scotland, he ordered an instant levy of troops for that kingdom. Pro- ceeding hither together with his army, he ordered about 300 youths selected from the best families of England, and conferred on them the honour of knighthood amidst a pomp and magnificence well calculated to rouse the ardour of the nation. He made also a splendid banquet in honour of the new-created knights, at which he uttered a solemn vow to execute vengeance upon Bruce and his adherents. Bruce, on the other hand, had prepared no system of offensive warfare nor even of defence; his followers were few, and when he first resolved to assert his claim to the crown, he had neither summand nor aide. St. Andrews, the bailiwick of Lochochain and Kildrummie. He had seen however the success of Wallace in less happy circumstances, and he witnessed an enthusiasm for his person which he knew the prospect of success would kindle into a wide and irresistible flame. Prompted therefore perhaps by the hope of striking an early and effectual blow, he sent a challenge to Pembroke, who had established his head-quar-
prisoners and ordered to instant execution. When Bruce wandered among the fastnesses of Carrick, after the defeat of his auxiliaries at Loch Ryan, his army did not amount to 60 men. His own personal prowess however in an encounter which, were it not for the authority from which it is derived has been found to be generally correct in its other particulars, would be looked upon as fabulous or exaggerated, restored the confidence of his countrymen in the ultimate success of his cause. The people of Galloway, hoping to re-enter their country, under the pretence of joining the party, collected about 200 men, with bloodhounds to track the fugitives through the forests and moors. Notwithstanding the secrecy of their preparations, Bruce had notice of his danger, and towards night withdrew his men to a post on the north of the other a rivulet which had only one narrow ford, over which the enemy must necessarily pass. Leaving his followers to their rest, Bruce proceeded to the ford, where the approaching yell of a blood-hound soon fell upon his ears, folowing which they vanished, and after destroying in this way bloodhounds, true to their nature, led the Galloway men directly to the ford where the king stood, who, fearing the destruction of his whole party should the enemy gain the ford, boldly resolved to defend it alone. The Galloweans, finding that they had been outmaneuvered, turned on the opposite side to dispute their way, the foremost of their number rode boldly forward; but in attempting to reach the other side of the stream, Bruce, with a thrust of his spear, laid him dead on the spot. The same fate was shared by four of his men, who were killed on another side of the ford, apart from the others. Dismayed at so unexpected and fatal a reception, they fell back for a moment in some confusion; but instantly ashamed that so many should be baffled by the prowess of a private individual, returned furiously to the attack. Then the king, however, so valiantly repulsed by the king, that the post was still maintained; and at length the loud shout of Robert’s followers, advancing to his rescue, warned the enemy to retire, after sustaining in this unequal conflict the loss of 14 men. The danger which Bruce had thus exposed, and the bravery which he had manifested on this occasion, roused the spirits of his party, and called many to his standard.

Bruce indeed required all the aid he could receive; for Pembroke, the guardian, was already advancing upon him with a great body of men, having also obtained the assistance of John of Lorn, whose followers were well acquainted with that species of irregular warfare to which Bruce was obliged to have recourse. Lorn had with him a blow, however, but one which was fatal to the post. To this post, and was so familiar with his scent, that if once it got upon his track nothing could divert it from its purpose. This Bruce found to his experience, and well nigh fatally; for having arrived at the place where Bruce and his army lay, the animal was, for a time, at a loss, which in fact was its stratagem that could be devised to elude it, the animal singled him out and led on the enemy in his pursuit, till at length Bruce and his companion (for to these two only had he successively subdivided his men) reached a rivulet, in the middle of which was a strong stone, and the strong scent upon which the hound had proceeded, turned into the adjoining thicket, whence he regained in safety the rendezvous of his followers. Here, having learnt the state of security in which the English had fallen asleep, and the danger in which that Scottish army was now totally dispersed, Bruce collected a few men, and dashing upon a detachment of about 200 of the enemy, put the greater part of them to the sword. Pembroke shortly afterwards with the rest of his whole force, turned towards England, and after another disaster, similar to that just mentioned, retreated to Carlisle.

Bruce, encouraged by success, ventured down upon the low country, and reduced to his obedience the districts of Kirkcudbright and Dumfriesshire, determined again to take the field; and putting himself at the head of a strong body of cavalry, he advanced into Ayrshire, and came up with the army of Bruce when encamped on Loudon Hill. Here, though his army was greatly inferior to the English, and consisted wholly of infantry, Bruce gave Pembroke battle; and so well conducted was the conflict by Bruce, that while the loss of the Scots was extremely small, Pembroke’s whole forces were put to flight, a considerable number being slain and many made prisoners. Three days after this Bruce encountered Montherm at the head of a considerable body of English, whom he also defeated with great slaughter. These successes proved the greatest consequence to Bruce’s cause, which was still further strengthened by the death of the Earl of Carrick, which occurred on the 7th July, 1307, in his progress towards Scotland. With his last breath he commanded that his body should accompany the army in its march, and remain unburied till the country was wholly subdued; but his son, determined to justify his father, led the army to Pelham, in Wiltshire, the king, and that the clergy willingly did homage to him in that character.

Finding at length his authority established at home, and that Edward was sufficiently employed by the dissensions which prevailed in his country, Bruce resolved by an invasion of England to retaliate in some measure the miseries which it had inflicted on his kingdom. He advanced accordingly as far as the bishopric of Durham, lay at war with the king, and that his country with England at a sort of truce, and without entering into open hostilities. Edward at first complained to the pope, but soon afterwards made advances towards negotiating a truce with Scotland. Robert however, knowing the importance of following up the successful career which had been opened him, refused to accede to his proposals, and again invaded England. In the same year also he took various fortunes in his kingdom which hitherto remained in the possession of the enemy. The last of these forresses was the castle of Abercorn, upon which the king of the English now depended, and Edward accordingly collected all his forces for its defence. It was on this occasion the famous battle of Bannockburn was fought, 24th June, 1314 [BANNOCKBURN], when a complete victory was obtained by Bruce. By this event the sovereignty of Bruce was established, and the remainder of his public life was occupied in invading and defending himself from England, in negotiating treaties with that kingdom, and framing laws for the ordering and consolidating the power which he had acquired. In these negotiations Bruce includes between the two kingdoms of England and Scotland a treaty of permanent peace, the principal articles of which were the recognition of Bruce’s titles to the crown, the sovereignty of the kingdom, and the marriage of Johanna, the sister of Edward, to the King of Scotland, to David, the son and heir of the king of Scots.

Bruce did not long survive this event. The hardships and sufferings he had encountered brought upon him a disease, in those days called a leprosy, which the ardour of his enterprise and a natural strong constitution had hitherto enabled him to triumph over. The two last years of his life were spent in comparative seclusion in a castle at Cardross, on the northern shore of the Firth of Clyde, but in occupations every way befitting his high station. He was almost constantly sick, without signation, and not without deep expressions of repentance for the sins he had committed, as well as sorrow for the blood which he had spilt. He died on the 7th June, 1329, in the 52nd year of his age, and after his reign. His heart was extracted and embalmed with a view to its being carried, according to his request, to the Holy Land; and his remains were interred in the abbey church of Dunfermline.

BRUCHSAL, a bailiwick (Oberamt) on the right bank of the Rhine, in the N. part of the Grand Duchy of Baden. It is in the circle of the Middle Rhine, is traversed by the Painz, and contains the two towns of Bruchsal and Heidelheim, 9 villas, 3 hamlets, about 5900 families, and 30,000 inhabitants, of whom four-fifths are Germans. Bruchsal, the seat of judicial administration, is an old town on the Salzach. It is mentioned in ancient records between the years 937 and 996, when it was called Bruxole: it was the residence of the bishops of Spires from the year 1024,

* Incorrectly stated to be July 24 in the article BANNOCKBURN,
and came into the possession of the grand dukes of Baden in 1818. It is surrounded by a wall, hence known as the Old Town, the New Town, founded in the last century, and the suburbs of St. Peter and St. Paul, which the Salzach separates. The buildings most deserving of notice are the palace, a handsome structure in the Italian style, and its group of gates and courts, of which the chief is the valley of the Rhine; the splendid chapel attached to the palace; spacious barracks and stables; three parochial and three auxiliary churches, the finest of which is that of St. Peter, where the last four bishops of Spires lie interred; an ecclesiastical seminary; a gymnasium; a military hospital, another well-arranged hospital for 70 patients, conducted by an anatomical theatre and a lecture-room, and a general house of correction for the circle of the Middle-Rhine. There are several wine taverns, and the town is distinguished for the year 1748, and derive their supplies from the spring at Ubstadt, which lies at a distance of about 3 m. from the spot; but they are in a state of decline, and do not now produce more than 350 tons of salt per annum. In 1833 Bruessel contained 810 houses, 1747 families, and 7139 inhabitants, whose principal occupation is making and selling wine, and mechanical labour. In 1824 the pop. was 6686, and in 1817 5447. It is on the high road from Carlsruhe to Heidelberg, about 11 m. to the N.E. of the former and 23 m. to the S.W. of the latter.

BRUCHUS, a genus of insects of the section Tettanerga and family Rhychnophora. Technical characters:—head slightly produced, and forming a short and broad rostrum: labrum distinct; antennae eleven-jointed, either filiform, serrulate; wings wanting. This species is found in the larva of certain beetles, before than behind, anteriorly rounded, posteriorly furnished with a lobe near the scutellum: elytra somewhat oblong, not reaching to the s泄 of the abdomen: femora of the hinder legs thick and generally dentated.

The beetles deposit their eggs in the yet tender germ of various leguminous plants; the seed becoming mature is devoured by the larva, which lives entirely within the seed, where it undergoes its metamorphosis. The holes so often observed in peas and other seeds of a similar nature, are formed by the perfect insect to effect its escape; after which it is generally found in flowers.

From the habits of these insects as above related, it may easily be conceived that when numerous they become exceedingly destructive. In Kirby and Spence's Introduction to British Entomology we are told that in North America a species (Bruchus pisi) 'is most alarmingly destructive' to peas, 'its ravages being at one time so universal as to put an end in some places of the culture of the grain.' This insect is less than a quarter of an inch in length, of a blackish colour, and has a grey spot at the base of the thorax in the middle, and several spots of the same colour on the elytra, which are striated. The scarab jointed is fuscous, and the anterior tibia and tarsi are red. The thorax has a little luff on each side, and the femora are also dentate.

Bruchus pisi is a native of our own country (having most probably been introduced in the seeds of the pea), but fortunately is not sufficiently abundant to do much mischief.

Two other species of Bruclus also infest the pea, Bruchus granarius and Bruchus pectinicornis: the latter is common in China and Barbary; the former is a native of this country, and is found among beans, vetches, and other seeds of a similar nature, and is not of much account; of which it devours the seed.

It very much resembles Bruchus pisi, but is rather less.

The true Bruchi are generally of small size.

BRUCIA, a vegetable alkalai, discovered by Pelletier and Caventou, in the bark of the false angustaria, which is the bark of the styraxum nux vomica, and not, as was supposed when its name was given to it, of the brucia antidesperterica. This alkalai is found combined with gallic acid, in the bark and with igsacuric acid in the fruits of some of the different species of styraxum.

It is seen that the best method of preparing the brucia to be dissolved in water, mixing the solution with a little oxalic acid, and evaporating it to the consistency of a syrup. This is to be treated at 32° Fahrenheit, with anhydrous alcohol, which dissolves every thing but the oxalate of brucia; this salt is then to be boiled in water with magnesia; the precipitated brucia is to be dissolved in boiling alcohol, from which it crystallizes on cooling.

When a little water is added to the alcoholic solution of brucia, and the mixture is put to evaporate spontaneously, the brucia crystallizes in colourless transparent oblique four-sided prisms. By rapid evaporation, nearly scales or crystals, in the form of cauliflowers, are obtained. These crystals contain water; they have a strong bitter taste, which remains for a long time. When the hydrate is heated rather below 212° Fahrenheit, it melts and loses about 16 per cent. of its weight of water; the fused mass is a non-crystallized body resembling wax in appearance. It is decomposed by a strong heat.

Brucia resembles the leaves of plants of the order Malvaceae, and parts of cold water and 500 of boiling water for solution. It is readily soluble in alcohol, and even in spirit of wine of specific gravity 088; the volatile oils dissolve a small portion of it, but neither the fixed oils nor ether take it up. One of the distinguishing characters of the alkalai is the appearance of a red precipitate on the addition of magnesia, which imparts to it is changed to a fine yellow by protochloride of tin. The constituents of brucia are, according to Liebig

<table>
<thead>
<tr>
<th>Substance</th>
<th>Equivalent</th>
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<tbody>
<tr>
<td>Carbon</td>
<td>32</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>18</td>
</tr>
<tr>
<td>Azote</td>
<td>1</td>
</tr>
<tr>
<td>Oxygen</td>
<td>6</td>
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Equivalent . . . . 272 , 100.00

The crystals contain 16.4 per cent. of water.

The salts of brucia have a bitter taste, and most of them are crystalline; they are decomposed not only by the alkalis and alkaline earths, but by morphia and strychnia, which precipitate brucia.

Nitrate of brucia, the neutral salt, does not crystallize, but gives a gummy mass by evaporation; the suprinate is obtained by adding a little nitric acid to the neutral one. Some crystalline salts are obtained on the surface of the suprinate, they are precipitated on adding water, and are dried on the summit. When heated, it becomes first red, then black, and afterwards detonates with the disengagement of light.

Muriate of brucia crystallizes in quadrilateral prisms obliquely truncated, which are sometimes as fine as hair.

It does not take up any of the impurities.

Salpht of brucia. The neutral sulphate is very soluble in water, and crystallizes in long quadrilateral needles.

The alcohol dissolves it in small quantity. According to Liebig, it loses 2 equivalents of water by efflorescence, and retains 2; the effloresced salt contains 12.94 of acid, 92.64 of base, and 2.32 of water. The supersulphate crystallizes readily when a little acid is added to the neutral sulphate.

Oxalate of brucia crystallizes in long needles, especially which it contains excess of acid.

Phosphates of brucia is not crystallizable, but the super- salt crystallizes in large square tables, which dissolve readily in water, and effloresce by exposure to the air.

Acetate of brucia is very soluble, but uncrystallizable.

Medical Uses. The alkalai is stated to have medicinal properties in several species of styraxum, as well as in the bark of the false angustaria; and as it is employed on all hands that this bark is not obtained from any species of brucia, it has been proposed to change the name of it to Cantramia (derived from Cantrini, and the name under which the styraxum nux vomica is described in Rheed, Hort. Malabaric., vol. i. p. 67). This name is quite unobjectionable, as it exists in the styraxum nux vomica along with strychnia; but it is far from certain that the false angustaria is the bark either of the styraxum nux vomica or of the styraxum colubrina, as conjectured by Virey. [GALIPPE.] It is most probably obtained from some undescribed South American species of styraxum.

Cantrinia acts on the human system as a violent poison.
and in precisely the same manner as strigilis, but more genly, being much less powerful. Hence it has been prop-
osed to be substituted for it. The same precautions must
be observed in its use, and the same contra-indications
are observed. As it is a sudorific and the only useful
paralytic from lead, diarrhoea from atony of the intestines, and perhaps cholera saphrophylia or Indian cholera.
It is important to bear in mind the anhydrous state of
the salt is one-fifth more powerful than the crystallized.
In case of poisoning, emetics may be given, and also tincture
of opium or pilocarpium.

STRACHYNOUS.

BRUCKER, JAMES, a laborious scholar of the last
century, was born at Augsburg, January 22, 1696. He
was educated for the church at the university of Jena, where
he took the degree of Master in 1718. In 1723 he was
appointed parish minister of Kaufbeuren, where he gradually
acquired a reputation for learning, which led to his being
elected, in 1731, a member of the Academy of Sciences at
Berlin, and, soon after, to his being appointed senior minister
of the church of St. Ulrich, at Augsburg, where he spent the
rest of his life, and died in 1770.

At an early age he applied himself to the study of phi-
losophy, and his first work, 'Tentamen Introductions in Historiam Doctrinae de Ideis,' was published in 1719; it
was afterwards enlarged and republished in 1723, under the
title 'Hist. Philos. Doct. id.' In 1726 he published
a history of philosophy in seven volumes 12mo., from
the creation to the birth of Christ, in the form of question and
answer, which contains some details of literary history not to be
found in any other work, in which a complete and
'lar critical History of Philosophy from the infancy of the
world down to our own age,' was printed in 1741-4, in five
volumes 4to., and met with considerable success, for
an edition of 4000 copies was disposed of in 25 years; and in
1744 it was revised and enlarged, with a new volume, con-
sisting of supplemental and corrections. Of his other works
the chief are: 'Pinacotheca Signorum nostrae emere litteris
illustrium,' 2 vols. fol. 1741-55; 'Livros de German Scholars
in the 16th, 17th, and 18th centuries,' in German, 4to.,
1747; 'Historia historia after the discovery of America,
Crusias et a Sparsam edita uno unico facsimilis,' 8vo., 1748.
He undertook to superintend a new edition of Luther's translation
of the Bible, but death overtook him in the course of
the work, which was finished by Teller.

Brukner is now remembered by his Critical History
of Philosophy. The title is ill chosen, for a discriminating
and correct judgment is the very point in which he is most
defective. He was very laborious, and has amassed a vast
quantity of materials; but he wanted the power of arranging
them in a systematic manner. Consequently his work is
wearsome in the extreme, from minutess of unnecessary detail, as well as dryness of style. He
seems to have had the same sort of notion of his subject as
a fly might have of the dome of St. Paul's, after crawling over it. This occurs so often in his work, that it is
felt as a whole, or of the connexion of the several parts.
His book, however, is remarkable and useful, if it were only as an attempt (we believe the only one) to grapple with so
enormous a subject; for he gives an account of every school
from the Hebrew, Chaldean, Egyptian, Phoenician, &c.,
descending through those of Greece and Rome to the sects
of Christian and Judaic philosophers, the schoolmen
and their successors after the revival of learning, the Saracens,
and the nations of modern Asia, Persia, China, and Japan; and the followers of those who with the 17th
century. Horizons. Written being in Latin, this book is accessible to
many who cannot avail themselves of the labours of later
German scholars. As a book of reference, therefore, it is
very valuable in the hands of the lector who is charged with frequent
error, arising partly from inaccurate scholarship, partly from
too much readiness to take his opinions at second-hand. It
will be prudent, therefore, for those who are careful
inquirers, to corroborate Brukner's statements by at least occa-
sional verification.

BRUYS, ADRIALR, was a lieutenant in the French
navy before the revolution, and afterwards became a rear-
admiral in the service of the republic. He had the com-
mand of the Toulon fleet which sailed in June, 1798, for
Egypt, in order to support Napoleon's expedition in
North Africa. After landing the troops, Admiral Bruys anchored his fleet in Aboikur Roads close to the shore, thinking himself safe
from attack. The English Admiral Nelson came in sight of
the French fleet on the 1st of August, and immediately
prepared for battle. Some of the English ships steered be-
tween the French and the shore, and thus the French found
themselves between two fires. [NELSON.] After a dreadful
fight, most of the French ships, being disabled, surren-
dered, and 39 French ships were lost. Admiral Bruys, among
the guns, defending himself against two English ships, was
killed by a cannon shot, just before the Orient was dis-
covered to be on fire. The Orient blew up with most
of the people on board, on the evening of that day. Bruys
must not be confounded with Admiral Bruys, who
was one of the admirals of the fleet of 1798, under the
minister of marine under the Directory, commanded the
fotilla of Boulonne in Bonaparte's time, and died at Paris
in 1803.

BRUGES, the capital city of W. Flanders, in the king-
dom of Belgium, is situated in a level country, in 51°
N. lat. and 3° 13' E. long.; about 6 m. from the sea at
Blankenberg, and 39 m. N.W. from Brussels. Its Flemish
name Brugge is derived from the number of bridges which
cross the canals. Bruges is the French name of the
town. Bruges is a very ancient place. In the 7th century
it held the rank of a city. In 827 it was fortified by Baldwin,
count of Flanders (called Iron-arm), in order to form a
barrier to the progress of the Normans, who then ravaged
Flanders. The city was surrounded by walls in 1033, and
enlarged in 1370. It was almost entirely destroyed by fire
on three several occasions—in 1184, 1215, and 1280. It
was further enlarged in 1331 by Count Lewis de Creycy.

In order to commemorate the high degree of perfection
to which the woollen manufacture had been carried in
the 13th century, King Edward I. of England, gave in
1297, the Golden Fleece. While under the dominion of the
dukes of Burgundy, Bruges became a principal emporium of
the commerce of Europe. The merchants of Venice and
Genoa conveyed thither the produce of Italy and the
Levant, which was distributed through the cities of the
N. of Europe. The tapestry of Bruges was at that time the
most esteemed of any in Europe, and this reputation it long
enjoyed. When, 160 years after the date last mentioned,
Henry IV. of France was desirous of establishing the manu-
facture of tapestries in France, he appointed at Bruges a
manufacturer of Bruges for its management.

In addition to the woolen manufacture Philip the Good
gave encouragement to many other branches of industry,
and particularly to the production of silk and linen fabrics.
In 1488 the citizens rose against the Archduke Max-
imilian, and placed him in confinement. Having vainly
solicited the king of France to support them in this act of
violence, they were reduced to submission by the emperor
of Germany, who marched to the deliverance of his son.
When this army retired, a great number were banished; the
city was deprived of its privileges, and was subjected to a heavy
fine. From this time the city lost its commercial importance, which
was in great part transferred to Antwerp.

The Bruges tapestry was saved by the bath in 1704. Two
years afterwards it surrendered to the allies; and it was twice
taken by the French—in 1708 and 1745, but reverted to
the house of Austria. In 1794 the troops of the French repub-
lic took possession of the city, which was soon after incor-
porated with France, and continued until the close of the
war in 1814, when it became part of the kingdom of the
United Netherlands.

The streets are narrow but neat and clean, and the houses
are mostly large and well-built; many of them have an
ornamentation of statues and statuesque ornaments, with the
former inhabitants. The town-hall is a good specimen
of Gothic architecture. The original building was destroyed
by fire in 1280, and the present hall was built on the same
site in 1360. The town is divided into forty-five streets, in each of which is a Roman Catholic
church, besides which there is a church for protestants.
The Catholic churches contain several fine paintings
and magnificent tombs; those of Charles the Bold and his
father Philip the Handsome, and of the saintly Bruges, are particularly handsome. In the same church is a marble
statue by Michael Angelo of the Virgin and the infant
Jesus.

Bruges contains a museum, a botanical garden, a cabinet
of natural history, a public library, and an academy of fine
arts.

The trade of the city is facilitated by canals which com-
municate by way of the river Scheldt, and of the canal from
Ostend allows the passage from the sea to Bruges of ves-
sels from 200 to 300 tons burren. There are be-
sides a wet dock and a dock for the building and repair of
vessels, and warehouses for receiving goods in entrepot : the
last of which was increased by the town in 1708.

The present manufactures of Bruges consist of linens,
lace, woolen and cotton goods, salt and sugar refining,
carthenware, paper, distilling, and other minor branches
of industry.

Of which in 1814 was 34,015, had increased on the 1st of January, 1834, to 41,914 souls. A statement pub-
lished by the Dutch government gives the number of births
and deaths from 1700 to 1814; the former being 126,744,
and the latter 118,810, show a natural increase of the pop-
ulation in the 11 years of only 8214, or a mean annual increase of two
in a thousand.

The college or Athenaeum of Bruges contained in 1832
131 scholars, 34 of whom received gratuitous instruction,
82 of the scholars received only elementary instruction, and
only ten were attending the class for the higher branches
of mathematics.

The city is badly supplied with water, which is conveyed
to the houses in casks from the canals.

BRUGMABNSIA. To this genus belongs the plant commonly
found in the gardens of the monks of the convent of the
Boscochetto of the Comunians. This latter, like the rest of
the natural order Solanaceae, is narcotic in a high degree.
We extract the following account of it from the Botanical Register. 'This remarkable plant is a native of
elevated and cold situations in the provinces of Tarma, Xauxa, Huanoches, Canta, and Humakas, where it grows
among rubbish; it is also found near the village of La
Cruz and on the banks of the river Mayo, between Alma-
quen and Pasto in New Grenada, where it was found by
Humboldt and Bonpland at nearly 7000 feet above the sea.
It begins to flower in June and ceases in November. By
the Peruvians it is called Floripondio encarnado and Cam-
purillas encarnadas; by the Colombians, Bovochoeto.
Its stature varies from 10 to 12 feet, the stem being generally
unbranched and terminated by a roundish leafy head.
The flowers are either a bright yellowish-orange colour or a
dark orange-red: we believe they change from the former to the
latter. They are succeeded by an oblong, smooth, yellow,
pendulous capsule, which is as much as eight inches long.
This plant belongs to the genus Stramonium, and is
narcotic in a high degree. In the Temple of the Sun, in the
city of Sogamoza, there is a famous oracle, the priests of
which inspired themselves with the intoxicating seeds of this
plant, just as the Pythoness at Delphi is said to have re-
cieved the influence of her God breathing in the navel and
inhalations of the vapors of this plant. From the fruit itself the
Comunians prepare a drink called Tonga, which when weak
is merely soporific, but drunk in stronger doses produces
frenzy, which can only be removed by administering imme-
diate draughts of cold water.'

This plant has lately been introduced into the gardens of
this country, where it proves hardly during the summer, but
requires the protection of a greenhouse in winter.

BRUHL, HENRY, COUNT VON, was born in Au-
gust, 1717. He was a son of the prince of Saxo-
Weissenfels. Henry entered as page into the service of Augustus II, elector of Saxony and king of Poland, gained
his favour, and became his chamberlain. After the death
of Augustus, 1733, Bruhl, who had charge of the crown
jewels at Warsaw, set off with them for Dresden, where he
delivered them to the new Elector Augustus III., and
assisted him, by his manoeuvres, in ascending the throne of
Poland. From that time he became the king's favourite, and
having obtained the dismissal of his rival, Count Sul-
kowitz, he became the minister of this dark monarch, whom
he kept in a state of complete tutelage. Bruhl lived in
great splendour: his establishment was larger than the
king's, and he kept above 200 servants. 'Of all men of
his age, says Frederick II. of Prussia, 'he had most watchs,
dresses, and pleasures; he would have put him among the
numbers of those well-dressed and perfumed heads of which he was not afraid.' The king was indolent to excess, and Bruhl, who took care not to
turb his apathy, and always supplied him with money,
was obliged to borrow to such a degree, that the trea-
sury became bankrupt at last. Bruhl involved Saxony in
financial positions against which it was impossible to
release Saxony army prisoners in the camp of Pirna, and took Dresden,
while the king and Bruhl escaped into Poland. After the
peace they returned to Dresden, where Augustus soon after
died. Bruhl was disliked by both Poles and Saxons, and
was forced to leave the country. After he had been
in Octover, 1764. He had amassed great wealth, which he
left to his children; his fine library of 20,000 volumes was
purchased by the elector for 50,000 crowns. His son Frer-
deric Louis wrote several German plays, which were pub-
lished at Leipzig in 1785-90, in 5 vols. 8vo.

BRUMOY (PIERRE). Father Brumoy belonged to that
order which cultivated the arts and sciences with a
success unrivaled by any other religious community, espe-
cially as far as regards the universality of their acquire-
ments and the extent of their labors. It is remarkable,
however, that the Jesuits are unable to claim with ordinary
writer or one great work in the republic of letters,
and that the little band of Port Royal recluses presented
the world, in a few years, with productions incomparably su-
perior to any which had ever emanated from the whole body
of the disciples of Loyola during the long term of their
existence.

Brumoy was born at Rouen in 1669, and entered the
society of the Jesuits in 1704. He was subsequently in-
volved in the affair of the pretended priest of Talmont,
and became a contributor to the Journal of Treasures.
In 1742 he introduced himself to the public by 'Thoughts
on the Decline of Latin Poetry,' and afterwards edited 'The
History of Tamerlane,' written by Margret, a brother Jesuit,
and published by the printing house of the order in
1747. Shortly after his death, his superior's allowed to him
the continuation of 'The History of the Anglican Church,' of
which work he had already published 11 volumes and was completing the 12th, when he died at Paris on the 16th April, 1762, in the 54th year of his age.

Among all who have done honour to the Society of Jesus,
both by their moral character and their literary talents,
Father Brumoy stands preeminent. With the study of
literature he combined that of the mathematics, which he
taught from 1725 to 1730, and it is to this circumstance
that we are indebted for his discourse 'Upon the Utility of
Mathematics as connected with the Belles Lettres.' His
work consists of- 1. 'A Life of the Empress Eleonora,'
Paris, 1723, 12mo., imitated from the Latin of Father
Fontaine, 3 vols., 8vo.; 2. 'An Essay for the Regain of the
Discourses and Remarks upon the Greek Theorists,' Paris, 1742.

His work, which, although highly and justly esteemed for the
greatest learning which it exhibits, is deficient in simplicity and
precision of style, and even occasionally betrays the want
of a perfect comprehension of the original text; these errors
have been rectified in the editions of 1785-1789, 13 vols.
8vo.; 5. 'A Collection of various Pieces in prose and verse,'
14 vols., Paris, 1741, including discourses, epistles, tragedies,
comedies, Isaac, Jonathan, the Coronation of David, Paulina's
Discourses, and Remarks in praise of the Rhine. Father
Brunoy also made a new edition of J. Murguia's 'Treatise
upon French Poetry,' Paris, 1724, in 12mo. He also trans-
lated two Orations of Father Porés, one upon public exhi-
bitions, and the other upon the question whether the
monarchical or the republican form of government was
best fitted for forming the heroic character. 7. Brunoy
completed, in conjunction with Father Rouillé, 'The
Revolution of Spain,' by Father d'Orelie, Paris, 1734, 3 vols.
4to.; assisted in compiling 'The Memoirs of Tuvex,' and
published the 'History of Kieni' of Father de Courcoun,
Paris, 1733, in 12mo.

BRUN, CHARLES LE, the son of a sculptor of Scotch
eextracion, was born at Paris in the year 1619. The singu-
lar merit of his juvenile sketches attracted the attention
of the Chancellor of France, who recommended his
education, and placed him, at the age of eleven, with Vaugé,
and afterwards with Nicholas Poussin. He remained in
Italy six years, studying the antique and the works of the
old masters. He accordingly cultivated a knowledge of his artist's costume. On his return to Paris in 1670, he was received into the Academy. From this time employment and honours poured in upon him. Having attained the highest rank in the Academy at Paris, he was appointed principal painter to the king, was invested with the order of St. Louis, ultimately made a chevalier of the Academy of St. Luke at Rome, although absent, and a foreigner. A change in the ministry, which had so long favoured Le Brun, carried political animosities into the painter's studio, and, although still honoured by the council, of the long disabléd of favour and vexation at the continued annoyances which he met with at court, in 1690, leaving a widow, but no children.

Le Brun was an industrious and a learned artist; his drawing is bold and correct, and his design often replete with originality. His portraits, however, express the character of his countenances is neither refined nor elevated, and the grandeur of his pictures belongs rather to the physical than the moral development of the subject. His groups are well arranged, and natural; the action of individual figures is also reported to have made them the progress in the several affections of grace in some part or other. His works are principally at Paris. The Battles of Alexander, which are so well known by engravings, are very characteristic specimens of his style, and would alone enable him to be of his rank. The Passion of the Gracianus, and the Battle of Arbela, are works of great power and feeling. His defects of colouring have been partly attributed to his neglecting to visit Venice; but his excusers have forgotten that Giorgione and Titian had no Venetian studies.

His facility in drawing was such, that having procured the delay for one moment of the car which conveyed the Marquise de Brinviller to execution, in 'four strokes of the pencil,' says his French biographer, he sketched a likeness. With the brush he was equally ready. Louis XIV., who daily spent two hours in watching his progress, while painting the 'Family of Darius' at Versailles, desired him to paint at once the head of Parysatis, which he executed within a week. He devoted the 'Promotion of Corton,' to Bernard, who was not among the number of his friends.

BRUCK, RICHARD FRANCOIS PHILIPPE, was born at Strasburg, December 30th, 1729. He was educated by the Jesuits in the college of Louis le Grand at Paris, and is reported to have made both are the progress in the several branches there taught. An early engagement in the affairs of active life suspended his taste for literature while he was employed as military commissary. He had attained his thirty-fifth year, when, during a residence in winter-quarters at Giensville, he was invited to go with him on his campaign and to lodge in the house of a professor, who revived in him a love for letters. On his return to Strasburg he devoted himself to study, to which the possession of an easy fortune allowed him entire application; and the professor of Greek, who was of the obliging character of the great Young, became his constant companion. Bruck quickly became well versed in that language. No sooner did he feel his own strength than he distinguished himself by his criticisms: but his emendations, which are sometimes happy, are always hazardous; and acting under a connexion, and that of the errors of the text in all cases preceded from the fault of copyists, he corrected with a more 'shaking hook' than even Bentley himself ventured to employ. His first work was an edition of the Greek Anthology, published under the title of Anthologia poetarum Graecorum, Strasburg, 3 vols. 8vo., 1776; which contains, besides the epigrams usually given in an Anthology, several of the minor Greek poets, Anacreon, Callimachus, &c. entire. Anacreon appeared in a separate edition, in 1775. In St. Petersburg he was immediately received with pleasure, and excited a great desire for the appearance of a complete edition of Sophocles which he had announced. His favourite author, Apollonius Rhodius, employed him in 1786, and was followed in 1783 by aristophanes, which superseded all his predecessors, and has since in turn been entirely superseded by other editions. In the year following he prepared the fragments of Theognis, Solon, Simonides, and other didactic and moral Greek poets, under the title of 'Rheus Pheges,' sive Grammaticale Poetorum, 3 vols. 8vo., 1785. In 1786 he issued an edition of Virgil, in which he was the established text. His Sophocles at length attracted the attention of scholars in 1786, and may be considered as the work upon which his reputation is chiefly founded. Subsequent critics however have found plenty to do with Sophocles notwithstanding the labours of Bruck, and one part of their business has been to restore the MS. readings which this daring editor had replaced by his conjectures. It appeared at first magnificently printed in 2 vols. 4to.: a little later, after a second edition and a third, in folio, in 1786, and there is a third edition, under his own eye, in 4 vols. 8vo., 1786-89. He prepared a copy of Plautus for the Bibliotaph of the classics in 1788. On the breaking out of the revolution he embraced the popular side with ardour; and not hesitating Le Brun, in return for a presentation copy of the quarto Sophocles superbly printed on vellum, had conferred on him a pension of 2000 francs. Bruck enrolled himself among the earliest members of a revolutionary society established at Strasburg. During the Reign of Terror he retained his post of secretary of the Academy. On the 10th September 1793 he was beheaded. Reverses of fortune, produced by the public troubles, obliged him in 1791 to dispose of part of his library, and in 1801 of the remainder. His taste for Greek literature became extinct with the peace of Leipsic, and after the death of his son he never spoke without tears. He still however retained some fondness for the Latin poets. In 1797 he printed an edition of Terence in quarto; and at the time of his death, which occurred on the 12th of June, 1803, he was engaged in superintending a manuscript, of which the result was an edition most remarkable. Instead of referring the printer to any former edition, he always transcribed the entire text of the author upon whom he was engaged. Thus he twice copied Sophocles, and Apollonius at least five times. Many of these manuscripts, together with his notes, are still preserved in the Bibliothèque Royale at Paris. The margins of his books were crowded with conjectures, which in numberless instances showed the boldness rather than the judgment of their author. He was a member of the Academy of Inscriptions and Belles Lettres, and also of the French Institute.

BRUNE, MARSHAL, was born at Brives, dep. de la Corrèze, in 1736. His father was an advocate, and Bruno, after a military career, entered the army, and served under Dumouriez, and later under D'Erlon. He was quickly promoted, and was general of brigade in the army of the interior under Bonaparte in 1795. The following year he joined the army of Italy, and served in the invasion of Austria before the peace of Leipsic. Of his retirement from active service he was sent by the Directory as commander-in-chief of the army which invaded Switzerland. [BRUN.] After the fall of Bern he took the command of the army in Italy, and obliged the king of Sardinia, who was the forced ally of France, to conclude a peace not to his satisfaction. In 1799, he became commander-in-chief of the capitol, Turin. After having thus prepared the fall of that monarchy, he was replaced by Joubert, who finally effected it in December, 1798. Bruno was next sent into Holland, where, in 1798, he defeated the Russians on the Helder, in which he was obliged to retreat. About that time he was appointed general of the French empire. He commanded for a while the camp at Boulogne. Being sent to Hamburg in 1807, as governor of the Hanseatic towns and commander of the reserve of the Grand Army, he had a long interview with Gustavus king of Sweden, near Aix-la-Chapelle, which seems to have given rise to suspicions on the part of Napoleon. In the surrender of the island of Rügen by the Swedish General Toil, agreeably to a convention with Marshal Brune, the latter happened to omit in the text of the convention the titles of the Emperor Napoleon, and mentioned simply the French army and the Swedish army as parties to the agreement. Napoleon, who was highly offended, sent Brune his recall, sting his conduct a scandal never seen since the time of Louis XIV., and he was therefore retired and disgraced, till Napoleon's first abdication, when he made his submission to Louis XVIII., who gave him the
cross of St. Louis. During the 'hundred days' he joined Napoleon, who sent him to command a corps of observation on the Var. After the battle of Waterloo he proclaimed the king, and having been taken prisoner at Avignon on his way to Paris, when he found himself in the midst of the reaction that took place in the southern provinces at that time. A furious mob forced its way into the inn at Avignon, where Brune was, and after insulting him, and having thrown stones, articles, and other objects, at his body, taken part in the massacres of August and September, 1792, to which Brune calmly replied that 'he was at that time fighting on the frontiers against the enemies of his country, they shot him in the room of the inn as he was standing with his back to the door. They took his body, then dragged through the streets, and thrown into the Rhone. (Nouvelles Causes Politiques et Criminelles.)

BRUNEAU, the younger daughter of Athagnade, king of the Visigoths of Spain, married, in 565, Siegbert, the Frankish king of Metz or Austrasia. Her eldest sister Galsuinda, married Chilperic, Siegbert's brother and king of Soissons. Galsuinda was soon after murdered by Fredengoda, the mistress of Chilperic, who then married her. Brunehaut, determined to avenge her sister's death, induced Chilperic to make war upon his brother, and Chilperic only obtained peace by giving up part of his states. Other wars took place between the brothers, at the instigation of their wives, and in the end Chilperic having lost his territories, war commenced. The death of the king, whom the assassins, hired by Fredengoda, murdered Siegbert in his camp, 575. Upon this Brunehaut came out of Tournai, and made Brunehaut and her son Childredibert prisoners. Meroveus, son of Chilperic, falling in love with Brunehaut, enabled her to escape into Austrasia, and Meroveus was in consequence murdered by Fredengoda. Chilperic himself was soon after murdered, 584, and by the order, it was believed, of Fredengoda, who remained regent and guardian of her infant son Clotaire II. The history of the Merovingian kings is a continual tale of dissensions, and, on the death of Thierry, seized upon Austrasia and Burgundy, and thus reunited under his sceptre the whole kingdom of the Franks. Brunehaut, being taken prisoner by Clotaire, was condemned to a monastic cloister. Afflicted by the insults she was tied to a horse's tail and thus driven about till she was dead, when her body was burnt and the ashes scattered to the winds. Her old enemy, Fredengoda, had died many years before, in 597. The true character of Brunehaut has been the subject of much controversy. Several of her contemporaries, such as St. Gregory of Tours, and Pope Gregory the Great, speak highly of her, while those who asperse her memory, such as Fredengoda, Aimoin the monk, &c., lived at least a century after her. Brunehaut is said to have given her nun's habit to Clotaire, and probably also to the nuns of the nobles of her own dominions. Pasquier, Velly, Du Tillet, and other writers, have also taken the defence of Brunehaut. The part of her reign against which charges have been raised is that about the time of the religious training of her two grand-children, when she had to struggle against the nobles. A monument was raised to her in the church of St. Martin of Autun. She is said to have promoted the preaching of Christianity in England.

Filippo was accordingly initiated in those studies which would prepare him for whichever of the two pursuits he should adopt; yet although not deficient in application, the more serious and philosophic sciences did not perhaps kindle his imagination so much as the study of art and sculpture in particular, of which latter it might in fact be considered a direct branch. In fact, it frequently served as a kind of apprenticeship to the last-mentioned art, as happened in Brunelleschi's case. Led on by his own talent and the intimacy he had formed with the celebrated Donatello, he applied himself to sculpture, and with such success that he was admitted as one of the competitors in the designs for the bronze gates of the Baptistry at Florence.

After this he began to think of signifying himself in architecture, and as Donatello was about to proceed to Rome, resolved on accompanying him thither for the purpose of acquainting himself with the ancient buildings in that city. Here he perceived what a career was opened to him who should endeavour to revive a style of architecture altogether so different from that which had prevailed for so many centuries. In 1407 he returned to Florence, where it was proposed to complete the structure of Santa Maria, which had been commenced by Arnoldo di Lapi shortly before, as is said, of his own design. Some say, 1298, and which was afterwards carried on by Giotto. With this view the most eminent architects were invited from all parts to devise in what way it would be practicable to cover the spacious octagonal area between the four branches of the cross. How it was originally intended to effect this, in accordance with the other parts of the edifice, does not now appear. Owing to the magnitude of the space to be covered by a single vault, very formidable difficulties presented themselves, and the possibility of doing the work on the plan of the dome of Santa Sophia, the diameter of which is something more, there was no precedent or example by which to be guided, unless it was by St. Mark's at Venice, and the cathedral at Pisa, which however are so different that they could not have afforded much information for the purpose. While the rest were engaged in fruitless debates, Brunelleschi was assiduously employed in maturing his plans, models, and schemes of operations, and contented himself with pointing out the hazardousness of a project which he had assured himself he should be able to accomplish. Twice over he prepared the means for the purpose of leaving all his rivals in perplexity, and each time he was solicited to return. At length after a multiplicity of proceedings, into which our limits render it impossible to enter, Brunelleschi's model, explaining the means of its execution, and showing how it was to be publicly exhibited, and convinced every one of his success. He was commissioned to commence the work, but it was soon determined to associate with him a colleague, no other than Lorenzo Ghiberti. Upon this his indignation knew no bounds; he resolved upon abandoning both the work and the city itself for ever; nor was it without extreme difficulty that his friends prevailed upon him to change his determination. Resolved upon manifesting Ghiberti's incapacity, which he knew would betray itself, should he be left unaided, Brunelleschi could not be restrained, for Ghiberti being unable to proceed alone was removed, and Brunelleschi was constituted sole architect. He now gave all his energies to the work, and had the satisfaction of seeing this chief d'œuvre terminated before his death of 1446.
work, it was by no means the sole one of any magnitude which he executed. Among his other productions may be mentioned the church of San Lorenzo at Florence, and the celebrated Hospital of St. Luke at Pisa, which was afterwards continued and completed by Ammannati. He is more remarkable for its severe simplicity and massiveness than for any of the graces of architecture, or for what belongs to design. Its idea, in fact, appears to have been derived from the ancient Greek style, and it has the form of certain monstrosities, owing to the unvaried repetition of the same features, namely tiers of arches, it also possesses the character of a vast and solid construction, which produces an impression not so much by form as by bulk and positive quantity.

Bruni was also employed on several works at Mantua and in its vicinity. In his private character he is said to have been a man of a noble and generous spirit; and that as an architect he was enthusiastic in devotion to his art, there can be little doubt. He died in the year 1444 (that of Bramante's birth), and his last endeavours were to found a monastery at Santa Maria del Fiore, his remains resting within that edifice which he had contributed to his skill, and which will perpetuate his name.

Bruni, Leonardo, was born at Arezzo, of humble parents, but studied Latin and Greek, at Florence, under the learned Coluccio Salutati, and afterwards went to Rome, where he obtained the post of secretary in the papal chancery, (Bracciolini,) under Innocent VII. In a tumult, which took place at Rome against the papal govern, he was shipwrecked by the Turk, and escaped the difficulty to Viterbo, where the pope took shelter. Bruni continued in his office, under Innocent's successors, and he attended John XXII., in 1414, to the Council of Constance. After the deposition of that pope, Bruni returned to Florence, and was elected rector for 1426. In 1427 he was appointed chancellor to the republic, an office which he retained till his death. He was also sent by the state on several missions. When the Emperor John Paleologus and the Greek patriarch came to attend the council of Constance, he received them in the name of the republic. He died in 1444, and was buried, with great honours, in the church of Sta. Croce, where he is seen on his monument reclining on a bier with the volume of his 'History of Florence' on his breast, and a crown of laurel round his head, for in this manner he was buried by order of the community. Giannozzo Manetti received a long and learned oration at his funeral, but his friend Pfeiffer, not being satisfied with it, composed another and more eloquent panegyric. Piglio also wrote an eloquent address to the people of Florence, in argument of his friend Poggio, and he did not indulge so much as the latter in violent disputes and virulent invectives. Once, however, he quarrelled with his friend Niccolo Nicolli, and wrote a bitter libel against him, which has never been printed. Bruni's name is preserved in the annals of Florence. Bruni was commonly styled L'Aretino, from the place of his birth, which circumstance has led some travellers, and Mme. de Staël among the rest, to mistake his monument at Sta. Croce for that of the obscure writer Pietro Aretino, and he was buried at Verona (Valery, Voyages en Italie.) Bruni wrote a great number of works, many of which are now forgotten, and have never been printed. Méhúx gives the titles of 63 of them in his biography of Bruni, prefixed to the edition of his 'Epistoles,' vols. 6vo, Florence, 1741. Among his last works was a history of the Poles, entirely new, of great breadth from 'Procopius;' a commentary on the Polloepanian war, a book on the first Punic war, to fill up the void of the lost books of Livy, a history of his own times from the schism of Urban VI., and Clement, in 1368, till the victory of Cassano by the Florentines, in 1446; and the 'Historia Florentina.' This last, Bruni's principal work, begins from the foundation of Florence, and is carried down to the year 1404. It was printed at Strasburg, fol. 1610, and was also translated into Italian by Donato Acciaiuoli. Vignon, Angiuglia, by the mob, and Bruni in the face to his own 'Storie Fiorentine,' says of his two predecessors, Bruni and Poggio, that they related diligently the wars and other external transactions of the republic, but were either silent or very brief in their accounts of the civil factions and other internal transactions, either through prudential reserve or because they looked upon those domestic contents as beneath the dignity of history. Bruni translated into Latin 'Plato's Epistoles,' and dedicated them to Cosimo de Medici; his dedicatory address is given in Rocce's 'Lorenzo,' vol. i. Appendix 3. He also translated the Second Part of Polidoro's 'History of Florence,' and the speeches of Demosthenes and Aeschines; and made numerous other translations from the Greek. He wrote, in Italian:

1. 'Vite di Dante e del Petrarcha,' Florence, 1672, which are not among the best biographies of these two illustrious men.
2. 'Storia d'India in India,' London, 1680, a very curious and remarkable book, and afterwards it turned into Italian, printed, for the first time, by Bodoni, Parma, 1804.
3. 'Novella di Messer Leonardo d'Arezzo,' inserted among the 'Novelle di Varg, Autori,' and published again separately at Verona, 1817.

It is founded on the story of Stratton, wife of Seleucus, and her step-son Antiochus. (Mazzuccelli, Scrittori d'Italia.)

BRUNI'ACE, a small natural order of exogens, belonging to the albuminous group, and, notwithstanding the different habit, nearly allied to the currant tribe (grossularia). The species are small heart-like shrubs with minute, closely imbricated leaves, and small flowers condensed in little compact heads. They have a superior 5-celled calyx, 5 petals, 5 perigynous stamens, and a discococcus or indehiscent 2 or 1-celled fruit, crowned by the persistent calyx. The seeds are solitary or in pairs, and have a short aril. All the species are from one from from Holland to Cape of Good Hope. They are of no known use. Bruniaceae differ from Grossulariaceae in their dry fruit and central placenta; from Escalloniaceae, in the very small number of their seeds; from Rhamnaceae, in their minute emargined and rounded petals; and from Ulmaceae and Araliaceae, in their flowers not being in umbels.

Brunings, Christian, was born in 1736 at Neckerau in the patinate. He early applied himself to the study of hydraulics, and ultimately became one of the best hydraulic engineers of the Ancien Régime. He was of Holland having appointed him in 1769 inspector-general of the rivers and canals, he effected many useful works, drained several tracts of land, repaired the dykes of the Haarlem Meer, deepened the bed of the Oosterwaer, and opened the end of the Delft canal, which communicates between the Waal and the Rhine. In the course of these operations he invented an instrument to measure the rapidity of streams, and to determine the same at any depth. He explained the principles and the use of this invention, which goes by the name of the Brüning's Strommesser, in a treatise which has been translated from the Dutch into German under the title of 'Abhandlung über die Geschwindigkeit des fließendes Wassers, und von der mitteln dieselben auf einen tiefen zu bestimmen.' 4to. Kéhre, 1782. It is a kind of cumber, with gilded letters, beaking, councillor of Hesse Darmstadt, in which the great services rendered by Bruning to Holland are enlarged upon. Bruning died in 1805. The government of the then Batavian republic proposed to erect a monument to his memory, but the French consequent political changes prevented its being carried into effect. Several scientific essays of Bruning's are inserted in the 'Memoirs of the Haerlem Sociëty of the Sciences.' There is another Christian Bruning, a native also of the patinate and a professor, who wrote a book on the 'Antiquities of Greece,' Frankfort, 1724, which was published again some years after with an appendix on the Roman Triumphs.

Brünn, a circle of the Austrian Margravate of Moravia, on the N.W. by Bohemia and on the S. by Moravia, on the N.E. by Austria, and on the W. by the Oder. It contains about 1,732 sq. m., it contains 13 towns (among which are Brünn, Mikulov or Nickoburg, Bockowitz, Wischau, and Austeritz), 56 m. t. and 649 vill., and a pop. of about 330,000 souls, which shows an increase of about 25,000 since the census of 1827. The N. districts are occupied by mountains, with some fertile valleys among them: the S. parts, which are more level and have a richer soil, produce large quantities of wine. The circle is watered by the Zwitava, Schwartzava, and Iglia, which fall into the Thaya, the latter the principal river of the, between the valleys of the Thaya near Landshut at the S. extremity of Brün. The inhabitants subsist principally by agriculture and wine-making, spinning, weaving linens and woollens, and making leather, potash, &c. The country produces grain, hops, flax, fruit, timber, iron, and alum, and other minerals. The breeding of cattle is also of some extent.

Brünn (in the native tongue Brno, a term which corre-
responsible to our English word 'fodst,' has been the capital of Moravia, since 1641, when the seat of government was transferred from Olmutz. It lies in the centre of the circle near the confluence of the Zwittova and Schwartzava, which run on each side of it; is situated in the middle of a fine open country; is set in a fine group of buildings; and commands some beautiful and extensive prospects. The town is surrounded by a deep ditch and high walls, and was formerly protected by a citadel which takes its name from the Spielberg, a hill 816 ft. in height, on the summit of which it is constructed; but since the partial demolition of its defences by the French, in 1809, it has been converted into a state-prison and a house of correction. East of the Spielberg is another eminence, the Franzensberg, about 600 ft. in height, along one side of which the residences of the rich citizens of Brinn have been erected. Independently of the Spielberg, the town is about 1¾ m. in circuit, and has four gates facing N. E., S., and W.; the streets are irregular, narrow, and crooked, but well paved, provided with flagstones for foot passengers, and well lighted at night. There are seven squares ornamented with fountains, the largest of which is the vegetable market; the houses, which are in general of regular construction, amount to about 2300, including the ten suburbs. Within the last twenty years the pop. has increased, and which was then about 5500, and 2700 military and 2700 individuals not natives of the town or environs. The finest square is the Large Square, which is of spacious dimensions, and embellished with a handsome column dedicated to the Virgin Mary, a corps-de-garde, and a statue; in reality, indeed, the residence of six parishes, and has as many parochial churches besides those in the suburbs. The cathedral stands on the Petersberg, a rocky height in the W. part of the town, and has no particular claim to architectural beauty. St. Jacob's is a fine example of the style of architecture of the fourteenth century: the roof, which is very lofty, is supported by two rows of columns, and is covered entirely with copper: the steeple, said to be the highest in Moravia, is 276 ft. in elevation; and the interior contains a handsome marble monument, in which are interred his remains, and the portrait, with the date 1686, of the victor over Brinn against the Swedes in 1644. The church of the Minorites, with the adjoining sacred staircase, and house of Loreto, is of peculiarly handsome construction; and the church of the Capuchins, celebrated for Sandriani's fine altar-piece, the raising of the Cross, as well as the Gothic church of the Augustine monastery, in the Albrunn suburb, with Krasch's Madonna, and a large library, are well deserving of notice. Among other public buildings are the Dicasterial House, which contains the governor's residence and audience-room, the police department, the town-hall with embellishments in the Gothic style; the theatre, and its assembly-room; the college of the Jesusites, at present used for soldiers' quarters, the northern front of which occupies one side of a whole street; the government buildings; and some of the commanding sites in the town; the handsome mansions of the Dietrichsine, Kaunitze, Liechtenstein, Zierotin, and others of the nobility; the military hospital, formerly a church belonging to the Premonstratensian order; and the Maria-schule, a school for females of noble birth. There are several delightful promenades in and near Brinn, the most attractive of which are the gardens on the Franzensberg, which are ornamented with an obelisk, 69 ft. high, erected in 1818 in honour of the late emper. Francis I. The obelisk is partly in the English and partly in the French style. Brinn is the seat of government for the Margraviat; and also of the high courts of judicature. It is the centre of episcopal jurisdiction, and the Protestant consistory is established there. The National Society for the encouragement of agriculture, natural history, &c., has the Franzens Museum, with its valuable collection under its care. The academical institutions consist of an Episcopalian seminary, a gymnasium, an academy for educating teachers, a school for the instruction of young women, an academy for young females attached to the Ursuline convent, and several schools for the lower classes. The principal benevolent institutions of the town are a general infirmary, founded by Joseph II. in 1785; a lying-in hospital and lunatic asylum; an orphan asylum; a society for the relief of the poor at their own houses; a refuge for the widows and orphans of teachers in Moravia and Silesia; asylum for decayed liver-servants, for the blind, and the deaf and dumb; and a national loan-bank. Independently of the house of correction on the Spielberg, there is another here for the province in general.

Brinn is the seat of some considerable manufactories, particularly of woollen goods and leather. The manufacturers of Hungarian and Viennese markets: of these there are seventeen establishments at work. The other fabrics chiefly consist of silks, ribbons, yawns, and machinery for the woollen manufactures, leather, cotton prints, woollen caps, and vinegar. No town in Moravia has so extensive a domestic trade, in which it is much favoured by its central position with respect to Prague, Breslau, Pesth, and Vienna. It has four wholesale markets in the year, which are each of 14 days' duration, and to which the manufacturers of Bohemia, Moravia, Silesia, Galicia, and Poland, send their goods in considerable numbers. The trade of Brinn in colonial and other foreign productions is also extensive.

The Spielberg is in 49° 11½' N. lat., and 16° 36' E. long.; and the town is about 70 m. due N. of Vienna.

Bruno, GIORDANO, was born at Nola in the king dom of Naples, about the middle of the sixteenth century. He entered the order of the Dominicans, but being of an inquisitive turn of mind, he began to express doubts on some of the dogmas of the Roman church, the consequence of which was the persecution to which he was exposed. Upon this he went to Geneva, where he spent two years, but soon incurring the disfavour of the Calvinists, on account of his general scepticism on religious matters, he removed to Paris, where he published, in 1583, a satirical comedy, 'II Candeletto,' and in 1589, a work entitled 'La Guerra della Ciumenta,' this comedy was afterwards imitated in the French anonymous play, 'Boniface et le Pédant,' Paris, 1633. Bruno gave lectures on philosophy, in which he openly attacked the doctrines of the Aristotelians, which had already been combated in the West by S. Augustine and A. Ragionieri, and had made himself many enemies among the professors of the Paris university, as well as among the clergy, he went to England in 1583, where he enjoyed the protection of Castelnaeu, the French ambassador, and gained the friendship of Sir Philip Sidney, and, having formed a project for the establishment of a university at Padua, he entered into a correspondence with Bruno against the Swedes in 1644. The church of the Minorites, with the adjoining sacred staircase, and house of Loreto, is of peculiarly handsome construction; and the church of the Capuchins, celebrated for Sandriani's fine altar-piece, the raising of the Cross, as well as the Gothic church of the Augustine monastery, in the Albrunn suburb, with Krasch's Madonna, and a large library, are well deserving of notice. Among other public buildings are the Dicasterial House, which contains the governor's residence and audience-room, the police department, the town-hall with embellishments in the Gothic style; the theatre, and its assembly-room; the college of the Jesuits, at present used for soldiers' quarters, the northern front of which occupies one side of a whole street; the government buildings; and some of the commanding sites in the town; the handsome mansions of the Dietrichsine, Kaunitze, Liechtenstein, Zierotin, and others of the nobility; the military hospital, formerly a church belonging to the Premonstratensian order; and the Maria-schule, a school for females of noble birth. There are several delightful promenades in and near Brinn, the most attractive of which are the gardens on the Franzensberg, which are ornamented with an obelisk, 69 ft. high, erected in 1818 in honour of the late emper. Francis I. The obelisk is partly in the English and partly in the French style. Brinn is the seat of government for the Margraviat; and also of the high courts of judicature. It is the centre of episcopal jurisdiction, and the Protestant consistory is established there. The National Society for the encouragement of agriculture, natural history, &c., has the Franzens Museum, with its valuable collection under its care. The academical institutions consist of an Episcopalian seminary, a gymnasium, an academy for educating teachers, a school for the instruction of young women, an academy for young females attached to the Ursuline convent, and several schools for the lower classes. The principal benevolent institutions of the town are a general infirmary, founded by Joseph II. in 1785; a lying-in hospital and lunatic asylum; an orphan asylum; a society for the relief of the poor at their own houses; a refuge for the widows and orphans of teachers in Moravia and Silesia; asylum for decayed liver-servants, for the blind, and the deaf and dumb; and a national loan-bank. Independently of the house of correction on the Spielberg, there is another here for the province in general.

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confirmed heretofore, and he was given up to the secular power. After being detained eight days in the city prisons, he was taken to the Campo di Fiore, and burnt alive on the 17th February. Scipio the Latinist, who seems to have been present at the execution, relates, in a letter to Rittershusius, that as the man was burnt, Scipio himself threw a stone on him, upon which Scipio exclaimed, 'Such is the manner in which we at Rome deal with impious men, and monsters of such a nature!'

Bruno’s works, some of which had been very rare, while others remain unedited, have been collected and published together by Dr. Wagner, with a life of the author: "Opera di Giordano Bruno Nolano ora per la prima volta raccolte e pubblicate," 2 vols. Svo. Leipzig, 1830.

BRUNO, S., born at Cologne in 1651, studied at Paris, and afterwards at the University of Louvain, and was directed to the school of Calvianism. From this, and a direct intercourse with the schoolmen of the religious establishment, he was driven, and decided to travel in different parts of Europe, and to pursue his studies independently. He visited Paris, then the seat of learning, by the advice of his father, and became involved in disputes with the Jesuits, who expelled him from the university. He then went to England, and to the universities of Cambridge and Oxford, where he continued his studies. In 1681, he published his "Tractatus de fide," which was translated into Latin and published in London the same year. The tract was republished in 1684, and again in 1689. Bruno was a man of great learning and erudition, and his works are of great value to the history of modern philosophy. He was a,.....
rises in the Harz, passes into the Hildesheim territory. The chief streams which discharge their waters into the Elbe or Harz are the Lippe and the Bode. The Bode is the principal riv. of Blankenburg.

Bruchow contains a great number (according to Venturini 600) of natural pieces of water. The Wippersteich, near Vorsfelde, is still the largest of them, although a considerable number of smaller ones has been added here from the recitation of the local mineral springs of some note at Helmstedt and near Steinfurt. The Harz, and sulphured waters near Bisperoe and Bessingen. The great moras which formerly extended from the Ocker to the Bode has been drained by the navigable can. which now under the name of the Weser flows a mean of recovering several hundred acres of land, which are at present converted into luxurious meadows and pastures.

The valleys between the mountain-ranges of the S. and W. parts of Brunswick are by no means so favorable to the growth of vegetation as the lands near the vicinity of the Weser and Leine. The eastern highlands are low-lying, and are cold and stony for agricultural purposes, are used for grazing and supplying timber; but the N. part of Brunswick, where the sand usually acquires its presence from the loss of loam or mould, yields good crops of most kinds of grain. The country is seldom parched by excessive heat and winter is usually limited to three months' duration in the northern districts; and even in the southern, the atmosphere is cold and exposed to storms only among the mountain-regions of the interior. In the harvest season the second or third week of July and ends in the middle of November; and in the southern it is not above fourteen days.

It has been estimated that thirty-three out of fifty-five parts of the entire surface of Brunswick have been made pleasant, and suitably drained. Of this area 45,520 acres are arable, 19,800 cultivated in fruits and vegetables, 48,520 used as meadows; that the woods and forests occupy 322,600, the meadows and commons 235,460, and the ponds and pools 2560. The yearly produce of corn, rye, wheat, rye, and malt for animal food is calculated at 1,500,000 meadow and 3,500,000 shecelf. Of and of this produce the winter wheat is a ready surplus for exportation. The quantity of beans and peas grown is about 175,000 shecelf of; of potatoes the quantity is considerable; of tobacco, between 6000 and 7000 cwt. of hemp, between 15,000 and 20,000 cwt. of rape-seed, sufficient to yield 600 tons of oil; and of flax, about 4200 tons. Much chichory is raised as a substitute for coffee in the neighbourhood of the capital, and the whole produce amounts to between 16,000 and 20,000 cwt. per annum.

Horses are but partially reared, and most of them are of an indifferent stock; and though some good has arisen from the ducal stud kept at Harzburg, the best continue to be imported from Mecklenburg, Lüneburg, and Holstein. In 1800 there were 1400 horses, in 1818, 1300; and in 1828, about 55,610. With respect to horned cattle, the breed on the richer soils is, from want of care, far inferior to that in the upland districts. The farmer of Wolfsbütte, for instance, will obtain but four pounds of butter from his cow where the farmer of the Harz will obtain seven. In many parts the breed has been improved by intermixture with Friesland and Swiss cattle; and the stocks have increased during the last twelve years from 86,400 to about 92,100. Great attention has been paid of late years to sheep; the number of which was 255,955 in 1812, and present to be little short of 306,650, while the yearly produce of wool now exceeds 5000 cwt. In 1812 the stock of swine was not more than 46,408, and they are not now estimated at more than 48,000. Of goats there is but a scanty supply, about 8000; and even of poultry, the quantity fed is inadequate to the wants of the country. The number of bee-hives is about 10,000, and they are kept almost exclusively in the sandy districts where hens occur. Game is becoming scarcer every day. Fresh-water fish, such as carp, pike, and eel, are not found.

Wood, which is one of the staple products of Brunswick, has been so seriously injured by neglect and waste, that all the woods and forests have been placed, since the year 1827, under the control of a public board. Their most extensive sites are at Helmstedt, Mansfeld, Lippe, and the Weser, where the felling and preparing of timber, and the working it into utensils and for other domestic purposes, employ a vast number of hands. The most common kinds of wood are beech, fir, pine, and oak. Of oaks there are 71,000 in the district of the Weser alone.

The mines of Brunswick are of two classes; one class comprising such as are worked in conjunction with the Hanoverian government, and the other independently of it. In the former are annually wrought out of the mines of the Ramelsberger, in the Upper Harz, has ever since the year 1788 been divided into seven shares, of which Hanover takes four and Brunswick three; and the shares accruing to the latter party, one year with another, according to the yield of the mine. The Ramelsberger is a mine of gold, copper, 52 of lead, and 70 of litharge, 115 of zinc, 955 cwt. of vitriol, 954 cwt. of sulphur, and 80 cwt. of potash; to which must be added 85 lasts (about 164 tons) of salt from the works at Julius-hall. These mines are under the direction of a joint stock company at Gutersloh, the proprietors being three of the copper, and lead, and three copper and sulphur works. The net yearly revenue, which Brunswick derives from this partnership, is not estimated at more than 2000l. sterling. The "Communion-Harz" also includes a high furnace and two other smaller mines, both in the Harz forest. The Independent mines lie on the Lower Harz, in the principality of Blankenburg, near Seesen, and the district of the Weser; their principal produce is iron. They give employment to 11 large works, which annually yield on an average about 20000 tons of iron, 865 of cast iron, 1600 of rod iron, 450 of flattened iron, &c.; 500 of raw and 1520 of cast steel, 45 and upwards of tin plates, and 420 cwt. of iron wire.

Brunswick produces marble (near Blankenburg), alabaster, limonite, and in some parts of the county, serpentine, stone, agate, jasper, chalcedony, garnets, porphyry, sandstone, freestone, coal (near Helmstedt), and in other places, where there are beds more than adequate to supply the whole duchy with fuel, and alum. There are four saltworks; namely those near Zahlberg (1300), Schöningen (1300), Saltzseihenbad (800), and Juliusithau (250); the last-mentioned forms part of the Communist Harz. Cobalt and ochre are obtained from the Ramelsberger.

The first census of the pop. of Brunswick, which was made in the year 1760, stated it to amount to 158,980 souls; in 1788, it had increased to 184,708; in 1793, to 191,713; and in 1795, to 209,527. But we are not enabled to speak of the present pop. of Brunswick, as we have no one have been made public since 1812 and 1830, when the number of inh. was 299,527 (101,598 males and 107,929 females) in the first-mentioned, and 245,783 in the last-mentioned year. Of families there were 11,459 in 1803. In 1815 there were 135,269; these in the present year may be said to amount to 250,000 souls, of whom about 150,000 belong to the 748 sq. m. forming the northern, and 100,000 to the 777 sq. m. forming the southern possessions of Brunswick. Out of the 28,000 houses, about 7200 are in towns. Independently of the town and village population, we must not omit the military and naval forces. The peasantry use the Low German, and the townspeople and persons of education the High German dialect. In 1830, a classification according to religious persuasions (Allgemeine-Verwaltung) was compiled, from which it appeared that the number of Lutherans was 45,241,745, and there were subject to the consistory at Wolfsbüttel, 6 general and 29 local superintendentships, and divided among 238 par. and 262 auxiliary flocks, in which were 398 churches and chapels. The Reformed Lutheran Church had at that time 165 followers and one place of worship; the Roman Catholic faith, 2386 followers and three churches (at Brunswick, Wolfsbüttel, and Helmstedt); and the Jews, five synagogues. There were some families of Herrntheaters then resident in the duchy. The value of all ecclesiastical property was estimated, in the year 1812, at 1,560,000 (332,920 dollars), and the incomes of benefices at 17,975 (130,000 dollars). Of these beneficiaries, the duke of Brunswick then held the patronage of 116, landowners of 44, magistrates of 10, prelates of 46, parishes of 10, and foreign nation one. The Duke of Brunswick has long been the endowments for the reception of unmarried females at Steyerburg, Wolfsbüttel, Brunswick, Helmstedt, and Goalar, which had been suppressed by the Westphalian government in 1812, were reinstated in their properties in 1814, and opened in 1816.

The government has at all times paid great attention to the intellectual improvement of the people, nor has Brunswick had reason to regret the closing of her national university at Helmstedt and her seminary for candidates in divinity at Riddagshausen, both of which were suppressed.
by the Westphalian government in 1812. In return for the
advantages which she now derives from the neighbouring
university of Göttingen, and the exemption of 40 of her
youth from payment of fees at that school, she contributes a 
small sum of money and an annual gift of books. At the head of
her own establishments for the purposes of education are the
Lyceum, formerly the Collegium Carolinum, in Bruns-
wick, conducted by 19 professors, and frequented by pupils
from the higher classes of society. There are also the an
ercological and scientific faculties, each presided over by
five professors and a demonstrator; the agricultural insti-
tute; an upper gymnasia, pro-gymnasia, and a real-
gymnasia (for youths designed for commercial and other
ordinary pursuits), the whole three constituting what is
called the Real-Institut, and conducted by a director and
35 teachers. All these establishments, as well as the cadet
academy for the gratuitous education of 12 pupils for
military service, are in Brunswick. There are gymnasia
also in Wolfenbüttel, Helmstedt, Blankenburg, and Hol-
zheim. For the poorer classes there are 3 schools of
industry, 32 civic schools, and 435 country or parochial
schools in the duchy. The Jews have likewise 2 schools
for youth of their persuasion. There is a museum, with
collections in natural history and numismatics, &c.; a
picture-gallery in Brunswick; and a public library at Wol-
fenbüttel, containing upwards of 200,000 volumes and
10,000 MSS., pamphlets, &c.; besides libraries and cabinets
in the capital and in other towns.

The constitution of Brunswick is a limited monarchy, the
federal districts and counties having no political existence.
A decree of the 12th of October, 1832, the sovereignty passes to the female, upon the failure of the male line, and the heir apparent comes of legal age on attaining his eighteenth year. The legislature is com-
pounded of the duke, an upper chamber consisting of 6 prelates
and the 78 holders of erasian estates, and a lower chamber composed of 6 prelates, 19 deputies from towns
(6 from Brunswick and 1 from every other town), and as
many representatives of the land-holders, who do not possess
the title of estates. No minister of state can be a representa-
tive of the province; and the upper committee of ministers
and the permanent committee of representatives acts as a legislative organ.
No law can be enacted without the consent of the chambers;
they have the right of proposing new laws to the duke, of
exposing defects or abuses in the existing institutions of the
country, and of impeaching the ministers, and even the
permanent committee itself, for violations of duty. In certain
cases, particularly of imminent danger to the state, they may
meet without being regularly called together. The legis-
lature must be assembled once at least every three years in the
country; and every point connected with the finances, and
indeed with the administration of national affairs, is
regularly presented to parliament by the duke, who presides at
the
lature. All Christian persuasions, if tolerated by the law,
joy equal protection and an equality of civil rights; and
they are all placed under the general superintendence of the
government. The property of the church, schools, and
charitable endowments cannot be diverted from its original
destination, nor can it be incorporated with the property of
the state.

There are three ministers of state appointed by the duke;
and there are four hereditary grand dignitaries—an earl
of the house of Calenberg, a bishop, a duke of Brunswick,
and a chamberlain. There are provincial boards in each circle
for its local government and police.

The revenue is derived, in the first place, from the ducal
demesnes, monopolies, &c., which yield a net income of
about 54,729L (839,000 dollars), out of which, by the sell-
ment made between the duke and the chambers in October,
1832, 32,590L (237,000 dollars) are applicable to the civil
list. The next source of revenue is the direct taxes, which
produce about 173,940L (1,265,000 dollars); and the last
and most important is the yield of the tobacco, 
(1,080,000 dollars). The net income of Brunswick from these
three sources averages, therefore, about 348,425L (2,534,000
dollars) in each triennial period, after deducting the civil
list expenditure; but to this there is yet to be added the
yield of the state's revenue from the excise, about
71,750L (525,000 dollars); and with this addition, the
net income for three years will be about 420,175L (3,054,000
dollars), or rather more than 140,000, per annum. In fact,
the estimate, as sanctioned by the chambers, for the expen-
siture of the duchy in the triennial period, 1834 to 1836,
amounted to 8,356,028 dollars; of which 5,075,576 dollars
were assigned to defraying the expenses of the military,
and about 63,870L (46,555 dollars) to the redemption of the national debt, which amounts to about
455,000l. (3,600,000 dollars). The disbursements on accoun-
t of the 'church and education' are paid out of the
domestic revenue. In addition to the annual stipends of
scholastic endowments, which produces a net yearly
sum of about 46,830L (346,600 dollars). Estimating the
pop. at 250,000, it would appear from these data, that each
individual contributes on the average a sum of about
174.4d. per annum, or 124.6d. per annum in the state every three
years, or about 12s. 6d. per annum.

The military establishment consists of the quota of men
which the duchy is bound to furnish to the tenth corps of
the army of the German confederation; namely, 1625 in-
fantry, 298 cavalry, and 172 artillery and pioneers; making
a total of 2096.

The mineral resources of Brunswick afford extensive em-
ployment for the labouring classes; but are also employed in
the spinning of yarn and weaving of linen. Yarn is spun
all over the duchy, and forms an important branch of
industry both in the country and in the towns; the
greater part is made into linen, and some is ex-
ported. The linen manufacture occupies employed above 2000
weavers, but it has greatly declined of late years. In
Brunswick and other towns quantities of stockings; and in the northern parts the pean-
sanity make their own with a species of cloth, half
of woolen and half of linen yarn, which is thence termed
'beiderwand,' or union cloth. Oil is almost wholly a pro-
duct of the duchy; bees and keeps 170 bee-houses, from
which about 300 tuns are obtained. Paper is manufactured
in 16 mills, to the extent of about 5000 bales; and with
the view of maintaining a regular supply, the exportation of
rags is prohibited. The number of gypsum works is 18, lime-
kilns 47, and tile and pottery manufactories 22. Earth-
brick houses and tile, and all tiles and faience are
made in Hanover. Heidelberg Castle contains a large china manufactory at Fürstenberg,
and glass and mirrors are made in the parts adjacent to the
Weser. The manufacture of woollens is small, and prin-
cipally carried on at Brunswick; ribbons are made in Bruns-
wick and Wolfenbüttel; soap is mostly manufactured at
Holzminden. The breweries, including the celebrated
'Mumm' brewery at Brunswick, have very much declined;
and the same remark applies to the once extensive tobacco
manufactures in Brunswick, Wolfenbüttel, and Holzminden.
The number of tobacco factories is 277, and it is worked by horses 6: besides these, Brunswick possesses 51
saw and other mills.

The duchy having no coast or navigable streams, its trade
with foreign parts is naturally cramped; the chief portion
of its commerce is still with the trading stations on the
Hanseatic League, and this arises from the transit of merchandise between the Hanse
towns and the interior of Germany. The chief articles of
home manufacture which are exported consist of yarn,
linen, grain, oil, chieco, madder, leather, timber, hops, and
branwne, the estimated value of which does not at present
exceed 150,000l. per annum. The importations are princi-
pally composed of colonial produce, raw materials, fish,
beaver, cheese, cattle, &c. (Venturini's 'Duchy of Bruns-
wick': Crono, Hassel, Stein, Meathus, &c.)

The inhabitants of this country are by some supposed to be descendants of the
Saxones or Cherusci, the former of whom were at an early
date settled on the lands which lie N. of the mouths of the
Rube and Weser, and the latter, in the time of their greatest
power, spread themselves over the whole of the Harz
mountains. Other writers, admitting this descent in part,
claim it also in favour of the Bructeri Majores, whose
easterly settlements lay close upon the banks of the Weser,
as well as of the Angrivari or Angri, who dwelt on both
banks of the river. At all events it seems to be well
ascertained that these tribes inhabited different parts of the
territory of Brunswick, and that the great northern
antagonist of the Romans, Arminius, was a Saxon,
whose native home was the banks of the Weser. In this
territory are the ruins of the city of Harsburg (Cebria Is. Tact.
Annal. II. 16), on which Arminius with his allies, who
had thrown off the yoke of Rome, met with a
signal overthrown from Drusus in the beginning of the first century. Monuments of the independent spirit of these warlike people are found at this day at the foot of the Ruhr, and even the chieftain who first founded the Weser both on the Brunswick and Hanoverian soil.

At a later date the Wends settled in these parts, and traces of their name still exist in Wenderell, Wendeburg, and Wendhausen, estates within the borders of the duchy. The Wends are mentioned by the ancient historians as being in the land of Germany, a branch of which is now seated on the British throne, derive their descent from Albert Azio I., margrave of Este in Italy, who died in 964. His great grandson, Albert Azio II. of Este, who held the sovereignty of Milan, Genoa, and other dominions in Lombardy, had for his first wife Kunigunda, daughter of Guelph II., who died in 1036, and was of the blood of the Altorfs, counts of Swabia. His son by this marriage, Guelph the First (more properly the Fourth), became possessed of the dukedom of Bavaria and founded the junior house of Guelph, to which the house of Brunswick traces its origin. This prince, who inherited the whole of the possessions of the Guelph family from his maternal uncle, died in 1101. Guelph II. (or V.), his eldest son, married in 1089 the celebrated Countess Matilda, but was divorced from her some years afterwards and married childless in 1112. His inheritance devolved to his brother, Henry the Black, whose union with the daughter and heiress of the last duke of Saxony brought him a considerable accession of territory in Lower Saxony. This prince was succeeded in 1125 by Henry the Proud (or Welfen), who, upon the death of his only daughter, the only daughter of Lotarius II., heiress of the vast possessions of the Billsings, added to the dukedoms of Bavaria and Austria, Brunswick, and the duchy of Saxony, by which acquisitions he became the most powerful sovereign in Germany. A Hohelstein and Mecklenburg was stripped by the ban of 1179 of Bavaria, Saxony, Austria, and other possessions in the S., and allowed to retain only his domains in Lower Saxony, consisting of Lüneburg, Calenberg, Göttingen, Grubenhagen, and the duchy of Brunswick-Wolfenbüttel. This was the death blow to the supremacy of the Guelphs. As Henry's eldest son was become, by marriage, count palatine, and his second son, Otho, had died on the imperial throne in 1218, William, a younger son, succeeded on the death of his elder brother in 1219, and by a praiseworthy act of generosity, the death of this prince, became the founder of the present dynasty, by virtue of his solemn investiture with the territory of Brunswick as a fief of the empire in 1235, on which occasion he was recognised as the first duke of Brunswick, Holstein, and Calenberg. William, who died in 1277, founded the elder branch of the Lüneburg house, which became extinct in the person of William of Lüneburg in 1369. In this way Magnus of the Chain, a great grandson of Albert, who died in 1373, united the possessions of each dynasty, which became the joint ancestors of the houses of Brunswick and Lüneburg. Of these two lines that of Brunswick, which in 1503 had split into the Calenberg and Wolfenbüttel branches, became extinct with Duke Frederic Ulrich in 1609. The other, which, by marrying into the House of Holstein, 1446, inheriting the principalities of Brunswick and Lüneburg as surviving representative of the intermediate line, was the founder of both branches of the existing dynasty; but the inheritance was again divided at his decease, by which partition Henry, his eldest son, established the line of Brunswick-Wolfenbüttel in 1569, and William, his younger son, established the line of Brunswick-Lüneburg. It was a descendant of the last-mentioned prince, Duke Ernest Augustus, who was raised to the dignity of ninth elector of the empire in 1592; and was succeeded in 1613 by his son Henry the Younger. Augustus ascended to the crown of Great Britain in 1714, by virtue of his descent on the female side from James I. Augustus, who acquired some celebrity as a writer under the designation of Gustavus Selenus, removed his residence from Hitzacker to Wolfenbüttel, where he founded the great library in that town. At his decease, in 1666, he left behind him three sons, the youngest of whom having had the sovereignty of Beornings assigned to him, founded the line of that name; his elder brothers became joint rulers of the remaining territories of Brunswick-Wolfenbüttel, and having in 1671 put an end to the personal union of the two,年内 taught the citizens to recognise them as their masters. Upon the death of the elder of the two brothers, Anthony Ulrich, who built the town of Salzdahlen, became sole ruler. On his death in 1714, he left two sons behind him, Ernest Augustus, who reigned in Calenberg, and George Augustus, who reigned in Wolfenbüttel, and Lewis Rudolphus, who made Blankenburg his capital, but afterwards removed to Wolfenbüttel, the decease of Augustus having re-united the disjointed principalities in 1731. As Lewis had no male heirs, Ferdinand Albert, of the line of Ernest I., succeeded in the dukedoms in 1735. Lewis Ernest, the third son of this prince, held the rank of field-marshal in the service of the Dutch states from 1759 to 1766, during which period he was captain-general of the United Provinces, and acting guardian of the hereditary stadtholder; the jealousy however of the patriotic faction exiled him to Bois-le-Duc, much to the prejudice of the welfare of Holland, and he died there in 1788. His next brother, Ferdinand, who entered the Prussian service, distinguished himself greatly in the Seven years' war, died the battle of Prague, and in 1757, at the head of the Prussian army in Westphalia, gained the victories of Corchfeld and Minden, and drove the French out of Westphalia, Lower Saxony, and Hesse-Cassel. The father of these two princes, Ferdinand Albert, after a reign of seven years, was succeeded by his son Charles, who transferred the seat of government to Brunswick in 1754, and there founded the celebrated ' Collegium Carolinum.' He was the steady and active ally of England during the Seven years' war, but at the expense of the peace and prosperity of his states as well as of his exchequer, which was embanked with a debt of nearly one million sterling in consequence of this alliance. He extinguished, however, one fourth of it before his decease, in 1760, when his son, Charles William Ferdinand, succeeded him. This prince, who had been educated as a soldier, at the head of the army, was brought up in the circumstances of a prince of the blood, and was by birth heir to the French crown, but as a prince of the blood, he was not a soldier, and was transferred to the command of the Prussian army in France. He had the good fortune to be present, in 1759, at the battle of Krefeld, during the Seven years' war, was instrumental in gaining the victory of Krefeld in 1758, and was acknowledged by Frederick the Great to be one of the first captains of his day. He married Auguste, princess of Wales, in 1764. At the close of the Seven years' war the domestic interests of his exhausted possessions afforded him a new sphere of action, in which, by the extinction of its debts and the wisdom of his general government, he showed himself as well fitted to govern a country as to command an army. Previous to 1745 the Spanish marriage was the object of a commission in the Prussian service as general of infantry; in this capacity, in 1787, he took the command of the Prussian forces, marched into Holland, and reinstated the Stadtholder in his dignity. In 1792 he was called upon to lead the Prussian army against the revolutionaries, and was sent to join the expedition against Pesth, which was no sooner completed than it was broken up, and the army was ordered to return to its old quarters. This was the signal which called forth the Younger Augustus to the charge of the business of the state, and so indifferently supported by his Austrian allies, that he determined to resign his command. He accordingly withdrew to Brunswick, and continued to employ himself with the cares of domestic government until Prussia called upon him to lead her troops into the battle of Austerlitz in the year 1806. The duke weighed down by years, unaccustomed with the improved science of modern warfare, and at the head of an inexperienced army physically inferior to the enemy, closed his distinguished career by the loss of battles at the Battle of Austerlitz, and was made a prisoner, broken-hearted and mortally wounded, to Ottsen near Hamburg, where he died on the 10th of November following. His duky fell a prey to Napoleon, and was incorporated with the new kingdom of Westphalia. His son William II. was married to Princess Maria Theresa of Saxony, and during the campaigns of 1792 and 1793, as well as in 1806, and had succeeded to the collateral inheritance of Brunswick- Celia in Prussian Silesia, remained an exile from his native
dominions until the Russian campaign shook Napoleon's power. The retreat of the French armies from the N. of Germany and the realisation that the possession of his Brunswick sovereignty in December of that year. But little time was afforded him to set it in order, for the renewal of hostilities with France in 1815 calling him into the field, he put himself at the head of his garrison, composed of French and Dutch prisoners, of allied forces in Belgium, and bravely fell in the conflict at Ligny on the 16th of June. From that day until his son Charles came of age, George IV. of England, (who had married Caroline of Brunswick, the sister of William Frederick), then prince-regent, advanced the arraignment of Brunswick as an appointed guardian. Charles, after a transient misrule of about five years, was forced in September, 1830, by an insurrection in the city of Brunswick, to seek safety by a precipitate flight from his capital; and under the resolution of the Confederation of the 2nd December following, he was succeeded by his brother, William prince of Oels, who assumed the government on the 20th April, 1831.

BRUNSWICK, the capital of the Duchy, which lies upon both banks of the Ocker, was known long before the times of Henry the Lion as a mere farm called Brunswick, belonging to the incumbency of St. Magnus. That prince, who was his real founder, divided the town into three quarters. It became the Hanseatic town until the middle of the 15th century, was accounted the chief town in Lower Saxony; but its prosperity declined with that of the Hanse towns. It is at present the residence of the Brunswick sovereigns and their seat of government. The fortifications were leveled in 1757 by the conqueror of the Seven Years war. Its area, which includes Richmond, the duchy's seat, Eisenbüttel, and the Münzberg, occupies about eight sq. m.; the town itself is divided into 6 districts, contains about 101 streets, 3400 houses, and 3600 inhabitants. Among the 10 churches are the cathedral, which are monuments to Henry the Lion and Matilda his consort, and the vault of the ducal family; and St. Andrew's, the steeple of which is 316 ft. high. The chief public buildings are the duke's palace (a new structure in course of completion), the old palace, consisting for the admiralty, navy-ultimate, the chair-tower, chancery, house of legislative assembly, mint, arsenal, ducal exchequer, opera-house, town-hall; trades-hall, old Altdorf town-hall, pack-house, Collegium Carolinum, and general and lying-in hospital. Between two of the gates (the Augustus and Steinhöre's) a handsome obelisk 60 ft. high, was erected in 1822 to the memory of the two dukes who fell in the campaigns of 1806 and 1815. The establishments for education consist of the college, founded in 1415; a gymnasium, and seminary; a college of agriculture, and a college of mechanics. The city of Brunswick is 157 59' N. lat., 10o 29' E. long.

BRUNSWICK, a town in Cumberland, N. Y., situated on the river Androscoggin at the falls, 26 m. N.N.E. of Portland, in 43o 59' N. lat., and 69o 52' W. long.

A canal established at this town, was incorporated in 1794; it derives its name from theHon. James Bowdoin, who endowed it with 6000 acres of land in Lincoln County, in the same state, and with some other property. By the legislature of Massachusetts this college was further endowed, with six townships of land, and an annual grant of 3000 dollars was made for its further support. This money payment was continued for a few years by the legislature of Maine after the separation of the state from Massachusetts. The college is built on a plain near the Androscoggin. It is under the legislative government of a board of 24 trustees, and the executive government of 58 overseers. The number of professors in 1834 was 10, and in 1835, 9, and there were 138 students. The college possesses a good philosophical and a chemical apparatus, a cabinet of minerals, and a library of about 8000 volumes, in addition to libraries belonging to the students containing 6000 volumes. A weekly paper called the Esquire was established by the students in 1826, and has since been regularly published. The town has the advantage of a considerable water-power, owing to the presence of several falls in the river. The town of Brunswick is employed in some mills and manufacturing establishments. The pop. of the town in 1820 was 2954, and at the census of 1830 was 3747.

BRUNSWICK, NEW. [New Brunswick.]

BRUNTISLAND. [Pars.]

BRUSSELS, called by the Flemings 'Brussel,' in Latin 'Bruxelles,' and by the French 'Bruxelles,' the capital of the kingdom of Belgium, in the prov. of S. Brabant, is in 50o 59' N. lat., and 4o 22' E. long.

Brussels is bounded on the north by a stream, a riv. which rises in the comm. of Naast, in Gheinault, and, flowing to the N.W., passes through Soignes and Steenkerque. Changing its course to the N.E., it enters S. Brabant, and flows past Hal to Brussels and Vilvorde, enters the prov. of Antwerp, and flows past Maastricht and Liége. The Senna enters the city of Brussels by two branches, one of which passes by the old market-place, and the other crosses the garden of the Chartreux. It forms four islands in the interior of the city, the two principal of which are called Sint-Servaas and Sint-Lambert. The width of the riv. where its different branches unite, at the fish-market, is about 30 ft., and its ordinary depth is 5 ft., which diminishes in summer, and increases considerably in winter. This riv. is not navigable in any part of its course. To remedy this inconvenience a large dike was thrown up in the river, and a channel was opened, through which the riv. was reduced to about 9 ft. of water. This riv. issues from Brussels, which is built on both sides of a canal, which issues from Brussels to the S. on the river Poite, in the prov. of Namur. Brussels is 100 ft. above the level of the riv. of Brussels, which difficulty has been overcome by means of 50 locks.

Another canal has lately been constructed between Brussels and Charleroi; the fall from the latter town to Brussels is 36 ft., and there are 15 locks. This canal commences at the Sambre, about 1100 yards above Charleroi. Near Hal it crosses the Sene by means of an aqueduct of three arches, and continues in a direct line towards Brussels, where, having repassed the Sene by another aqueduct of the same number of arches, it enters into the ancient fossé of the city; this can, was finished in 1830.

The greatest extent of Brussels from N.N.E. to S.S.W. is about one mile and a quarter, and its breadth about five-sixths of a mile. In form it is pear-shaped, the smallest part being to the N. The town is partly built on the side of a hill, which affords it a fine view of the country, and a scene of the utmost beauty. Brussels is full of charitable institutions, among which are a general establishment for the relief of the poor, 14 almshouses, 3 hospitals, a house of industry, and St. Leonard's, a spacious institution. The city of Brussels is in 50o 59' N. lat., and 69o 52' W. long.
Géry, so named after St. Géry, bishop of Cambrai, who built a chapel on the spot. It is said that the name of the city is derived from the bridge (called in the Flemish language brugh) which was thrown over the river. In the twelfth century the Bishopric of Cambrai included a castle in the island of St. Géry. The city was inclosed with walls in 1044 by Lambert Baldric, count of Louvain; but the walls were removed and the city enlarged in 1369. Two dreadful fires occurred in 1326 and 1405. It is said that on the second day of the fire 24,000 houses were destroyed. If these numbers are at all correct, the city must then have been of considerable size. The prosperity of Brussels was greatly increased in the twelfth century by the establishment of the manufactures of cloth and flax: that of fustian was introduced from Bruges and Ghent, and the latter from Normandy.

The first siege to which the city was exposed occurred in 1213, when it was taken by the English. In 1314, in consequence of incessant and long-continued rains, a contagious disorder carried off so many of the citizens that 60 were buried in the same grave. In 1370 the Jews were banished from the city and prov., and their property, amounting to more than 12,000,000 of florins, was confiscated.

Brussels was taken by surprise in 1488 by Philip of Cleves. On regaining possession, the emperor Maximilian, surnamed Philip the Handsome, in 1498, deprived the city of various privileges, which were bestowed upon Malines. In 1489 Brussels was visited by the plague, which prevailed to such a degree that the people died in the streets. By a similar visitation in 1578, more than 27,000 inhabitants fell a prey. The treatment of the city by the French general, duke of Alba, occasioned about 10,000 artisans to leave Brussels in 1567, many of whom settled in England.

In 1695 this city was bombarded by Marshal Villeroi, who demolished upwards of 4000 buildings, including the stadhuis and the Palace of the Dukes of Brabant. It was besieged by the elector of Bavaria, but was relieved by the army under the duke of Marlborough. In 1746 Brussels was taken by Marshal Saxe, who laid the inns under heavy contributions: it was restored to Austria at the peace of Aix-la-Chapelle. In the year 1794, the city was conquered by the French in the early part of the war of the French revolution. Brussels was declared by the directory to be the chief place in the dep. of the Dyle. On the 1st of February, 1814, the Prussian army took possession of this city just after the provisions of the treaty signed the same year, became one of the capitals of the newly-formed kingdom of the Netherlands. On the separation of Belgium from Holland at the revolution of 1830, the movements leading to which began in Brussels, this city became the capital of the independent kingdom and the new parlement of Belgium. Brussels contains about 300 streets and squares, besides numerous lanes and courts. Several of the streets are wide and airy; the houses are lofty and well built, and great care is taken to preserve their external cleanliness and neatness. The road leading to the city is the principal one, and the Place de la Grand-Place, situated in the centre of the city, is a regular parallelogram, surrounded on all sides by handsome buildings. The Hôtel de Ville and the halls of many trading companies occupy two of the sides. Other squares, the Place Royale, Place du Marché aux Pots, and the Place Saint-Michel, are remarkable for the regularity and beauty of their buildings. Among the ornaments of the town are the public fountains, 29 in number, erected in different parts, which supply the inh. with water. One of these fountains, that in the salon, contains a large group of statues of the twelve apostles, which, when finished, was erected in 1751, under the will of the earl of Aylesbury, "as an acknowledgment of the enjoyments he had experienced at Brussels during a residence of forty years."

Churches.—The city contains twelve churches, eleven of which are appropriated to Catholic worship and one to the reformed religion: there is also a synagoge. Among the Catholic churches is the cathedral church of St. Gudule, a Gothic building in the form of a cross, with two large square towers and a low, bold entrance building; it was begun in 1010; it contains a very remarkable pulpit, made of oak, and representing in bas relief the expulsion of Adam and Eve from Paradise. The tombs of several of the dukes of Brabant and numerous paintings are also in this church. The church of Notre Dame des Victoires was founded in 1134; it contains some fine statues by Du Quesnoy, and a marble altar designed by Rubens, besides several paintings by eminent masters. The church of Notre Dame des Victoires, built in 1288 by the first duke of Brabant to commemorate a victory obtained over the bishop of Cologne, is an ornamented Gothic building with painted windows, and contains many valuable paintings and statues. The Protestant church formerly belonged to the convent of the Augustines.

Public Buildings.—The Hôtel de Ville, one of the finest Gothic buildings in the Netherlands, was begun in 1401, but was not finished till 1442. The tower, which is stated by several authors to be 364 ft. high, is surmounted by a gilded colossal statue of St. Michael, 17 ft. high, which serves as a weathercock. The palace of the Fine Arts, situated in the Place Royale, was formerly the residence of the governors of Brabant; at present it contains a museum of paintings, statues, engravings, and drawings, from the Italian, French, and Flemish schools of art. The library, which contains nearly 100,000 volumes, besides numerous manuscripts, is open to the public five days in every week.

The king's palace in the Place Royale, near the park, was built in 1784, for the residence of the governor of the Austrian Netherlands. Opposite to this palace is the hall of the Chamber of Deputies, which was formerly the palace of Justice. The palace of the prince of Orange is a modern building, which was finished for the residence of the prince in 1787.

The most admired quarter of Brussels is called 'the Park.' About a century ago this was really what its name denotes, being then stocked with deer and other animals. The area, about 17 acres, now consists of three wide parallel avenues of trees, the middle one of which is kept well cut, in order that the walks may be always dry. In one of these avenues, which is opposite the king's palace and the hall of the Deputies, are several busts of Roman emperors, sculptured in blue stone; many of these were mutilated during the conflict that occurred in the park at the revolution in 1830. The city is lighted with gas.

In the year 1784 an order was given by the Emperor Joseph the Second, forbidding the burial of any persons within the city, and directing the formation of burial- places outside the walls. Several were accordingly established, one near the 'Hal' gate, another by the Flanders gate, and the third, which is the largest, by the Louvain gate. In addition to these, the English inh. of Brussels had established two cemeteries, one on the road leading to the vil. of Erpek, and the other in the vil. of Gent.

The manufacture of lace is carried on to a considerable extent; the quality is very superior, and large quantities were formerly used in England. Many other manufactures are also prosecuted, among which are hats, stockings, calico, mohair, fustians, hard-ware, and various chemical preparations used in the arts.

The pop. of the city was 84,004 in 1825, and 98,579 in 1850. The revolution which occurred in the latter year caused many mercantile men and persons attached to the old régime to remove to the country, and from Brussels to the Dutch provs., so that the pop. of the city was temporarily diminished. Other causes have since brought a considerable influx of inh., so that in 1835, when a census was taken, the numbers were found to be augmented to 102,703. It appears from the following figures that this augmentation has not proceeded from the natural increase of the people, but is rather to be ascribed to the attractions which in every country invariably draw considerable numbers from the country to the capital.

Deaths
1824 3,812
1825 3,763
1826 3,923
1827 3,801
1828 4,117
1829 3,948
1830 3,988
1831 4,022
1832 3,705
1833 4,117
1834 4,230

Marriages
1824 3,029
1825 3,146
1826 3,078
1827 3,029
1828 3,053
1829 4,028
1830 4,028
1831 3,348
1832 4,277
1833 3,863
1834 3,863

The ages of the persons who died in 1834 were as follows: 1116 under 1 year; 706 from 1 to 5 years; 183 from 5 to 10; 93 from 14 to 20; 283 from 20 to 30; 210 from 30 to 40; 243 from 40 to 50; 210 from 50 to 60; 292 from 60 to 70; 278 from 70 to 80; 156 from 80 to 90; 16 above 90 years; 1 age unknown; total, 3863. French is now the
has sufficiently proved in opposition to the assertion of Moreri, having early lost his father and elder brother by the cruelty of Tarquin, seized imbecility of intellect, in consequence of which, he was guilty of several imprudent and hazardous, through unknown lands, and seas yet more unknown, and Brutus, a name which Lucius Junius had received cut of contempt, accompanied the young princes, more as a buffoon to assist in their amusement, than as a companion to share the perils of their journey. On his entrance into the temple the offering which he made to the god was a bar of gold enclosed in a staff of cornel-wood hollowed for its reception, and intended to be emblematic of the votary's own situation. When the princes had finished their comment, he inquired in the gastronomic youth which they should reign at Rome hereafter. A voice from the adyton replied, 'That one of you shall obtain sovereignty at Rome who shall first kiss his mother.'

Titus and Aruns, in order to deprive their brother Sextus of participation in the chance-agreed to mutual secrecy and to the decision by lot of their own precedence. Brutus with more sagacity affixing a different interpretation to the response of the oracle, pretended to stumble, and kissed the earth, when he had fallen, as the common mother of all men.

After the atrocious violence offered by Sextus Tarquinius to Lucretia, Brutus was one of her kinsfolk whom the injured matron summoned to hear her complaint, and to witness her suicide. He plucked the reeking dagger from her breast, and threw aside the throwing aside the semblance of fatuity which he had hitherto assumed, he solemnly devoted himself to the pursuit and punishment of the whole race of Tarquin, and the abolition of the royal name and power at Rome. The populace was easily excited to insurrection. Brutus carefully avoided any personal interview with Tarquinius Superbus, who was detroned and exiled, and on the change of government which followed, himself and Tarquinius Collatinus, widower of Lucretia, were made the chief magistrates of the newly formed government. This institution was established in 1815, and is under the especial patronage of King Leopold.

The mean temperature of Brussels throughout the year 1833, as ascertained by observation at the Royal Observatorio, is 56.2° Fahr. The least cold occurred in January, when the centigrade thermometer stood at 24.73, equal to 76.9° Fahr.; the greatest cold occurred in January, when the centigrade thermometer stood at 3.23, or 26.9° Fahr. Observations on the atmospheric pressure during the same year show an establishment (on the 8th January) 775.29 millimetres, or 30.523 inches. The minimum pressure was observed in September, when the pressure in the barometer stood at 728.10 millimetres, or 28.556 inches. The mean pressure was 750.67 millimetres, or 29.554 inches. The number of days on which it rained was 150; there occurred 39 days of frost and 25 of frost and snow; it hailed on 5 days and snowed 11, and there were 7 thunder-storms during the year. Of these occurring in June and the same number in July. The present temperature was 58° Fahr. and the thermometer stood at 192 degrees, or one-half the year. From the E. N. and E. S., it blew 104 days; from the N. 30; from the S. 25; and from the N.W. 24 days.

Brussels is the seat of the supreme court of justice and of the council of appeal. The assizes for the prov. of S. Brabant are held in the city four times in each year. The city of the festival of the king, built in 1782, by the Archduke Albert. This palace stands in a fine situation, commanding view of Brussels and its environs. [BELGIUM, SOUTH BRABANT.]

(Gautier, Voyage dans les Pays Bas; Vander Maelen, Recueil des Documents Statistiques; Staten Uitgeven door de Commissie voor de Statistiek, 1839; Official Papers laid before the Legislature Chambers of Belgium, 1834.)

BRUTON. [SOMERSET.] BRUTUS, LUCIUS JUNIUS, son of Marcus Junius and of Tarquinia, sister of Tarquinius Superbus (as Bayeux was the seat of the supreme court of justice and of the council of appeal. The assizes for the prov. of S. Brabant are held in the city four times in each year. The city of the festival of the King, built in 1782, by the Archduke Albert. This palace stands in a fine situation, commanding view of Brussels and its environs. [BELGIUM, SOUTH BRABANT.]

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(Gautier, Voyage dans les Pays Bas; Vander Maelen, Recueil des Documents Statistiques; Staten Uitgeven door de Commissie voor de Statistiek, 1839; Official Papers laid before the Legislature Chambers of Belgium, 1834.)
Such is the story of Lucius Junius Brutus given by Livy (i. 56, Sec. ii. 1—6). A public funeral was decreed to him; the matrons of Rome, in honor of the champion and avenger of Lucretia, wore mourning for him during a year. He journeyed to Plutarch, a chosen statue with a sword in his hand to his mother, and placed together with those of the kings. (See Niebuhr's Roman History, Vol. i., 'Commentary on the Story of the last Tarquins.')

For this, the writer has drawn a tragedy on the history of Brutus, disguised by the plying love of Tullia, a daughter of Tarquinus, for Titus, the son of the consul; and an earlier dramatist on the same subject, Madile, Bernard, in a play under the same title, acted with great success in 1647, makes both the sons of Brutus in love with a daughter of one of the Albin, Brutus' own rank. It appears that on the death of Valerio, a daughter of the Consul Valerius, as enamoured with Titus, who does not acknowledge any mutual flame.

BRUTUS, DECIMUS JUNIUS, is believed to be the son of a father of the same name, who was consul A.D.C. 76.

On his adoption by Julius Postumius Albinus he took the name of the family into which he was received, so that he sometimes appears on medals as Albinus Brutus filius. Shakespeare has called him Decius, and both that poet and Voltaire in many particulars have conformed him with Marcus Porcius Cato. It is clear that Brutus is his name; but it is plain from the share which he took in the murder of the Dictator how deeply he enjoyed his confidence, and how extensive was the influence which he exercised.

On the ides of March, when all things were prepared for the assassination, it is only necessary to mention the intervention of Caesar that he should not attend the meeting of the senate, being deterred by some evil dreams which had visited both himself and his wife Calpurnia, and by indisposition. D. Brutus was employed to dissuade him from the resolution, and had some difficulty in overcoming the soothsayers, by showing Caesar that the senators assembled by his orders would think themselves insulted if they were dismissed on pretexts so frivolous, and above all by assuring him that it was intended on that day to nominate him consul. Caesar, it is said, was so touched with the speech that he might wear a crown except within the limits of Italy. (Plutarch, Cesar, ivx.)

The affection which the murdered Dictator bore to Decimus Brutus was exhibited in his will, in which he named that false friend among other persons to inherit his fortune in case of the failure of direct heirs. Caesar also had appointed him commander of his cavalry, consul for the succeeding year A.D.C. 711, and governor of Cisalpine Gaul, in which province Brutus attempted to maintain himself on the basis of the aristocratic principle. The Roman Senate, by which he hoped to support his authority were chiefly framed of gladiators, who gradually deserted; till Brutus, fearful of being left alone, after having been defeated at Mutina, endeavoured to make his way to the army in Greece. For some time he was hindered in the pursuit of his object, and attempted to pass through Aquileia to Illyricum. Although well acquainted with the language of the country which he traversed, he unfortunately fell into the hands of some banditti. Having inquired of his captors to which of the Gaulish petty princes Brutus belonged in which he had been taken, and having heard that it was ruled by Camillus, a chieftain whom he had formerly obliged, he was entreated to be led to his presence. Camillus received him with apparent goodwill, and sternly rebuked the robbers for having injured so great a man; but to Antonius, whom he had secretly corresponded at his capture, he employed far different language. Antonius, affecting compassion, refused to see the prisoner, and ordered Camillus to put him to death, and to send him his head. (Appian, De Bellis Cisalpinis, iii. ad fin.)

BRUTUS, MARCUS JUNIUS, son of Marcus Junius Brutus, by Servilia, sister of Cato of Utica, was born at Rome A.D.C. 656, B.C. 86. He was traditionally descended from Lucius Junius, the expeller of the Tarquins, a descent asserted by himself in a memorial commemorative of the actions of the repulsive, and also announced by Dionysius of Halicarnassus. A passage in the 1st Philippic of Cicero (c. 6) corroborates this opinion by stating that the expeller of kings, L. Brutus, has propagated his stock through 500 years, in order that a descendant might emblaze his virtues, by again freeing Rome from regal domination. But this allusion, which suited the purpose of Cicero, is only a rhetorical flourish. Plutarch, in the beginning of his life of M. J. Brutus, assumes his descent from the first Brutus, conformably to his practice in such cases, without troubling himself as to the credibility of the fact. He is sometimes stated, and Q. Cato Minor by both Cicero and Dion Cassius, and also on several of his coins, as Brutus, Procos, or Imp. occurs. He owed this name apparently to his adoption by his maternal uncle, Q. Servilius Caepio. On an unjust divorce from his first wife, Appia Claudia, he married Postumia, widow of Bibulus, and daughter of his maternal uncle Cato, under whose inspection he had been most carefully educated in philosophy and letters, after the loss of his father, who was put to death by Pompey in the war between Marius and Sylla. Plutarch says that he was not accompanied by all the Grecian systems of philosophy, but particularly attracted by the tenets of Socrates; and at least, he certainly adopted the Stoical tenets and discipline. When Cato, B.C. 59, was appointed under a law passed by the influence of Clodius to annex Cyprus to the Roman empire, Brutus accompanied his uncle, and during his residence in that island he appears to have been guilty of certain pecuniary extortions by no means consistent with integrity, but perhaps too much countenanced by the habits of the times.

When civil war broke out between Julius Caesar and Pompey, Brutus sacrificed his private resentment in a cause which he believed to be the better cause of the two, and appeared under the banners of the latter. After the defeat of Pompey at the battle of Pharsalia, Brutus was particularly distinguished by the clemency of the conqueror, who assigned to him lands, and pardoned him an injury to himself. However, he was distanced by the jealousy of his colleague, and Bartus, who had married his sister, and to Deiotaros, king of Galatia, for the latter of whom Brutus pleased in a set oration. Scandal attributed these acts of grace to a remembrance of his marriage with Julius Caesar. Brutus, however, to the life of Servilia; and a false report was circulated that Brutus was a son of the dictator. But the words which Suetonius has put into the mouth of Caesar when he perceived Brutus among his assassins, 'And are you among them, my son?' is rather, it is said, a personal allusion than as any acknowledgment of consanguinity. Brutus was only 15 years younger than Caesar himself.

When Caesar undertook his expedition into Africa against Cato, he committed to Brutus the government of Cisalpine Gaul, which was administered with the utmost prudence, and he afterwards preferred him to Cassius in a rivalry for the post of Praetor Urbanus. Notwithstanding these distinguished favours, Brutus was one of the principal assassins on the Ides of March. He retired to Athens, when Marcellus was defeated by Pyrrhus in the battle of Philippi, in Macedonia. The battle was fiercely contested, and Brutus, being mortally wounded, unwillingly to survive his defeat, fell upon his own sword, ascribing his death from Brutus, when he heard of the deed, that he was 'the last of the Romans.'

Brutus, in a second battle fought not long afterwards near the same spot, obtained a partial victory, but perceiving himself surrounded by a detachment of his enemy's soldiers, and in danger of being made prisoner, he despaired of ultimate success, and after more than one of the friends about him had declined the painful duty, he delivered the signal for the end of his life. And alluding to himself on its point, expired in the 44th year of his age.

Of his works, which were much praised by contemporaries, it is not certain that any have descended to us. His eulogy on Cato is certainly lost; some few letters in Greek, which are probably not genuine, have been printed in the collections of Alcius, Cujacius, and H. Stephen. He is said to have made a kind of an abstract or epitome of the history of Polybius, of the annals of C. Fannius, and of the history of L. Coelius Antipater. His Latin letters to Cicero have been preserved which in barbarous style, it is said, which he 'cannot read without astonishment.' His authenticity on the other hand is strongly supported by Conyers Middleton in answer to an attack by Tanstall. But Ruhnken expressed his opinion against them, and also F. A. Wolf.

When Brutus and Cassius were about to leave Asia for their Macedonian campaign, it is said that an apparition
admonished Brutus of his approaching fate. Brutus was of a spare habit, abstemious in diet and in sleep. One night, when he was overcome by watching, and was reading aloud in his study, from one o'clock till early morning, the whole army around him lay wrapped in sleep and silence, he thought he perceived something enter his tent and saw "a horrible and monstrous spectacle standing silently by his side. "What art thou," he said, "that dost thou the God of man, and art thy business with me?" The spectator answered, "I am thy evil genius, Brutus. Thou wilt see me at Philippi!" to which he calmly replied, "I will meet thee there. When the apparition was gone he called his servant, who, when he saw that his lord had no face, and spoke nor seen any vision. He communicated his adventure on the next morning to Cassius, who professed the philosophy of Epictetus, and argued on the principles of his sect against the existence of such beings as demons and spirits; or, admitting their existence, denied that it was possible for them to assume a human shape or voice, or have any power to affect us; in fine, he attributed the whole incident to sleeplessness and fatigue, which, as he justly remarked, suspend and pervert the regular functions of the mind. On this account, Brutus, that the spectacle again appeared and assumed its former figure, but vanished without speaking.


Plutarch also remarks that there is a diversity in the statements respecting the death of Portia; that Nicolas the philosopher and Valerius Maximus affirm, that being prevented from suicide by the constant vigilance of friends who surrounded her, she snatched some burning embers from the fire and held them in her mouth till she was suffocated; if however we admit the story of a leech, attributed to Brutus, this account must be a fabrication; for he laments in it the death of Portia during his own lifetime, describes her distemper, and praises her conjugal affection. (Plutarch, Brutus, cap. 53.)

Voting, wrote the tragedy, 'La Mort de César,' from which, contrary to the usage of the stage, he excluded all female characters. His plot is founded on an hypothesis which we have shown to be false, that Brutus was the son of Cæsar; and although the play abounds in fine lines, it does not appear to have been by any means successful. (Plutarch's Brutus; Apian, lib. 15, 16; Cicero's Letters and Orations; Dion Cassius.)

BRUYÈRE, JEAN LA. Notwithstanding the well-merited popularity of La Bruyère's works, scarcely anything is known of his private life. No greater eulogium, perhaps, can be passed upon philosophy than that he who had so acutely observed the inconsistencies, foibles, and passions of mankind, should have left few or no traces of them in himself. La Bruyère was born in 1645, near Bourbon, in Normandy. After filling the office of treasurer of France at Caen he removed to Paris. He was appointed teacher of history to the Duke de Bourgogne, under the direction of Bossuet, and passed the remainder of his life in the service of his pupil, in the quality of homme de lettres. In 1687 he was admitted into the French Academy on the 15th June, 1693, and died of apoplexy at Versailles on the 10th of May, 1696.

He is represented by the Abbé d'Olivet as a philosophe, whose happiness consisted in passing a life of tranquillity, surrounded by his friends and his books, in the choice of both of which he showed considerable judgment. He was polished in his manners, but reserved in his conversation, and free from pretension of every kind.

Of all La Bruyère's friends, Bossuet, to whom he had attached himself from a sense of gratitude, sympathized with him the least in character. Several anecdotes connected with those times give a faithful picture of their walks in the delightful gardens of Versailles, and represent with striking effect the imperious and acute La Bruyère, and pictures of his conversation and deportment of his companions. It was, no doubt, gratitude to his friend that betrayed him into the weakness of using his pen in favour of the Bishop of Meaux against Fénélon in the absurd affair of Quietism. Upon this theological controversy, they appear to have been more intimately acquainted than we should suppose familiar to a man like La Bruyère, he left some dialogues; and if we cannot wholly excuse him for having written them, we must admit that he showed his good sense by not publishing them. Among the somewhat large sacrifices which he thought it essential to make to the prevailing opinions of the day, his work frequently gives indications of a bolder manner of thinking—the precursor of the philosophy of the succeeding century. It even appears to have been his wish to let posterity into the secret of his prudent dissimulation, for he states his character, in a passage just quoted, as having been born a Christian and a Frenchman. Great topics are interdicted him. He enters upon them now and then, but soon turns aside to minor subjects, to which he imparts an interest and an importance by his genius and his style.

Since it was this twofold relation of subject of Louis XIV. and of Christian (he ought rather to have said Papist) that imposed upon La Bruyère the trammels of which he complains, it may be inferred, that notwithstanding his cold eulogies of the absolute monarch and his gloomy theology, he was not to be described as an apologist for the abuses of Popery which so strongly characterized the age of Louis XIV. The persecutions which rewarded the generous and liberal principles advocated, in his Télémaque, by the amiable Archbishop of Cambrai, whose domains had been completely even as those suffered by Malère, the inimitable delineator of the 'Tartuffe,' turned La Bruyère aside to less dangerous subjects, to the details of social, and the follies of private life. Malignity, however, assail him, even within the narrow limits of his book, but it is confined only to himself, of criticism on the morals and the habits of his time. In comparison with his 'Characters,' he showed the book to M. de Malèrè, who said 'this will procure you many readers and many enemies,' a prediction which was fully accomplished, for while the book was received with avidity the moment it appeared, intentions were attributed to the author of which he was certainly innocent. The originals of La Bruyère's portraits were discovered, as it was impudently pretended, and their names were published in a key to the Characters, which thus formed a kind of scandalous commentary, in which the persons denounced could not complain that they were calumniated, though they were held up to public ridicule.

La Bruyère is, perhaps, the only French moralist familiarly read in his own country. His observation, though rarely profound, is always judicious, natural, and nicely phrased. It is true, if his views of human nature are often too extreme, he ample compensates for the deficiency by the closeness of his inspection. He places the most trye and common characters in a new and unexpected light, which strikes the imagination, and keeps attention alive. Perhaps he too often affects strong contrasts and violent antitheses, and in wishing to avoid sameness he falls into the error of attempting too much variety, in which he loses his individuality. His style is characterised by strong powers of delineation, and the talent of a great painter must undoubtedly be conduced to this end, and he was not altogether free from the charge of occasional affectation.

If it be true, as has been remarked, that Theophrastus,* whose work was studied and translated by our author, may be said to have formed La Bruyère, it must be admitted that this is the highest praise that can be given to a modern author. But to compare, as some have done, the characters of the Greek with those of the French philosopher, is the height of absurdity: nothing is more false than this manner of drawing parallels.

It is impossible to judge rightly or even to understand the Characters of Theophrastus, without possessing accurate notions of the political, moral, and social condition of the

* Sequel de la Bruyère's pamphlet Dialogues upon 'Quietism,' continued and published by Louis Ediss Dupin, Paris, 1699, 10me.

† Histoire de l'Académie françoise published in France the first translation of the "Characters" of La Bruyére; (1615) and 1627, and in 1689, 1689; it has been forgotten since the appearance of that by La Bruyère in 1689. There are three other French translations of Theophrastus, by P. C. Le Royer, 1780; another by Mehill De Balz, 1790; another by Cover, 1799.
people whose features they represent. Voltaire showed his
kind of knowledge when he said that Aristophanes
was neither a poet nor a humorist. Shakespeare and Mo-
lière necessarily require commentators (at least, to be
thoroughly elucidated). But if we consider the obser-
vation of Louis of France, whom our forefathers shall undertake to criticise them, they must first
study the reigns of Elizabeth and of Louis, in order to avoid
erush decisions and ill-founded judgments. If we compare
for a moment only the political and social position of the
Autocrat of Morocco and the King of France, whose
pride and ostentation men of all ranks in France obse-
quiously bowed; if we identify and familiarize ourselves
with the respective circumstances under whose influence
the two authors wrote,—we shall no longer entertain
the idea of comparing Thomas of Le Blanc with La Bruyère: the same
resemblance between them consists in the minuteness and
accuracy of their observation, and in the justness and spirit of
the strokes by which each has delineated his characters.

La Bruyère's work, stamped as it is with the impress of a
sound judgment and a good-natured satire, is one of those
friends whom we always consult with pleasure and advan-
tage. It anticipates our knowledge of the world and per-
fects it; and although the manners and characters therein
delineated may undergo changes and modifications, its in-
terest will be always the same, because, like all great works
which take nature as their basis, it will always be true.

BRUYN, BRUIN, BRUN, or LE BRUN, CORNE-
LIUS, for his name is printed in different books in all
these ways, was a painter and traveller of some eminence.
He left his native country in 1668, in order to see in his
native country to explore by rather a novel route Russia,
Persia, the Levant, and the East Indies, and he did not
return home for many years. His first work, Voyage to
the Levant,' was published in 1671. It relates to his travels
in Russia, Persia, Turkey, Cyprus, Scio, and Asia Minor, and is embellished with
more than two hundred engravings, representing eastern
cities, ruins, natural productions, costumes, &c. All
these plates were executed from drawings made by himself on the
spots, and attest his good taste, his natural bent for truth
and nature in them. His second work, Travels
through Muscovy, in Persia, and the East Indies,' was
published at Amsterdam by the brothers Wetstein in 1718;
it contains upwards of 300 engravings, and is also in folio.
Many of these plates, representing eastern ceremonies,
antiquities, animals, birds, fish, plants, and fruit, are
admirably executed. Several of the engravings are devoted
to the ruins of Persepolis. On the whole these are two
splendid books. Another edition of the second work was brought out at Amsterdam, 1719, 4to. In 1728, this
work was reprinted in London, 8vo, and is valuable on account of corrections and notes made to the
text by the Abbé Banier, but with this French edition we are
unacquainted. In this second work the reader may
find much information concerning the coasts of Arabia, the
islands of the Red Sea, as well as to restorations. At Batavia, where there were many Chinese colonists, he
carefully investigated some of the manners and customs of
that extraordinary people. He was residing on that island
when the English buccaneer William Dampier, or, as he
calls him, the famous Captain Dampier, arrived there from
Ternate, after a most extraordinary voyage and series of
adventures. [DAMPIER.] The value of Bruyn's second work
is further increased by an account of the route taken by M.
Isbarnus, the ambassador of Muscovy, through Russia and
Towards India.

In 1714, the year in which he published his first
work, Bruyn put forth in Holland a very small disputative
treatise, entitled Remarks on the engravings of old Per-
sepolis, formerly given by Messieurs Chardin and Kempt-
er, and the mistakes and errors in them clearly pointed
out. In this pamphlet he defends himself for the dif-
ferences between the plates of his own work and those of
Chardin, and shows in what portions of the engravings his
own are the more correct. His Remarks are in Dutch,
his travels in French; but the 'Remarks' were afterwards translated into French, and published in an appendix to
his second great work in 1718.

The compilers of cyclopedias and biographical dictionaries
have gone on repeating one after the other, and evidently
without looking into the old traveller's books, that, though
curious and instructive, Bruyn is inelegant in his style, and
not always exact in his facts. Now in reality his style,
though exceedingly simple, and somewhat deficient in
warmth and picturesque beauty, is very far from being
inexact, and his elegance, a quality he had in common
with so many old travellers of his nation, is everywhere
admirable. For the fidelity of his descriptions of most of
the places he visited, as well as his own personal observation. He was not cedulous himself,
and he several times censures the credulity of explorers
who had preceded him.

BRYAÇE, N. a name sometimes given to the natural
order Musci.

BRYANT, JACOB, was born at Plymouth in 1715;
his father, who held a post in the custom-house of that town,
was transferred in the seventh year of his son's age to Kent,
in which county Jacob Bryant received the first part of his
education at Luddesdown near Rochester, whence he was
afterwards removed to Eton. Having been elected to King's
College, Cambridge, of which society he became fellow, he
graduated A.B. in 1740, and A.M. in 1744. Being early
distinguished for his attainments and love of letters, he was
appointed tutor to Sir Thomas Stapylton, and after a stay
at the Marquis of Blandford's and his brother Lord Charles
Spencer, at that time at Eton. A complaint in the eyes
obliged him for a short time to relinquish this occupation,
but having returned to it, he was rewarded in 1756 by the
appointment of secretary to the Duke of Marlborough, whom,
continuing his patronage when nominated Master-General
of the Ordnance, took him as a secretary and travelling
companion during his command in Germany, and gave him
a lucrative situation in his own public office. His circum-
cumstances at this time are described by him with
forthrightness and wit, in his letters to literati, and twice refused an office which has frequently been
much coveted by others—the Mastership of the Char-
terhouse.

The history of his life is embodied in that of his publica-
tions, all of which are distinguished by learning, recentness
and acuteness, but are more or less disfigured by fanciful
conjectures and wild speculations. His first work was
Observations and Inquiries relating to various Parts of
Antient History, Cambridge, 4to, 1767. In contradiction
of the belief of Bentley, he conceives Thucydides' history
to be a very imperfect, most difficult, and false
thing, contends that the wind Euroclydon, mentioned in
Acts xxvii. 14, ought properly to be termed Euroquilo;
and in opposition to the same writers, together with Clu-
verius and Beza, he affirms that the island Melite, men-
tioned in the last chapter of the same book, is not Malta.
The remaining subjects treated of in this volume are
very obscure and very remote from common inquiry. He
pro-
posed to throw light upon the earliest state of Egypt;
upon the Shepherd Kings; and upon the history of the
Aegyptiaca. He published, in 1773, a small volume in 4to,
and was followed by a third volume in 1776.
Bryant

Besid-

the nations whose history he had formerly investigated,
he now turned to the Canaanites, Hellenians, Ionians,
Lolgos, Dorians, Pelasgi, Scythia, Indoeucausc, Ethio-
pia, and Phenicians; pressing his service every scattered
fragment which his extensive reading enabled him to col-
clect, and supporting his arguments by numerous forced
and oftentimes false etymologies. One of his hypotheses
was
that as all mankind sprang from the same stock, all existing
nations bear a resemblance to one another. To bring this
to the simplest radical terms was therefore, as he contended,
the only sure means of discovering truth. He believed also that the
heathen mythology was framed entirely upon perversions of the
patricianal history as recorded in the Old Testament;
and, as has been well said, he saw the Ark in every thing.
This publication involved him in much controversy, which
he undertook in part anonymously, and in part, particularly
in defence of the Apamean medals, in the Gentleman's
Magazine. The Apamean medals were struck in honour
of Alexander Severus, in A.D. 238. At the last day his
decrees on the gods, a raven, a dice, and the olive-
branch, and the legend NOE. This treatise was
published separately in 1775, in 4to.; and Eckel, the
most learned numismatist of his time, declared in its favour.
In 1780 Bryant published, with his name, a tract
which he had before printed and recollected, entitled
Vindiciae

Flavianae,' advocating the disputed testimony of Josephus
our Saviour. Priestley expressed himself as convinced
by
the arguments in favour of the passages; but he afterwards engaged in controversy with Bryant on the difficult subject of Necessity. Bryant was a firm believer in the authenticity of the poems attributed to Rowley, and in 1781 he published two orations, "An Eulogy on the Genius and Virtues of Theocritus," and "A Defence of the Poet," against the charge of plagiarism by Theocritus. In 1783 the Duke of Marlborough printed for private distribution an account of the gems in his own collection, the 1st vol. of which was written in Latin by Bryant. In 1792 appeared a treatise 'On the Authenticity of the Scriptures, and the Truth of the Christian Religion,' svo, executed at the request of the dowager Lady Pembroke; and two years afterwards, in svo, some 'Observations on the Plagues inflicted on the Egyptians.' But the work which engaged him in most dispute, and was more distinguished by his love of research than any other which he produced, was suggested by M. Le Chevalier's description of the plain of Troy. It appeared in 1796, 4to., and was entitled 'A Dissertation concerning the War of Troy and the expedition described by Homer, with the view of showing that no such expedition was ever undertaken, and that no such city in Phrygia ever existed.' It was scurrilously answered by Wakefield, and it provoked far more honourable replies from Mr. Morriss and Dr. Vincent. In the following year appeared a tract in svo, entitled 'The Sentiments of Philo-Judaus concerning the Greek APOSTLE.' Besides these, Bryant also wrote 'Observations on famous controversial Passages in Justin Martyr and Josephus,' and a pamphlet addressed to Mr. Melmoth. He closed his literary life by preparing for the press some remarks on very curious Scriptural subj. His last work comprised thirty pages, Zingaria or Gipsy language; and numerous juvenile or fugitive pieces were found among his papers in MS. The titles of some of them will sufficiently show that his pen was not always devoted to subjects of a grave nature. We need only mention a 'Dissertation on Pork,' and an 'Apologia of a Cat.'

His exemplary and protracted life was closed at his own residence at Cyepnham, near Windsor, on the 14th of November, 1804, in consequence of a hurt which he received in the leg by a chair slipping from under him while taking down a book from an upper shelf. Such a death, as has been well remarked by a French biographer, was for a literary man to expire on the field of honour. His merits are very justly eulogized in a note on the second 'Dialogue of the Schoolmasters.'

BRYNNATHON, or BRYNNATHON, is a plant formerly much employed in rural pharmacy, but now disused. It is a perennial with large fusi- form succulent roots, which have a repulsive nauseous odour. From the axil of the leaves springs a hairy branching stem, which climbs among bushes by means of its tendrils, in the manner of a cress, to which it is botanically allied, both belonging to the natural order Cucurbitaceae. The leaves are palmate, and rough on both sides with ciliate points. The flowers are small and whitish, with pale green veins, and are succeeded by little red berries, containing a very few seeds. Its principal use was on the French coast of Picardy, the historic "brin de Broyne" under the name of the French call, from that circumstance, Nœud du Diable, or Devil's Turnip. It is excessively bitter, and when dried purges in doses of 30 or 40 grains. Over doses are extremely dangerous, and even sometimes fatal. Its properties are apparently owing to the presence of a principle called bryonine, analogous to cathartine, which exists in about the proportion of 2 per cent. of the root.

Bryony-root should be gathered in the autumn, after the stem has turned yellow; it is cut into slices, which are strung upon a thread, and hung up to dry on northern coast, called bryonine, analogous to cathartine, which exists in about the proportion of 2 per cent. of the root.

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Food. Young roes and fawns, hares, moles, rats, mice, winged game, frogs, lizards, and beetles.

Nest. In the hollows of rocks, in old castles and other ruins; where the female lays two or three, but rarely four, round white eggs. Latham says two, 'the size of those of a hen.'

M. Cronstedt, who resided on a farm in Suedermeania, near a mountain, had an opportunity of witnessing the devotion of these birds to their young, and their care in supplying them with food, even under extraordinary circumstances. Two eagle owls had built their nest on the mountain; and a young one, which had wandered away, was taken by the servants and confined in a hen-coop. The next morning there was a dead partridge lying close to the door of the coop. Food was brought to the same place for fourteen successive nights: this generally consisted of young partridges newly killed, but sometimes a little tainted. Once a moorowl was brought still warm under the wings, and at another time a piece of lamb in a potrid state. M. Cronstedt sat up with his servant many nights in order to observe the deposit of the supply, if possible, but in vain. It was evident however to M. Cronstedt that the parents were the caretakers, and on the look-out; for, on the very night when M. Cronstedt and his servant ceased to watch, the usual food was left near the coop. The supply continued from the time when the young owl was taken—in July—to the usual time in the month of August when these birds leave their young to their own exertions.

Below gives an account of the use which falcons made of this bird to entrapp the kite. They tied the tail of a fox to the eagle owl, and let him fly. This spectacle soon excited the attention of the kite, if he were near, and he continued to fly near the owl, not endeavouring to hurt him, but apparently intent on observing his odd figure. While so employed the falconer surprised and took the kite.

There are specimens in the gardens of the Zoological Society in the Regent's Park. In the museum of the Royal College of Surgeons there is a preparation (No. 1749) of the vitreous and crystalline humours of the eye of this species, showing that the vitreous humour has a distinct capsule, part of which is reflected from its outer surface; and another (No. 1755) showing the remarkable prolongation of the anterior segment of the eye, which assumes in consequence a tubular form. The horny plates of the sclerotic are co-extensive with this segment to maintain its peculiar shape, and to afford a firm basis for the support of a very large and prominent cornea. No. 1798 shows the eye-ball meditating membrane and their muscles, with the external eye-lids and Harderian gland.

AMERICAN SPECIES.

Bubo Virginianus. The Virginian Horned Owl. Strix Virginiana of Vieillot; Due de Vieillot of Buffon; Neotony-omissive of the Cree Indians, according to Mr. Hutton; Oscewakcho of the Cree, the plains of the Saskatchewan, according to Dr. Richardson.

Pennant (Arctic Zoology) says that this seems to be a variety of the eagle owl, although he notices the inferiority in size: but it is a distinctly specified species; the name is now obsolete, as Dr. Richardson observes, that this night-bird, peculiar to America, inhabits that continent from end to end. Cuvier gives his opinion that the Strix Megallanica of the Planchee Enluminées differs merely in having browner tints of colour; and Dr. Richardson mentions the result of Mr. Swainsen's comparison of the North American specimens with those of the Table Land of Mexico, as confirmatory of the identity of the species; the only difference being a more general rufous and vivid tint of plumage in the Mexican specimens. Almost every part of the United States possesses this bird, and Dr. Richardson, in all the fur countries where the timber is of large size.

We have seen how the civilized Romans regarded the European bird; and it is curious to observe how, in a comparatively savage state, the same superstitious feelings were connected with the American species. 'The savages,' says Pennant, quoting "Colden's Six Indian Nations," 'have their birds of ill omen as well as the Romans. They have a most superstition terror of the owl, which they carry so far as to be highly displeased at any one who minces his bootings.' Lawson, evidently speaking of these birds, says 'They make a fearful halloing in the night-time, like a man, whereby they often make strangers lose their way in the woods.' Wilson thus describes the haunts and habits of the Virginian horned owl.—His favorite residence is in the dark solitudes of deep swamps, covered with a growth of gigantic timber; and here, as soon as the evening draws on, and mankinde retire to rest, he sends forth such sounds as seem scarcely to belong to this world... Along the mountain shores of the Ohio, and amidst the dense forests of Indiana, alone, and reposing in the woods, this ghostly watchman has frequently warned me of the approach of morning, and amused me with his singular exclamations. Sometimes sweeping down and around my fire, uttering a loud and swelling Waugh O! Waugh O! sufficient to alarm a whole garrison. He has other nocturnal solos, one of which very strikingly resembles the half-suppressed screams of a person suffocating or throttled.' Wilson treats this visitation like a philosopher; but, after reading his description and that of Nuttall (Ornithology of the United States), we shall cease to wonder at the well-told tale in 'Fauna Borasili-Americana' of the winter night of agony endured by a party of Scottish Highlanders who, according to Dr. Richardson, 'made their bowse in the recesses of a North American forest, and inadvertently fed their fire with a part of an Indian tomb which had been placed in the secluded spot. The startling notes of the Virginian horned owl broke upon their ear, and they at once concluded that so unharrow a noise must be the mourning of the spirit of the departed, whose reposes they supposed had disturbed.'

The following is Dr. Richardson's description of the plumage of a specimen, twenty-six inches in length from the tip of the bill to the end of the tail, killed at Fort Chesterman—

Bill and claws pale bluish black. Iris bright yellow. Facial circle of a deep black immediately round the orbit, composed of white mixed with black bristly feathers at the base of the head, and posteriorly of yellowish brown wing feathers, tipped with black, and having black shafts. The black tips form a conspicuous border to the facial circle posteriorly; but the small feathers behind the auditory opening differ little in colour and appearance from the adjoining plumage of the neck. Eregts composed of ten or twelve dark brown feathers, spotted at the base of their outer webs, and along their whole inner ones, with yellowish brown. Forehead and crown dark blackish-brown, finely
mottled with greyish white, and partially exhibiting the yellowish-brown base of the plumage. The whole dorsal plumage is yellowish-brown for more than half the length of each feather from its base, and dark liver-brown upwards, finely barred and indented with undulated white lines. More of the yellowish-brown is visible on the neck and between the shoulders than elsewhere. The primaries present six or seven bars of dark amber or liver-brown, alternating with six bars, which on the outer webs are brownish-white, finely speckled with dark-brown, and, on the inner webs, are of a bright buff-colour, sparingly speckled with the dark-brown near the shafts. The tips of the feathers have the same mottled appearance with the paler bars of the outer webs. The secondaries and tail feathers are similarly marked to the primaries, but show more white on their outer webs. There are six liver-brown bars on the tail, the last of which is nearly an inch from its end.

Under surface. Chin white, succeeded by a belt, extending from ear to ear, of liver-brown feathers, having pale yellowish-brown margins. Behind the belt there is a gorget-shaped mark of pure white. The rest of the lower surface of the body is crossed by very regular transverse bars of white, alternating with bars of equal breadth (three lines) of liver-brown, shaded with chocolate-brown. The yellowish-brown base of the plumage is likewise partially visible: there is a white mesial line on the breast, and when the long feathers covering the abdomen are turned aside, a good deal of white appears about the vent. The outside thigh feathers are yellowish-brown, with distant cross bars of liver-brown; and the legs and feet are brownish-white with brown spots. The linings of the wings are white, with bars of liver-brown, margined by yellow-brown. The insides of the primaries are bright buff, crossed by broad bars of clove-brown. On the under surface of the secondaries the clove-brown bars are much narrower. The under tail coverts are whitish, with distant bars of liver-brown. The under surface of the tail has a slight tinge of buff-colour, and is crossed by mottled bars of clove-brown.

of the base of the plumage was also less bright, and the facial circle was of a more sombre hue. Its bill, also, was more compressed.

The bird prefers, according to Dr. Richardson, on the American continent, the open woods of Hudson's Bay squirrel, mace, wood-grouse, etc., and builds its nest of sticks on the top of a lofty tree, hatching in March. The young, two or three in number, are generally fully fledged in June. The eggs are white.

Wilson observes that it has been known to perch on a man's arm, or to carry off chickens from roost. 'A very large one,' says that author, 'wing-broken, while on a foraging excursion of this kind, was kept about the house for several days, and at length disappeared no one knew how. Almost every day after this, he and chicken considered the fort to be the Spaniards. In the snug retreat were found the greater part of the feathers, and many large fragments of her whole family of chickens.'

There are specimens in the gardens of the Zoological Society in the Regent's Park. We cannot close this article without referring to the beautiful and very curious description of Bubo arcticus in 'Fauna Boreali-Americana.' It is not at all improbable that this may be the Strix scandiaca of Linnaeus. Of this Pennant, in his 'Arctic Zoology,' says that Linnaeus seems to have described it from a painting of Rudbeck's, adding, 'I am of opinion it could not be that species.' But Temminck considers this Scandinavian eared owl to be merely a snowy owl, on which two fictitious regrets had been placed.

The specimen of Bubo arcticus described by Dr. Richardson was observed breeding at mid-day in the immediate vicinity of Carlton House, and was brought down with an arrow by an Indian boy.

RUBON [Galbanaum.]

BUCCANEERS, a most numerous and well-known association of sea-robbers or pirates, who were also called 'The Brethren of the Coast,' and still more commonly 'Pirates.' The term Buccaneer is of curious derivation. The Caribbee Indians taught the colonists in the West Indies a singular mode of curing and preserving the flesh of cattle: when cured, this flesh was called Boucan caribbee: from boucan the French made the verb Boucher, which the 'Dictionnaire de Trevoux' explains to be 'to dry red, without salt.' Hence comes the noun 'Boucanier,' and our Buccaneer.

The term Buccaneer is supposed to be nothing but the French sailors' corruption of our word 'freebooter'; and it is a curious fact, that as we always used a word corrupted from them, so the French designated the robbers by a word derived from us, invariably calling them buccaneers, or freebooters.

The Buccaneers were natives of different parts of Europe, but chiefly of Great Britain and France. They were most of them seafaring people, and the origin of the associations about the year 1594 was entirely owing to the jealousy of the Spaniards, who would not allow any other nation to trade or settle in the West Indies, and who pursued the English or French like wild beasts, murdering them wherever they found them. At that time and long afterwards, Spain, in right of her priority of discovery, and of the well-known bull of Pope Alexander VI., considered the whole of the New World as treasure-trove of which she was lawfully and exclusively the mistress. Every foreigner found among the islands or on the coasts of the vast American continent was treated as a smuggler and robber, and this being the case it is no wonder that ensuing adventures soon became so, and returned cruelty by cruelty. As early as 1517, when an English ship appeared at St. Domingo to request liberty to trade, the Spaniards fired their cannon at her and drove her away. When this unexpected visit was repeated, the Spanish governor, an Austrian, sent out a sharp reprimand to the governor of St. Domingo because he had not artfully seized the ship instead of driving her away, and so disposed of the English that no one of
them should have returned to teach others of their nation the route to the Spanish Indies. But the enterprising nations of Europe were not to be checked by the tyranny of Spain, nor could a papal bull shut the eyes of navigators and make them blind to the improving science of navigation. In the meanwhile the world was opening to the view of Europe, moreover, still considered the New World as an Eldorado where gold and treasures were to be had for the fetching, and this made them brave the monstrous cruelties of the Spaniards. In 1526 one Thomas Tyson was sent to the West Indies as factor of the Spanish main, and many adventurers soon followed him. The French began to make voyages to Brazil, and the Portuguese and the Dutch successively began to show themselves in numbers in the West Indies. Knowing what they had to expect they chose accordingly to fight or to be conquered. Pigmies, ingeniously phrased, "se d’dommager d’avance," used by one of the French filibusters, it appears they did not always wait to be attacked, but in case of a favourable opportunity became themselves the assailants. To repress these interlopers the Spaniards employed guards-at-seas, the commanders of which were instructed to massacre all their prisoners. This tended to produce a close alliance, offensive and defensive, among the mariners of all other nations, who in their turn made descents on the coasts, and ravaged their trade, and reduced their commerce. The consequent state of hostilities was thus established in the West Indies entirely independent of peace or war at home. The Brethren of the coast cared not if their respective native countries in the Old World were at peace with Spain; in their necessities of war, or to conquer by force of arms, or to dictate, or relinquish the benefits which that immense region offered. When not engaged in traffic with the Indians or in predatory excursions against the Spaniards, the principal occupation of these men was hunting wild cattle, of which they were masters, and sowing fields, which were left to the various races in that part of the world, and took and sacked Mancebo and Gibraltar. Morgan displayed not only infinite bravery, but the highest qualities of a great commander; unhappily however, like most of his predecessors, he was treacherous, cruel, and bloodthirsty. He was in the habit of torturing and roasting alive in order to make them confess where they had concealed their treasures. The boldest and most astonishing of all Henry Morgan’s exploits was his forcing his way across the isthmus of Darien from the Pacific to the Atlantic Ocean. But his expedition opened the way to the great southern seas, where the buccaneers soon achieved strange exploits, and laid the foundation of much of our geographical knowledge of that country. In December, 1670, a vessel landing on board about 2000 men, rendezvous at Cape Tiberon under the enterprising Welshman, whom French and English obeyed with equal alacrity. On the 16th of Dec. he took the island of Santa Catalina, where he left a garrison and took several prisoners, and then landed at Lorenzo, at the mouth of the river Chagre, on the east side of the isthmus of Darien, where out of 314 Spaniards he put 200 to death. He left 500 men in the castle, 150 to take care of his ships, and with the rest, who, after deducting the killed and wounded, amounted to about 1200 men, he began his land march through one of the wildest and most difficult countries, which was then only known to the wild Indians. The fatigues and difficulties they suffered on this march were dreadful. On the tenth day after his departure from the place where he landed, the Spaniards made a combat with the Spaniards, who had 2000 foot and 400 horse, took and plundered the rich city of Panama, which these Spaniards had then to do it without disturbance. Having tricked most of the fleet out of their share of the spoils, he sailed for Jamaica, which was already an English colony. This dexterous ruffian was afterwards knighted by Charles II., and became the governor of the admiralty court in Jamaica, and deputy governor of that island.

In 1673 the Spaniards murdered 300 French filibusters, who had been shipwrecked at Puerto Rico—a barbarous act which provoked atrocious reprisals. The short way to the South Seas had been shown by Morgan, and, in 1680, about 300 English buccaneers started from the shores of the Atlantic to cross the Isthmus. The route they pursued varied slightly from that followed by
Morgan; but they had men with them more capable of describing what they saw. These were Basil Ringrose, Barty Sharp, William Dampier, and Lionel Wafer, each of whom, in after years, wrote and published an account of his adventures, with a description of the country. Although they formed an alliance with the Darien Indians, who hated the Spaniards, this expedition was not in sufficient force to attack Panama. Two hundred of them, however, having procured a supply of provisions and munitions of war, the rest, in the ships under Ringrose, attacked three large armed ships, took two of them, and began cruising in them. These fellows had even some diplomatic skill. Ringrose tells us that the governor of Panama sent to demand of Sawkins their captain; 'Why, during the whole time that England and Spain, both of them, were at war, how should men come into those seas to commit injury? and from whom they received their commission?' Sawkins replied, 'That he and his companions came to assist their friend the king of Darien, who was the rightful lord of Panama, and all the country therewith.'

The adventurers then proceeded to capture ships and plunder the towns along the coast, and some of them remained a long time in the South Seas, and made many discoveries.

In 1684 another expedition, in which also the skilful seaman Dampier and the surgeon Wafer were engaged, sailed from Virginia, and, stretching along the whole of South America, doubled Cape Horn and entered the South Seas to plunder the Spaniards. Many of these adventurers engaged in the trade of the rich ports of Chili, Peru, Nova Espana, and California, to the shores of China, Malacca, and India, and we scarcely know anything of the sort so interesting as Dampier's narrative of this expedition. [DAMPIER, The New Voyage to New Guinea.]

The conclusion of peace, established by the name of the 'Treaty of America,' which provided for the entire suppression of the buccaneer warfare, was concluded between Great Britain and Spain; but, as far as the buccaneers were concerned, this was a bit of waste paper, for, by far the most of their achievements took place after the date of the treaty.

The war between Great Britain and France, which followed the accession of William III., in 1688, did much more to relieve the Spaniards from the scourge. The French, without waiting for a declaration of war, attacked the English in the West Indies, where, for some time, the chief beligerents were those ancient allies and comrades, the ribesiers of one nation and the buccaneers of the other, who were now called privaters, and duly commissioned. The bonds of kinship were broken; they exercised upon each other some of the cruelties that they had exercised in common upon the Spaniards, and they never again confederated in any buccaneer cause. At one time, had they been properly headed, and had conquest, not plunder, been their object, they might, by dint of united force, have possessed themselves of such colonies as the West Indies—they might have once have established an independent state among the islands of the Pacific. Henry Morgan, in fact, at one time entertained this magnificent idea. The date was 1695. In 1696, the accession of a French Bourbon prince to the throne of Spain, brought about the final suppression of the buccaneers. Many of them turned planters or negro drivers, or followed their calling as sailors on board of quiet merchant vessels; but others, who had clippers, or good sailing ships, quitted the West Indies, and went cruising to different parts of the world. For nearly two centuries their distinctive character or function had been the constant warfare of war against the Spaniards, and against them alone, and now this was lost. 'After the suppression of the buccaneers,' says Captain Burnet, 'and from their relics, arose a race of pirates of a more desperate cast, so rendered by the increased danger of their occupation, who for a number of years preyed upon the Spanish shipping on the coast of our own nation, and continued plundering down, and, it may be said, exterminated. Within the few last years, however, many dreadful piracies have been committed in the Mexican Gulf.

The general history of the Objectors of America, by James Burney, F.R.S.; Lives of Banditti and Robbers, by C. Mac Farlane; The Buccaneers of America, by an old anonymous author; Dampier's Voyages; Lionel Wafer's, Basil Ringrose's and Barty Sharp's Narratives; and, in French, the works of F. De Pas, etc.

BUCCINA, a military instrument of the shrill horn, or cornet, kind, in use among the antelopes, and by some supposed to have been formed of the horn of the bull or goat. According to others it was the shell of the buccinium, a fish. Vegetius (De Re Militari) says that it was made of brass and bent in a circle. Blainville (De Ostracis, etc.) also states that it was a metallic instrument; but from the engraving he gives of it, after ancient bas-reliefs, &c., the buccina would appear to have been perfectly straight. Sir John Hawkins coincides in opinion with Blainville, and the work of the learned Italian. The probability is, that the buccina in its primitive state was a simple horn, and that subsequently it was formed of a more durable material.

BUCCINUM. [Entomostoma.]
this lordship of the Adriatic; and Foscarelli (Della Lettura Veneziana, lib. ii. p. 216) finds some trace of it in Dandolo’s Chronicle towards the close of the 10th century. It was not likely that the Vatican should demur to the canon established by the emperor Alexius III when he recollected the answer which the Venetian ambassador Domatii returned to Julius II, when that pope inquired where the grant of Alexander was to be found. He was requested to look for it on the back of the donation of Constantine.
The bishop having been consulted as to the day on which the feast of Ascension, from the ars at the piazza, received its splendid passengers. Accompanied by innumerable feluccas and gondolas it passed on to the mouth of the Lido amid the thunder of artillery. On coming in front of the port of Lido, there has been adopted the custom of the doge of Venice to cast a ring into the bosom of the Adriatic, betrothing her by these words, ‘We wed thee with this ring in token of our true and perpetual sovereignty.’ He then returned to the church of San Nicolo di Lido, and having heard a solemn pontifical mass in the church, he delivered his charge, and contained his cortège with a magnificent banquet in the palace.
Since the occupation of Venice by the French, the Bucentaur has been allowed to rot in the arsenal. Casebon (in Alterneur, vol. 2) who has been followed by Darby, notices the Venetian government as having decided to find a painting made to the sea by the Syracuseus of an elephant vessel filled with honey, flowers, and frankincense.

BUCEK, MARTIN, was born in 1491, at Schelstadt near Strasbourg, a town of whose modern fame what was of the Lower Rhine. His real name was Kuhborn (Cowhorn), which, according to the pedantic fashion of his times, he changed into a Greek synonym, calling himself Bucer. Having entered the order of Saint Dominick, he received in 1526, the degree of master of arts, and in 1528, the degree of doctor of divinity; but in 1529, he left Strasbourg, and went to Rome, where the Catholic Church had ordained, according to whose doctrine he taught divinity for twenty years at Strasbourg. At the diet of Augsburg, in 1548, he vehemently opposed the system of doctrine called the Interim, which the Emperor Charles V had drawn up for the uniformity of religious worship until a free general council could be held. On the insidious nature of that proposition we need not here dwell; and it may be sufficient to state, that although it was expressed for the most part in scriptural phrases, it favoured almost every disputed article of the Reformation, and was equally by the Romanists and by the Reformed; but the emperor urged its acceptance so fiercely, that Bucer, after having been subjected to much difficulty and danger, accepted an invitation from Cranmer to fix his residence in England. In 1551, the English Parliament declared that Bucer, but downright Popery, only a little disguised; and at the same time he wrote a book against Gardiner, chiefly relating to the celibacy of the clergy.

On his arrival in England, he was appointed to teach theology at Cambridge, and appears to have been much admired and respected. When Hooper accepted the bishopric of Gloucester, but refused to be consecrated in the episcopal vestments, Bucer wrote a most convincing but moderate treatise on this fastidiousness; and in the review of the Common Prayer Book, he expressed his opinions at large, that he found all things in the service and daily prayers clearly accordant to the Scriptures. He wished for a stricter discipline to exclude scandalous lives from the Lord’s Supper. He objected to that requisition which urged the people to receive it at least once a year (a practice still retained by the Presbyterian), and would have them press it much more frequently. He wished the bread to be placed in the hands, not put into the mouths, of the communicants; and he thought the prayer that these elements might become the body and blood of Christ favoured transubstantiation too much, and might, by a slight change, be brought nearer the words of Scripture. He condemned the administration of baptism in private houses, and he recommended frequent catechizing. It will be remarked that all these amendments have since either been adopted, or are such as the real friends of the Church of England approve.

The king having heard that Bucer’s health had suffered during his residence in England, he presented him with the sum of 20l. to procure one. In return, he wrote a book for Edward’s own use, ‘Concerning the Kingdom of Christ,’ which he presented as a new year’s gift. It referred the miseries of Germany to the want of ecclesiastical discipline, the want of religious effusion and faith in Christ, beginning by a more careful refusal of the eucharist to ill lives, by the sanctification of the Lord’s day, of holidays, and of days of fasting, which last he proposed should be more numerous and less confined to Lent, a season which which and penitence were intended. A book on non-residence and pluralities, the true remnants of Popery.

Bucer died at Cambridge in the close of February, 1550, and he was buried in St. Mary’s with great honour, his remains being attended by full 4000 persons jointly from the universities, and the church of England. His body was brought over his grave by Dr. Haddon, the public orator, and an English sermon was then preached by Parker, afterwards archbishop of Canterbury, to whom, not long before his death, he had applied in a very peremptory urgent letter for the loan of ten thousand crowns; and on the same day, Dr. Redman, master of Trinity College, preached at St. Mary’s a sermon in his commendation. Redman had differed from him much, especially on justification and preaching, and he added, that as Bucer had satisfied him in some things, so he believed, if he had lived, he would have satisfied him more; and that he being dead, he knew he was no more; and he knew he was not as fate.

An amusing story, recorded in the Life of Bishop Jewell, shows both the gentleness of Bucer’s disposition and the malice of his opponents. Catherine duchess of Suffolk having two sons at Cambridge, and herself occasionally residing there, would present him with a calf towards the maintenance of his family. The good-natured man was fond of these beasts, and often visited them in their pasture, an innocent recreation, which gave occasion to a report among his adversaries that the cow and calf were交 to him as a reminder of the falseness of his views; but when he was to read in the schools. On hearing this rumour, he by no means gave up his customary attention to his favourites, but once pointing them out to a friend, he observed with a jesting tone, ‘Behold, these are my masters, from whom I learn the things I teach my others; and yet they can speak neither Latin nor Greek, Hebrew nor German, nor talk to me in any other language.”

During the reign of Mary, five years afterwards when inquisitors were sent to Cambridge, the corpses of Bucer and of Fagius were dug up from the grave; and the parson, fastened erect by a chain to stakes in the market-place, and disgustingly burned to ashes; their names, at the same time, were erased from all public acts and registers as the names of friends of the true faith; and this violence to their memories continued till Elizabeth because of the very interesting collection of tracts relative to the life, death, burial, condemnation, exhumation, burning, and restoration of Martin Bucer, was published at Strasbourg, in 1572, by his friend Conradus. Among other matters, the Greek and Latin Epitheta which the members of the university, according to custom, placed on his coffin; and also the Encomium, written when he and Fagius were posthumously reinstated in their academical honours. On the title page of these testimonies of honourfills those than fifty pages.

Bucer wrote both in Latin and in German, and so largely that it is thought his works, if collected, would amount to eight or nine folio volumes. He was thrice married, and his first wife, by whom he had three sons and two daughters, perhaps selected by him, not very judiciously, in imitation of Martin Luther. It is by no means easy to decide respecting the terms on which he lived with that great reformer, but it seems, from an anecdote which Beelzeb has preserved (Cron. et ann. 1599), that Luther and Bucer had
with either unmannevered rudeness or with a bluffed familiarity which no intimacy could be close enough to justify. On one occasion, when Bucer and Goclenius laid him a view of his new sentiments and friendship for the reformed form of the Church, the latter, and when the former addressed him, he replied with a sort of smile (subridens aliquantulum), 'You are a rogue and a knave' (Tu es nequum et nebulo). Jortin, from whom we derive the story (Life of Erasmus, i. 390), underlines the importance of the event in an account to which Luther could not 'endure' Bucer. But the words are equivocal: subridens means chuckling as well as sneering, and is the term chosen by Virgil when he represents Jupiter godnianharmlessly attempting to soothe and found Venice. The word had been used by a playful or serious tone in which it was pronounced, and to this we have no guide. The Romanists hated Bucer as a powerful opponent; they abused him for extreme subtlety, and they seldom spoke of him otherwise than as a 'sly fox.'

**BUCEROS. (Hornbill.)**

**BUCH, a district of the Bordelais, in France, extending along the coast of the Bay of Biscay. Its capital was La Teste de Buch (now generally known by the simpler designation of La Teste), at the head of the Bay of Arcachon. Pop. in 1832, 2295 for the town; 2840 for the whole commune. This district is now included in the dept. of Gironde. Its first lords bore the title of Captain, and their lordship gave them several rights and privileges in the 13th century. The boroughs of Arcachon and Talence, two boroughs situated on the coast, were passed successively to the houses of Guishly, Nogaret-Epernon, Foix-Rainant, and Guillo. A Capit of De Buch, of the house of Guishly, distinguished himself in the wars in France in the fourteenth century; he served in the armies of Edward the Black Prince, under the duke of Guise, and of Charles le Mauvais, king of Navarre.

**BUCHAN, a district of Aberdeenshire, Scotland, which extends along the coast about 50 m. from the mouth of the Ythan to the boundaries of Banffshire. The shore is bold and rocky and the soil is of a various nature. Generally the agriculture is rapidly improving it, the extent of the waste lands and the comparative absence of trees give a bleak and barren appearance to the district. The hill of Mormond mounted is passed by every vessel that comes through the route of a white horse formed by paving white stones on its side has become conspicuous at a distance and a good sea-mark. The Ythan (the riv. which divides Buchan from Forfarin) after a course of about 22 m. falls into the sea at Newburgh; it was noted in former times at its head-firth. The most valuable pearl of the royal crown of Scotland is said to have been got out of it. The Ugie falls into the sea a mile N. of Peterhead. On the sea coast a few miles S. of Peterhead are the Bulfers of Buchan, a nearly round basin about 48 ft. deep and 600 ft. diameter; and the Buchan Bay which is the sea, towards which there is an arch by which the waves enter. It is open also at the top, round which there is a narrow path about 30 yards from the water: when the sea is high in a storm this scene is exceedingly grand.

For a peninsular rock of the coast stands Slains Castle, a tower house standing high above the sea, with a tower about 15 m. N. of Aberdeen. It was demolished by James VI. in 1594. Near it is the dropping cave or white cave of Slains, which is remarkable for its stalactites. On the first Monday of every month small debt courts are held alternately at Old Aberdeen and at Slains, and the cases decided for five years before 1821 was 53 a month.

**BUCHANAN, GEORGE, was born of poor parents, in the parish of Killearn, and county of Stirling, about the beginning of the year 1566. He had the third of eight children, who, by the death of their father, became the sole solvency of their grandfather, were early thrown upon the care of their widowed mother, and the friendship of more distant relations. By one of these, James Heriot, his ma- terialist in the expression of an extreme, and says that the university of Paris; where, however, he had not been two years, when his uncle dying, he was left in a state of such utter destitution that in order to get to his native country he was forced to join the corps then being raised as auxilia- ries to the Duke of Albany in Scotland. After a twelvemonth spent at home in the recovery of his impaired health, he again joined the troops in Scotland and continued to proceed with them to the siege of Perth; but the hardships which he suffered on this occasion reduced his youthful frame to its former state of debility, and he was confined to his bed the remainder of the winter, where he died of a sickness which his uncle, Patrick, his eldest brother, were entered students in the pedagogium, afterwards St. Mary’s College, of the university of St. Andrew’s. It is said to have been by the bounty of John Major, who had the gift to gole in Scotland, an ecclesiastical college, that the two brothers were maintained at this time. This is not unlikely. Buchanan was an exhibitioner when he passed bachelor of arts, on 3rd Oct., 1525; and we learn from him himself, that when Major went the following summer to France, which he had then been able to do, he went to the college at Paris, where, as he had obtained the degree of B.A. at St. Andrew’s, he was immediately incorporated of the same degree. This was on the 10th of Oct., 1527. The next year he proceeded M.A.; and the year following he was chosen protonotary of the German nation—a form of one of the students which comprehended those from Scotland. After a struggle of two years with the iniquity of fortune, as he expresses it, he obtained the situation of a regent, or professor, in the college of St. Barbe, where he taught Greek and Latin. The university of Paris, of which he had yielded him but a miserable pittance, and became tutor to Gilbert, Earl of Cassilis, a young Scots nobleman, who resided at that time in the neighbourhood of the college, his previous tutor, William, abbot of Crossragwell, having left. Buchanan was appointed in 1534 the tutor of the royal licence granted to that effect of 8th April, 1532. (Pitscarn’s Crit. Tribals, vol. i. p. 245). With that nobleman Buchanan remained abroad about five years, and in this period committed to the press his first publication, which was his Latin translation of the first four books of the Latin Grammar. In May, 1537, he came to Scotland in company with Lord Cassilis, who had just attained his majority; and, probably, by his influence, was then ap- pointed as the master of the Latin school for the natural children of James V., with a liberal allowance. * At Lord Cassilis’s seat, where he seems to have continued a visitant, he composed his poetical entitle Somnium, in derision of the regular clergy. The king, who had a turn that way, having ordered to be sent for some more satires of a like kind. He did so accordingly, and published among others his Palindria, and the Franciscana. These pieces brought upon his devoted head the vengeance of the church. He was seized as a heretic, and thrown into the galleys at Berwick; and there, after being transferred to the Bastille, the seat of some privy council, by the advice of his master of the school, he drew up a sum of money to consent to his immediate death. The aversious James might have rejected this brieve; but Bu- chanan happily escaped from his confinement and got to England, where, after a severe struggle with want and the toil of reclamation, he died at the end of 1540. Finding on his arrival that Cardinal Beaton was living there at that time, he gladly accepted an invitation from Andrew Govea, to become a regent or professor of Latin in the college of Guillaume d’Orleans. It appears that he was at Bordeaux before the close of 1540, and the 1st of Dec. that year he presented a poem in the name of the college to Charles V., when he made his solemn entry that day into Bordeaux. He remained here three years, and in the latter part of that time held the office of rector of the college, and several other minor pieces; but being continually harassed by the clergy under letters from Cardinal Beaton, who had traced his retreat, he removed to Paris, and from the year 1544 till about 1547 taught Latin in the college of the Chanoines de la Chapelle, with a pension of £10 a year from Turnebus and Muretus. In 1547 Govea was invited to become principal of the university of Coimbra in Portugal, and to bring with him learned men to fill the vacant chairs. Buchanan accompanied him on that occasion, and became a regent in the university; but having the misfortune to lose his friend Govea by death the following year, the in- quisition assailed him as a heretic, and after harassing him for near a year and a half, shut him up in the cell of a monastery, where, having nothing could confine or subdue his mind. On the 28th of April, 1557, he received the holy sacrament of communion, and was absolved and absolved Aug. 28, 1557, in the presence of the governor of the city of Lisbon. (Traverser’s Account, ep. Pitscarn’s Crit. Tribals, vol. i. p. 245).
of Buchanan. It was in this solitary abode he began his well-known 'Version of the Psalms.' Being at last restored to liberty, he embarked for England in a vessel then leaving the port of Lisbon; but the political state of that country bearing an unfavourable aspect, he soon quitted it again for France, which he reached about the beginning of the year 1553. The siege of Metz was raised about the same time; and at the earnest request of some of his friends he commenced that event in a Latin poem. He was soon after recalled to France, but it was only to be for a time. In the year 1555 he gave up that charge for the place of domestic tutor to Timoleon de Cossé, son of the celebrated Maréchal de Brissac. During his connexion with this family, which lasted till the year 1560, he published several poems, and invented a new mode of versification, which, called the 'Verse Acrostics of Euripides, and the earliest specimen of his paraphrase of the Psalms. In 1560 he returned to Scotland, where we find him in the beginning of the year 1562 classical tutor to the young queen Mary. For his services in this capacity he was given a weekly allowance of 500l. Scots a-year for life out of the temporalties of the abbey of Crossragwell; and in the year 1566 the Earl of Murray, his brother, to whom he had dedicated a new edition of his 'Psalter in Latin,' presented him with the place of principal of St. Leonard's College at St. Andrew's. The following year he was chosen Moderator of the General Assembly of the church of Scotland, which was still a more extraordinary homage to his character and various abilities. He was also, in the same year, by the election of St. Salvator's college, on being appointed one of the preceptors to the young King James, then in the fourth year of his age. The same year the place of Director of the Chancery was for his services conferred upon him, and soon afterwards that of Lord Privy Seal. This latter was a highly lucrative office, and entitled its holder to a seat in parliament. He retained it till at least 1578, when he nominally resigned it in favour of his nephew, Thomas Buchanan, of Tiber. In the same year, 1578, he was joined in several parliamentary commissions, legal and ecclesiastical, and particularly in a commission issued to visit and reform the universities and colleges of the kingdom. The scheme of reformation suggested, and afterwards approved of by parliament, was drawn up by him. The same year also he bestowed forth his celebrated treatise 'De Jure Regni Apud Scotas.'

Continued indisposition and the advance of age now warned him of his approaching dissolution. In his 74th year he wrote a brief memoir of his own life; when visited a considerable applause, and his house was thronged with visitors. Sitting in his chair teaching the boy that served him in his chamber the elements of the English language and grammar; and not long afterwards he expired, while his great work his 'History of Scotland' was passing through the presses. He had long been one of the richest men in Edinburgh, and was buried at the cost of the town, having by his many charities and benefactions left himself without means to defray the necessary charges of his burial.

As a man of great and various learning, and of nearly unceasing capacity, he was without a rival in his own day; and he is one of the most elegant Latin writers that modern times have produced. If we may judge from his Latin verse translations of the Medea and Alcestis of Euripides, he must also have been a good Greek scholar. He was a great man in his own eyes, and pursuing the knowledge in the most unfavourable circumstances, amidst poverty and disease, religious persecution and civil discord.

Here are two collective editions of the works of Buchanan. One is by Rudmam, published at Edinburgh in 1715 in two vols. folio. The other is by Peter Burman, Lug. Bat. 1725, in two vols. 4to. In this the editor has, besides his own critical annotations, incorporated the notes, dissertationes, and other helps of other editors. AGHANAN, REV. CLAUDIUS, D.D., vice-provost of the college of Fort William, in Bengal, and well known for his exertions in promoting an ecclesiastical establishment in India, and for his active support of missionary and philanthropic labours, was born on the 12th of March, 1766, at the village of Easing, a large village near Glasgow. When a young man of the age of twenty-one, he made his way to London almost friendless and unprotected, where he succeeded in attracting the attention of the REV. Mr. Newton, the well-known rector of St. Mary's Woolnoth. By Mr. Newton's influence, he was sent to Cambridge, where he was educated at the expense of Henry Thornton, Esq., whom he afterwards repaid.

He went to India in 1796 as one of the East India Company's chaplains; and on the institution of the college of Fort William in Bengal, in 1800, was made professor of the Greek, Latin, and English classics, and vice-provost. His residence in India was distinguished by the publication of his 'Christian Researches in Asia,' a book which attracted universal attention at the time it was written and has gone through a number of editions. In the years 1804 and 1805 he gave various sums of money to the universities of England and Scotland, to be awarded as prizes for essays on the diffusion of Christianity in India. One of the propositions which he designedly called "The Restoration of Learning in the East," by Mr. Charles Grant, now Lord Gleeneg, at present (1836) Secretary of State for the Colonies.

He returned to England in 1808, and during the remainder of his life continued, through the medium of the pulpit and the press, to enforce his views. His reply to the statements of Charles Buller, Esq., M.P., on the worship of the idol Juggernaut, which was addressed to the East India Company, was laid on the table of the House of Commons in 1813, and printed. He died at Broxbourne, Herts., on February 9, 1815, being, at the period of his death, engaged in superintending an edition of the Scriptures for the use of the Syrian Christians who inhabit the coast of Malabar.

[Life and Writings of Hugh Pearson.]

BUCHA'RIA. [Bokhara.]

BUCHA'RIA, LITTLE, or Eastern Toorkistan, was a name lately in use and employed to indicate the most western portion of the countries dependent on the Chinese empire. It now begins to be known under the Chinese name of Turfan, or rather Thian-Shan-Nath. Latter article a description of it is given.

BUCHOREST, but more correctly BUKARES'TH, the city of enjoyment, in the eastern part of Wallachia, is pleasantly situated in a rich and spacious plain, diversified by hills, and on the E. bank of the Dumbovita. In extent it is about 4 m. from N. to S., and nearly 3 m. from E. to W. It is the residence of the prince and divan or council of Wallachia, the seat of government, as well as of a Greek archbishop, and the head-quarters of the foreign envoys and consuls. Independently of its agreeable situation, Bucharest has no claim to its designation; for it is, with few exceptions, nothing better than a heap of wretched brick or mud cabins, ranged along streets either unpaved or unlighted, and without any regular plan or method of building. The streets are narrow and dark, and the houses packed so close together as to leave no space for windows. It is a place of few buildings of note, a large ruined palace, a vast old pile, now used in consequence of the destruction of the modern palace by fire in 1812, and of 67 quarters; these quarters being the separate property of the Boyars, on whose land colonies of their followers have gradually accreted to them, and of which the present appearance rather than of an immense village than of a regular town. The Boyars' residences are spacious, and built of stone. The handsomest building, next to the prince's palace, is the adjacent metropolitan church; both of them situated on the largest square, and in the centre of the town. There are sixty churches, built in an uncoexact style, none of which have fewer than three steeples or towers, and many no less than six; some have even nine. Seven of them, as well as the twenty monasteries and convents, are protected by walls. The other edifices are generally of the Greek and Catholic and a Lutheran church, a synagogue, several hospitals and infirmaries, and the consular residences, particularly that of the Austrian consul, which is a handsome brick structure, and the seat of several other consuls. It is said that during the reign of Sultan Selim, there was a tower, called the 'Fire Tower,' 60 ft. high, which commands a full view of every part of it. The lyceum for Greek youth is conducted by twelve professors, and the example set by the German residents has occasioned the establishment of a school in which twenty-four students are of Saxon extraction, and consist almost wholly of operatives, particularly goldsmiths and watchmakers. The pop., though once composed of 60,000 souls, which the calamities of war and political commotions have now reduced to less than 50,000, is on the increasing; the number of dwellings is about 10,000. The town is full of coffee-houses, almost every one of them having a gambling or billiard-table, and of shops where sherbet and wine are drunk. Bucharest is the great commercial mart for the principality, and as this is an extremely fertile country, the
inhabitants carry on an extensive trade in grain, wool, hosiery, was-supplied, and coal. It possesses nine or ten distinct hovens, of which that of Sherban-Wode is the largest and most frequented. There are no large manufactures; but small quantities of woollen cloths, carpets, brandy, &c. are made. The people are fond of outdoor display, and of public festivals, such as their dances, and their dancing is so frequent and habits present a singular mixture of European and Eastern customs. There is a Corso, or public mall, to which the fashionable resort in great numbers, in the main street and along the bridge which crosses the Dumbovitsa. Bucharest has a public library, a society for belles lettres, and another for agriculture; it has indeed made considerable advances in civilization during the last ten or twenty years.

44° 28' N. lat., 26° 8' E. long.

Buckingham, a par., and bor., and the t. of Buckingham, is situated on the Ouse, in the hund. of Buckingham, 50 m. direct distance N.W. from London. The municipal, which was formerly co-extensive with the parliamentary bor., is co-extensive with the par., which contains about 5000 acres, and is divided into the month of March. The churchwardens and overseers of the poor, but only one church and church-rate for the whole parish. The parliamentary bor., which was enlarged under the Reform Act, returns two members to parliament. Three of the districts into which the par. is divided are Buckland, Chiltern, and the other is divided into the month of March. In 1831 the pop. of the par. was 1672 males and 1936 females; of these there were—males 20 years of age, 883; occupiers and labourers employed in agriculture, 223; employed in manufacturing, or in making machinery, 125; employed in engineering, or in making engines, 200; capitalist bankers, &c., 17; labourers not agricultural, 138; male servants, &c., 117; female servants, 139.

Buckingham is an antient bor., and is described such as at the time of the Domesday survey, in which it is said to lie in the province of the foreignt king. But it does not appear that the town sent members to parliament before 1544. From the circumstance of Edward III. having fixed one of the staples for wool at Buckingham, it is supposed that the borough was ancient in his reign, though nothing is certain. The charter of the town was granted by the bishop of London, to the people of the town, and the charter of the town was granted to the people of the borough. The charter of the town was granted to the people of the borough. The corporation upon this charter for several years, but in consequence of a dispute with James II. in 1688, during which the king successively removed three mayors elected by them in three months, and the corporation was sometimes suspended, the charter of Charles II. was also surrendered. The corporation afterwards availed themselves of the proclamation for restoring surrendered charters, to resume the charter of Mary. Under the Municipal Reform Act, Buckingham has one member for the town, and, as a town of considerable size, with an ancient and flourishing history, the corporation continues to hold a considerable position in the county.

In June, 1644, Buckingham was for a few days the head-quarters of Charles I.; the neighbouring towns of Aylesbury and Newport Pagnell being garrisoned for the parliament. A fire broke out on the 18th of March, 1723, which consumed 138 dwelling-houses, being more than one-third of the whole town. No trade or manufacture is carried on in the town, except lace-making with bobbins. The only public buildings are the church, the town-hall, and the gaol. The present church stands on the site of the castle, under an act of parliament, by which the inhabitants were to raise 4000l. in three years, and Earl Temple the rest: the entire expense was about 7000l. It was completed in 1760. The living is a vicarage in the diocese of Lincoln, the gross annual income of which is 240l. The old church, however, is a lofty spire, which fell down in 1699; the tower which supported it remained till 1776, when it fell down also, just after Mr. Pennant, the well-known antiquarian tourist, had quitted the church. The entire structure was taken down, and the new church was built on a new plan.

It is probable that the assizes had been generally held at Buckingham before their removal to Aylesbury. In 1578 Lord Cobham procured an act of parliament to fix the sum—
which he laboured. One of these, which perhaps may be considered more doubtful (for what better might be his faulc Buckingham never evinced deficiency in personal courage), related to his marriage, in 1620, with the only daughter of the earl of Rutland. It was not likely that he should make dishonourable advances to the richest heiress in the king- dom, and yet there is no foundation for it but by the menaces of her injured father. Such however was the scandal of the time. Three years afterwards, while negotiations were pending for the marriage of Charles Prince of Wales with the Infanta of Spain, Buckingham inspired the prince with a belief that he would efficaciously secure the love of his future consort, and terminate many difficulties which the slowness of diplomacy interposed, if he would privately repair to the court of Madrid and woo his mistress in person. The secret motive which prompted him was jealousy of the influence which the cardinal had with the queen, who despaired of the treaty; and the king was induced reluctantly to consent to a project which he disapproved, and the suggestion of which it is believed he never forgave in his heart.

Many of the adventures of this expedition were of the most romantic cast. The prince, in company with the mar- quess, set out on the 15th of February, 1623, from New Hall in Essex, 'with disguised beards, and with borrowed names of Thomas and John Smith.' On ferrying over the river near Gravesend, they found themselves without silver; and to escape the diligence to which they were subjected, by which they presented the boatman, created so much sus- picion, that he, feeling a misgiving as to their quality, and thinking them gentlemen going beyond sea to settle some quarrel, laid information with the officers of the town, who set out in pursuit. For three hours they were thus pursued through that city however before the intelligence arrived; but on the brow of the hill beyond it they encountered the French ambassador, well attended, and in one of the royal carriages. This difficulty they escaped by quitting the high road, and entering a side path. This road, which is the nearest to the majesty's fleet, was then in preparation on the narrow seas. On the way afterwards, the baggage post-boy, who had been at court, 'got a glimmering how they were, but his mouth was easily shut'; so that 'through bad horses and other pretty impediments,' they did not reach Dover till six at night.

At Paris, having escaped some similar accidents on their route, they spent a whole day, and had a close sight of the Princess Henrietta Maria, 'at the practice of a masque dancing in person.' It is said, by Clarendon, and other more reliable personal adventures, but we must not omit a noble answer made by Buckingham to the Comte d'Oli- varez, who told him of a report that the prince was secretly designing his departure from Madrid. To this Buckingham replied, in August, 1623, that 'he was not a prince of his own country, yet fear would never cause him to leave Spain in other manner than should become a prince of his noble and generous virtues.'

Buckingham returned to increased popularity, and was made 'saviour of the prince.' He had been created a duke during his absence; and upon his landing he was nominated Lord Warden of the Cinque Ports, and Steward of the Manor of Hampton Court.

The war with Spain which ensued, the marriage with Henrietta Maria, and other more incredible personal adventures, but we must not omit a noble answer made by Buckingham to the Comte d'Olivarez, who told him of a report that the prince was secretly designing his departure from Madrid. To this Buckingham replied, in August, 1623, that 'he was not a prince of his own country, yet fear would never cause him to leave Spain in other manner than should become a prince of his noble and generous virtues.'
admitted that he was the perpetrator. Having been rescued in the first instance from the fury of the bystanders, who would have put him to instant death, he was recognised as John Felton, a younger brother, of mean fortune, and of Suffolk extraction. He is represented to have been by nature silent, glum, and melancholy, and was speedily driven from the army in consequence of disapprobation in promotion, and to have afterwards fed his irritation against Buckingham on this account, by listening to the many invectives which had been projected against him. He might not be without a touch of insanity; and it was whispered that his conduct was awakened to the full enormity of his crime before his execution. The news of the duke’s murder was announced by Sir John Hipsley to the king shortly after its occurrence, while he was on foot in his chamber. Charles was moved with horror at his declarations, unmoved, as it would appear, by the sad intelligence which had been whispered to him, and without the least change of countenance till prayers were ended, when he suddenly departed to his chamber and threw himself on his bed, crying out, ‘a Highland churl, which must abundantly dishonour the tears, the loss of an excellent servant, and the horrid manner in which he was deprived of him, and he continued in this melancholy discomposure of mind many days.’

George Villiers was murdered in his 36th year, having had three sons and one daughter by his wife Lady Catherine Mans. The Lady Mary was his first born; his eldest son died at nurse; his second succeeded him in his title and estates, and his third was Lord Francis.

An instance of Buckingham’s public-spirited munificence was recorded in his day, according to a tradition that he ordered his private character to be carefully noted, especially as his faults have been carefully chronicled. Hearing that a rare collection of Arabic manuscripts, which had been made by Erpenius, a scholar of great erudition, was at that moment on sale by his widow to a bookseller in London, ‘a lady of quality,’ says Sir Henry Wotton adds, ‘of such ware,’ the duke anticipated them by giving the widow five hundred pounds, ‘a sum above their weight in silver, and a mixed set of both bounty and virtue; but the heaviest load of being out of his natural element;’ for Buckingham, as it appears, received but an imperfect education. It was his intention, if the design had not been prevented by his unexpected death, to present these MSS., together with many other similar publications, to the University of Cambridge, of which learned body he was chancellor; after his assassination they were deposited by his widowed Duchess in the public library of that university, where they still remain.

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Buckingham, George Villiers, Duke of, second son of the first Duke, and husband of his wife, Lady Catherine Mans, was born in London, January 30th, 1627. He was educated at Cambridge, under the especial patronage of the king, and after travelling with his brother, Lord Francis Villiers, he returned to England on the outbreak of the civil war, and distinguished himself in the field. The king, for whom he served, was defeated by Fairfax, near Nonsuch, in which battle Lord Francis, after fighting bravely, was killed, and the duke himself escaped with difficulty beyond the sea. The parliament required him to return within forty days, under a penal oath; but he preferred remaining abroad, where he supported himself by the sale at Antwerp of a valuable gallery of paintings which his father had collected. He afterwards served under Charles II. at Worcester, and was again compelled to take shelter in the Continent.

Part of his estates had been assigned by the parliament to Fairfax, who generously allowed the duchess of Buckingham, the duke’s mother, a considerable annuity. The duchess did not object, but that the republican government might exercise similar liberality towards the king, who was outlawed, to return to England, was well received by Fairfax, and married one of his daughters in 1657. Cromwell, taking this alliance ill, arrested Buckingham, and commanded him to give up his arms. On the 7th of August Cromwell he was released from Windsor Castle, the place which had been allotted for his less rigid confinement; and on the Restoration he recovered his paternal estates. He had already received the order of the garter while in Holland, and he was now sworn of the privy council, and nominated lord lieutenant of the county of York. His political conduct however was most versatile, and the influence which he maintained over Charles by his talent for agreeable ridicule was most unworthily employed in procuring the fall of Shaftesbury. His hatred of Buckingham was utterly profligate; and he appears to have regarded buffoonery as an honourable and legitimate weapon against a court rival. Not unfrequently, when the grave chancellor had retired from the council-table, Buckingham threw the king into convulsions of laughter by making the clerk of the great seal dangling by his side the bag and seals, and ordering an attendant to precede him with the bellows as a mace.

On the formation of the Cabal ministry Buckingham’s name contributed an initial to that anagram. In 1667 it proceeded on an embassy to the court of France, nominally to conciliate with Louis XIV. upon the death of Charles’s sister, the duchess of Orleans, but in truth to urge his accession to the triple alliance. On that occasion, he condescended to pen a letter to the king; he never scrupled to introduce him to the royal notice, and the actresses, Mistress Davies and Nell Gwyn, were first known at court through him. ‘He was a man indeed, to use the strong language of a contemporary by whom he was well known, who had studied the whole body of vice,’ and assured the king that one had ever had less barrier of principle to stand in the way of his instruction. So entirely did he set at nought all moral feeling, that when Charles II. on one occasion expressed apprehensions that his injured queen might probably intercede with the queen of Hungary herself, to have him removed to a West Indian plantation, where she ‘should be well taken care of, without creating more trouble,’ the king, though selfish and cold-hearted, had a kind of careless quality, sometimes standing in the place of good-nature, which was acceptable to him. ‘I hope, madam,’ is the answer of the favourite.

Already, in 1666, Buckingham had manifested symptoms of his wickedness, and had forfeited all his high offices, to which however he was subsequently restored through his own submission and the king’s extreme clement. The duke of Ormonde, on one occasion, and so deeply did Buckingham cherish resentment that there is strong reason to believe he was concerned in a plot which nearly ended in the murder of that noblemam by Col. Blood. The transaction was not inquired into, but the earl of Ormonde, eldest son of the duke of Ormond, could not forestall from taxing Buckingham with his guilt, even in the palace itself. Being at court, and seeing the favourite standing by the king, he addressed him to this purpose: ‘I have studied the whole body of vice;’ and assured the king that this late attempt upon my father, but I give you warning, if by any means he comes to a violent end, I shall not be at a loss to know the author. I shall consider you as the assassin, I shall treat you as such, and whenever I meet you I shall make you understand the consequences of your conduct; and I tell it you in his Majesty’s presence that you may be sure I shall not fail of performance.’ (Carte, Life of the Duke of Ormond, i. p. 223.)

Notwithstanding his public and private crimes, Buckingham still retained the king’s favour, was ennobled and entrusted with important embassies, and like his father was elected chancellor of the University of Cambridge. On the dissolution of the Cabal ministry and his dismissal from office, he gradually weakened himself from the court. In 1674 he resigned his office of Chancellor, returned home, was reported the Nonconformists by his opposition to the Test Act. He was deeply engaged in the popish plot, and the remainder of his days was spent in factious opposition, and in connexion with the intrigues of Shaftesbury.

Notwithstanding these anti-royalist actions, which were well known to Buckingham, but too plainly exhibits the demonralization of the times on which he was thrown. Buckingham, having been detected by the earl of Shrewsbury in an intrigue with his wife, killed him in a duel. The guilty wife who concert the meeting, disguised herself, held the duels, and at the close of this encounter, and at its close rendered herself more infamous by undaunted joy and shameless avowal of her passion for the paramour, yet reeking with her husband’s blood. For this murder, which occurred on the 14th of May, 1678, he received a royal pardon, but it was afterwards brought before the House of Lords in a petition presented by the earl of Westmoreland in the name of the young earl of Shrewsbury, who desired justice against Buckingham for his father’s blood and his mother’s infamy. The duke replied,
infinite pleasure, notwithstanding the obscurity in which it is involved from the want of that minute illustration by which in modern times it would have been so copiously elucidated.

The life of the duke of Buckingham was printed and his works were pirated by the notorious Curf in 1721, on which occasion a vote passed the House of Lords, declaring it to be a breach of privilege to print any account of the life or any of the works of a deceased peer without consent of his heirs or executors.

John Sheffield was born in 1649, and succeeded his father Edmund earl of Mulgrave in that title in 1658. When he was but 17 years old he served in the same ship in which Prince Rupert and the Duke of Albermarle had embarked in the first Dutch war. At the end of the following year he was summoned by writ to take his seat, but was excluded on account of nonage on a motion of the earl of Northumberland. In an encounter with the younger son of the earl of Chester, which occurred about this time, he conducted himself, according to his own biography, with distinguished credit. Some of the particulars are worth recording as a sample of the manners of the times. The earl of Mulgrave found that the words upon the report of which he had challenged Rochester were never indeed spoken, but still, foolishly thinking himself compelled to go on with the quarrel, he agreed, at his antagonist's choice, to fight on horseback, a way in England a little unusual. In order to avoid suspicion, on the night before the appointment he rode from his house at Knightbridge, where they found themselves in greater danger of recognition than if they had remained in London, 'because we had all the appearance of highwaymen that had a mind to lie skulking in an old inn for one night; but this, I suppose, they thought no notice of us, but liked us the better.' Lord Rochester appeared at the appointed place, bringing with him as his second an 'errant life-guardian whom nobody knew.' Besides this, the parties were so unequally mounted, that as the end approached, Rochester remained on his horse on foot. On their way to the ground however Lord Rochester 'observed that it was on account of sickness that he had at first chosen to fight on horseback, and that he now found himself unfit to fight at all any way, much less a foot.' They separated, he being informed 'entirely to the ruin of Lord Rochester's reputation for courage.' Dr. Johnson, in his life of Sheffield, without entering into any of these details, mentions that that nobleman has related this story perhaps too ostentatiously, as he tells how he once told Lord Chester that he would 'take him with sharp reproaches.' It appears to us, on the contrary, that his narrative is very plain, and does not exhibit any symptom of boasting.

Dr. Johnson, from unreasonable vaunting of personal courage, that in his case meant an engagement with De Ruyter in the second Dutch war, in which he served with great gallantry as a volunteer on board the ship of the earl of Ossory, he tells us that 'in the morning, when the enemy's great shot came on both sides of us, I thundered so loud, and spoke so loudly, that I was in great hazard of being shot, and too much for this reason; I thought it impossible to escape without losing a limb at least, and was in a very pretty uneasiness; but about the afternoon, when the broadsides came only one way, though without interruption, I began to grow a little less sensible of the danger, which yet I was very glad to see ended at night.' These are not the words of a braggart, and his behaviour in the engagement was so distinguished as to procure for him the command of the best second-rate ship in the navy.

In the land service he raised a regiment of foot, and commanded it at Westminster, but it was not a part of the regiment in which he bore the like commission, was also placed under his orders. He was installed Knight of the Garter, and appointed a gentleman of the bedchamber. For a short time he entered the French service under Turenne, and when the ill-fated Viscount Ramillies was taken prisoner, which was a sad day to the country, Sheffield received the lord-lieutentancy of Yorkshire with the government of Hull, from which the duke was dispossessed; or as Dryden tells us, he became one of the mighty.

On the accession of James II., he was sworn into the privy council and appointed Lord Chamberlain. Not being very fervent in his religious opinions, and indeed holding a place in the high commission, with the illegality of which he afterwards professed himself to be unacquainted, he took
no part in the revolution. Once it was designed to request him to join in the invitation to the prince of Orange, but the Duke of Buckingham declared his announced election, and his Marquess of Way ford's concurrence was not to be expected. His reply to King William, who mentioned this fact to him, was singularly bold and upright. 'Sir,' said he, 'if the proposal had been made, I would have discovered it to the king within an hour, but the hand of the prince is nullified, and if anything be added, that he was far from being displeased with this answer. Marlgrave however by no means courted the favour of the reigning king. He opposed him on some important questions, and it is pleasant to relate that this opposition did not interfere with his advancement, nor did his advancement silence his opposition. In 1694 he was created marquess of Normandy, and afterwards was admitted into the cabinet council with a pension of 3000l. per annum.

On the accession of Queen Anne he was named Lord Privy Seal. It is said that an early tender attachment to that princess once nearly cost him his life; for that Charles II., in order to punish his ambition, despatched him in a leaky vessel to the relief of Tangier. In 1705 he was created duke of Buckingham and Normanby, which title was being suspected to be, somewhere, a latent claim to the title of Buckingham.' The claim to which Johnson alludes in this passage we have not been able to trace.

In consequence of the ascendency of the duke of Marlborough in the Prince's cabinet, of the Queen's dislike to the queen of Dunkestre, and of the Duke of Marlborough's opposition to the principle of the Tory motion for inviting the Princess Sophia to England. He refused the strong temptation of the chancellorship, which was offered to lure him back, and employed his leisure from politics in erecting Buckingham Palace which William Cavendish, 4th Duke of Devonshire, had begun. Some vignettes of that house, which since it has ceased to exist may have become valuable, are found at the heads of some chapters and in illuminated capitals in the 2nd volume of his collected works. Of his mansion and of his family, and of the history of the present occupant at the well-written description in a letter to the Duke of Shrewsbury. In 1710 he was made Lord Chamberlain of the household, but after Queen Anne's death he reverted to opposition. He died February 16, 1722, his first son, the present occupant in Westminster, by his third daughter, a daughter of James II. by the countess of Dorchester, and widow of the earl of Anglesey, besides other children he had a son Edmond, by whose death in 1735 the line of Sheffield became extinct. To that house, however, of his family he has been tenderly attached, and the construction of Buckingham Palace he paid especial attention to her convenience. 'The highest story of the private apartments (as he tells us in the letter above alluded to) is fitted for the women and children, with the floors so contrived as to avoid any noise over my wife's head during the mysteries of Lucina.'

As a poet the duke of Buckinghamshire is below criticism, and it is to his rank rather than to his talent that we must ascribe the praises which he received from Roscommon, from the Archbishop of Canterbury, and from Lord Chief Justice Burlington, and from Pope. Dryden perhaps received his ten guineas for the eulogy in the dedication to 'Aureng-zobe,' in which it is remarkable that he extols rather the political than the literary merits of his patron; but the character given in 'Abelam and Achitophel,' which is more to our purpose, was probably altogether gratuitous.

"Sharp-judging Adriel, the Muse's friend, Himself a Muse."

Addison and Boswell have respectively commended the "Essay on Poetry," and as Pope has preserved the memory of the best verse in it, 'Nature's chief masterpiece is writing well,' by incorporating it in his own 'Essay on Criticism.' The few prose pieces which the duke of Buckingham has left to us are not captivating; and although now perhaps forgotten, they deserve a much higher rank than his poetry. His remains lie under a sumptuous monument erected by his widow in Westminster Abbey. Moreiri, in his article 'Buckingham,' confounds John Sheffield with the second George Villiers, and makes a strange medley of the two, ascribing the 'Rehearsal' to the former.

George Grenville Nugent Temple, second earl of Temple, was created marquess of the town of Buckingham in 1784, and his son, Richard Grenville Brydges Chando, was advanced to the dukedom of Buckingham and Chandos in 1822.

Buckinghamshire, an inland co. of England, of very irregular form. Camden derives its name, though his etymology has been disputed, from the abundance of beech trees. It is one of the largest counties in England; it is 130 miles long. It is bounded on the N. and N.W. by Northamptonshire; on the W. by Oxfordshire; on the S. by Berkshire; and on the E. by Middlesex and Hertfordshire. The greatest length measured nearly N. and S. from the neighbour of Olney to the river Thames above Staines is 53 miles. Its breadth varies much, the greatest being about 37 miles.

Aylesbury (which, though it does not give name to the co., has, on the whole, the best title to be considered the county town) is about 37 m. in a direct line N.W. by W. of London; or by the road through Berkhamstead and Tring 38½ m.; or 40½ m. by Uxbridge, Amersham, and Wendover.

The area of the co. is 738 sq. m. (473,320 acres); or taking the sum of the returns for the different parishes, 463,820 acres; it is one of the smaller English counties, being the thirty-third in the scale of relative magnitude.

Surface, Hydrography, and Communications. — The principal hills in Bucks are the Chilterns, a chalk range, which entering the co. from Oxfordshire runs across it in a N.E. direction and enter Bedfordshire near Dunstable; separating it from Beds and Herts. near Flitwick and Henley. Under the tribute of the Theame, and from the basin of the Ouse. Near Ivinghoe the elevation of these hills is 904 ft. above the level of the sea; and another eminence S.W. of Wellingborough is 905 ft. above the sea. Muzzle Hill near Brill is 744 ft., and Box End a little S.W. of Leighton Buzzard 549ft. Under the northern slope of these hills is the rich vale of Aylesbury, watered by the Thame. In that part of the co. S.E. of the Chilterns there is a good deal of woodland, though it has much diminished within the last 100 years. The prevailing timber is oak and ash, S. C. elm and poplar. There is some wood on Whaddon chase, a tract of high land in the northern part of the county. The whole of the Chiltern district is said to have been a forest; and according to tradition is still covered with woods. The part of the co. which is not covered with woods, chiefly of beech, is to be almost impassable, till an abbot of St. Alban's had several of them cut down because they afforded harbour to thieves. The name Chiltern is derived from Camden from 'Cold Ench' and 'Chert'; or Chert, signifying chalk. The chief riv. of Bucks is the Thame, which skirts the co. on the S.W., separating it from Berkshire, and, for a short distance, from Surrey; the Coln, which separates Berks from Middlesex until its junction with the Thames at Staines; the church which is a feeder of the Thames; the Ouse, and its tributary the Ouse.

The Thames becomes the boundary of the co. a little below Henley, and has a winding course first to the E. and then to the S. W. at Streatley and Maidenhead, and Eton, to its junction with the Coln, being navigable throughout this part of its course. Its waters do not receive any material accession from Bucks: the Wix, which passes High Wycombe, joins it below Marlow; one or two small streams alluded to near Eton, and another a little lower down opposite Old Windsor.

The Coln becomes the boundary of the co. a few miles below Rickmansworth, and continues, by one or other of its arms, to be the boundary until it meets the Thames. In the general course of its great meander it passes through Colnbrook, and receives a considerable stream, the Mushbourn, from Amersham. It is not navigable. It produces trout and other fish.

The Thames is formed by the junction of several small streams; the principal, to which the name of Thames is assigned, rises near the vil. of Stewley, between Fenny Stratford and Aylesbury; and flowing in a winding channel, but on the whole in a S.W. direction, unites near the vil. of Quainton (W. of Aylesbury) with another stream which rises near Tring (Herts), and is partly through Hertfordshire and partly through Bucks, and for a part of its course forms the boundary of the two counties. These streams before their junction are swelled by a few insignificant streams below their unites to a stream until it reaches the border of Oxfordshire, near the town of Thame. From the junction of the two streams to this
point it receives some rivulets which water the vale of Aylesbury. Near Thame, according to some of our authorities, the navigation commences. After separating Bucks from Oxon for a few miles, the riv. enters Oxfordshire, through which it flows till it joins the Thames; for Donnington, the whole length of the Thames in that part of its course which belongs to Bucks is about 28 miles. Its further course till its junction with the Thames is about 14 miles, making its whole course 42 miles. This riv. abounds with fish, especially with eels (long and thin), and produces pike, perch, chub, roach, and gudgeon.

The length of the Ouse, and the extent of surface which it drains, give it a high place among the English rivers; but it is only in the upper part of its course that it is of importance. In the County of Hants, it enters the co. at Turweston near Brackley (Northamptonshire, in which co. the Ouse rises), and after dividing it for a few miles, first from Northamptonshire and then from Oxfordshire, quits the border, and flowing E. and then N.E. through the co. past the town of Bicester near the Oxford comes a border stream, and separates Northampton from Bucks. Again quitting the border it crosses another part of the co., flowing in a very winding channel to the N.E., past Newport Pagnell (where it receives the Ousel), Weston Underwood, and Olney. After dividing Bucks from Bedfordshire for a short distance, it finally quits the co. a few miles below Olney. Its whole course within the co. is 43 m.; the direct distance from the point where it first touches to the Thames to the point where it leaves the co. is 23 m.; increase of length by its sinuositys 20 miles.

The Ouse is formed by the junction of several small streams, which rise on the N. slope of the Chilterns or their continuation, the Dunstable Downs, and unite on the border of Beds and Herts. A branch of the E. Pot 'the Lower Lea.' by dividing for several miles the two counties it quits the border, and flows through Bucks N. to Newport Pagnell, where it falls into the Ouse. Its whole length may be estimated at 25 to 30 miles. It is remarkable for fine scenery and scenery.

Bucks is tolerably well furnished with canals. The Grand Junction enters this co. from Herts not far from Tvinghoe and runs N. to Newport Pagnell, following the valley of the Ouse, thence it follows the valley of the Ouse till it enters Northamptonshire and Bedfordshire. There are several cuts from this can. in Bucks; one to the town of Buckingham, and another to Wendover, and a third to Aylesbury, besides a shorter cut to Stony Stratford.

Several important roads cross this county. The parliamentary and mail road through Chester to Holyhead, the main channel of communication between the metropolis and Ireland, crosses the N. part in a N.W. direction, between High Wycombe and Marlow, which is followed by the road between Chester, nearly parallel to this, and more to the N., passes through Newport Pagnell. In the S. part of the co. there is the Oxford road through Beaconsfield and High Wycombe, and the great G. (Bath and Bristol) road between Cirencester and Maidenhead. There is also a road to Birmingharn through Aylesbury, Winslow, and Buckingham.

Geological Character.—The general direction of the outcrops of the different geological formations which cross this county is N.E. and S.W., and the formations present themselves successively to the observer as he travels N.W. The S.E. part of the county, included between the Thames and the Colin, is occupied by the plastic clay which skirts the London clay. Only a very small portion of the London clay occurs in this part of Oxfordshire, near Staines and South Staines. The chalk underlies the plastic clay, and rises from beneath it, forming the range of the Chiltern hills. From the summit of the N.W. escarpment of this range is an extensive view over the subjacent low country. The chalk marl, marly, and marly clay are also represented, and the marly limestone above the marl.

The chalk marl and the succeeding Tewtswood clay form the soil of the fertile vale of Aylesbury: the sandstone rises into a ridge bounding that vale on the N. and N.W.

The oolite series of formations succeeds those which we have already noticed, and occupies the N.W. part of the county. Of the Ham Sandstone, of which little is known, this series appears in Bucks. The Oxford or chalk clay rises from under the Oxford limestone, and extends to the town of Buckingham and to the N.W. of Stony Stratford and Newport Pagnell. To this formation succeeds that containing the cornbrash, forest marl, great oolite, and other strata.

Agriculture.—The climate of Buckinghamshire is mild and healthy, like that of most of the inland counties in which there are no fens or marshes to engender fowries and other nuisance. It is, however, subject to the climate of England through its whole breadth from S.W. to N.E., are neither very high nor bleak, and the general temperature is favourable to the ripening of most of the crops usually raised in Great Britain. The hills, which are a portion of the Chiltern range, with corresponding the borders of Berkshire and Bedfordshire, divide the county into two distinct parts, varying in soil and fertility. To the W. lies the fertile vale of Aylesbury, which contains some of the richest pasture in England, and is a par excellence of the great advantages which arise out of this rich tract are some inferior soils; and as you recede from it still farther N. some very poor wet clays and gravels, which require a great outlay to be well cultivated, and return little profit to the farmer. Where they are not under a good systematic culture, these clays, which are not well drained, afford little rent, and scarcely a bare existence to the lawman. They are no doubt capable of improvement, but with low prices for agricultural produce, there is no great inducement to lay out capital on the improvement of such land.

Towards Bedfordshire there are some light sands partaking of the nature of the sandy belt which crosses that county. On the S.E. of the county the surface is more varied, there being several depressions or valleys on the western slope, in which considerable tracts of land are sunk. The mixture of chalk with the clay forms a soil well suited to wheat and beans, which, with the help of moderate mowing and good tillage, produces abundant crops. Farther N. from the chalk hills are variours species of soil, some of the elevations consist of gravel intermixed with clay or loam, others are composed entirely of poor ferruginous sand, and are but partially cultivated, a portion being planted withcheese at various parts of the county. The principal way of disposing of poor sands, on which little will grow except chestnut. Descending towards the great plain in which the Thames flows, the soil improves greatly: a good loam lying on a gravelly subsoil offers a sound soil for the growth of most crops and is very productive. An old field that has had a tolerable improvement in the mode of cultivation, since many of the old common fields have been inclosed. In the plain which extends along the Thames and to the borders of Middlesex, are some very good and well-cultivated soils. From Marlow to Staines, and for a few miles from the Thames, the cultivation of the land is conducted on good principles, as may be observed all along the great Bath road as far as Maidenhead bridge. The lower lands along the Thames and Colne, which are occassionally flooded, are in permanent meadows and very valuable. The whole of this plain consists of a good loam lying on the blue clay, called the London clay; but with the interposition, in many places, of a stratum of gravel, which adds much to the soundness of the soil and a natural decumbrance. The arable land in this part of the county, although much inferior to that in the vale of Aylesbury, is more carefully cultivated, and the general average return from it is probably fully as great.

According to the estimate made in the Agricultural Report in 1905, the county of Buckingham contains about 339,000 acres of land. Later calculations and measurements of the survey made for the Board of Ordnance make the surface covered by these large and smaller fields and pastures, and the other under the plough. The proportion varies according to circumstances. A high price of corn is a temptation to break up grass lands, and low prices induce the farmer to lay down the arable to grass. It is almost certain that the yield of wheat per acre has been increasing in recent years, and especially that the lands laid down to grass have been previously exhausted by overcropping, and sown with grass.
seeds in a foul state, by which great loss has been sustained both by tenant and landlord. A great many commons and common fields have been inclosed of late years, and considerable improvements have consequently been made, but the progress has not been so rapid of late, owing to the low prices of agricultural produce. The present gross amount of produce in corn, cattle, and from the dairy, which this county sends to the metropolis and surrounding markets is however large, and will no doubt increase with the increase of capital and skill applied to the cultivation of the soil. A great advantage to Buckinghamshire, in an agricultural point of view, is the convenience of water carriage by the banks of the rivers which wind their way in various directions. The railroads projected and in progress will enable the farmers to send their produce to London at a still cheaper rate; but this accommodation will be still further extended by the proposed Birmingham and London canals which will intersect this county, and by which the canal distance between Manchester and London will be lessened 23 m, with 77 fewer locks: the estimate is three millions. There was formerly a very inconvenient division of the land in many places, under yard bounds; in the law book styled virgata terrae. This somewhat resembled the run rig and run dale in Scotland. [BERWICKSHIRE.] It consisted of various narrow and unconnected strips about a pole wide, which, taken together, amounted to 30 or 40 acres, and the names of the owners of the strips being attached. The occupiers were restricted to a certain mode of cultivation highly inconvenient, which was a great obstacle to improvement. Most, perhaps all, of these divisions have been done away with by acts of inclosure. Buckinghamshire being a good county, the farms are not in general very large; few are above 500 acres, and many do not exceed 20 or 30: the average may be taken at about 200 acres. The rent of arable land has fallen greatly of late years, and it might be difficult to state a general average. The poor-rates, till the introduction of the late new laws, were extremely various: and as in taking a farm the poor-rates and tithes are always taken into consideration, and the rent is proportionally less when the poor rates are high, they have materially affected the annual value of the land when let. In this manner of reckoning, the farmer pays from 25s. to 40s. per acre for good arable land, of which the landlord receives from 15s. to 30s. Meadows let proportionally higher, especially those which are situated along the rivers and can occasionally be flooded at the option of the occupier. Leases for 7 and 14 years prevail, but most farms are let from year to year; and the tenants are seldom removed, provided they pay their rents current and due in a third of a year. The ploughs and instruments of husbandry have been improved since the publication of the Agricultural Report. Although old-fashioned ploughs, drawn by four or even five horses in a line, are still occasionally seen on some of the steepest and most inaccessible hills, the general tendency is to better implement drawn by fewer horses. In very wet stony soils the treading of the horses on the land already ploughed is very hurtful; and in these lands it is best to let the horses follow one another in the furrow. Like the rest of England, Buckinghamshire once contained many common fields, laid out in narrow pieces, or lands, which did not admit of cross ploughing, and which were seldom or never straight. By being constantly ploughed together, these lands became at last so high and rounded, that if a man sat down in the furrow which divided them he could not be seen by another man in the next furrow, owing to the great height of the ridge between them. When these lands were inclosed and laid in regular fields, it took no little trouble to bring them to a regular form. This could only be done gradually; for the best soil being accumulated on the crown of the ridge, would, in levelling, have been buried in the furrows, leaving a barren subsoil exposed. It was not until the ridge was gradually lowered, and the deep furrow filled up, until the land could be ploughed across the old furrows without much difficulty; after which new and straight ridges could be formed. The occasional application of the spade greatly accelerated the improvement. A few of the old crooked ridges may still be seen on farms where the proprietors or the occupiers dread innovation. The object of high ridges may not be to retain all the water, but to let the water run off; but a much better method is to underdrain the land up each furrow, which will take off the superfluous water more effectually. Narrow furrows, properly laid out, will keep any soil sufficiently dry when the under-drains prevent accumulation of water in the furrows. The furrows, judiciously deepened with the spade across the ridges, will often take all the water when there are no under-drains. When the lands are laid in a good form they may be kept so by alternately changing the crown and furrow, or which is much the better, by a higher ridge cut across the valley of each furrow, parallel with the closely inclosed meadows, and the space between the ridges; these will each contain and drain as they are filled with water; the surface level of the furrow will be raised parallel with the adjoining lands. In the dairy districts are extensive pastures, which would be much improved by greater subdivision. Besides the advantage of ditches in draining a soil naturally retentive of moisture, and the shelter given to cattle and sheep by high banks and hedge-rows, it is ascertained that milk frequently shifted this better than when they kept a long time on the same pasture. In very large pastures there are always spots where the grass is sweetest, and eaten more closely, while in others it is left by the cattle to grow long and rank, and is consequently wasted and trodden down. At smaller pastures the same effect is produced. The cows are chiefly short-horns, Glamorgan, and home-bred. On some lands none succeed so well as those which have been reared at home; on others it is said that cows brought from a distance thrive better. May not this be accounted for by the difference of the soils in the two situations, and reared? Those who select a good stock to breed from, which experience has shown to suit the quality of the pasture, and keep the calves and heifers well till they come to the table, will probably reap the benefit. Although the farmers sell only their own stock at home, so that they may be accustomed to the pasture; and, although cows thus reared may be more expensive than cows that are purchased, they will well repay the difference by their greater produce, and general condition when sold on the market. Such small attention be paid to the selection both of the bulls and cows to breed from, the cheapest plan is to purchase cows of a good breed, with their first calf, bred upon land rather inferior in quality to that on which they are to be kept, so that they may not be prejudiced from the change to a more regular pasture. The large Hereford oxen are preferred for grazing where the land is very good, from the notion that a large ox is more profitable than a smaller. A large ox when fat has, for instance, the advantage of being two shillings per cwt. higher than a smaller, supposing both equally fat and well-shaped; but it is by no means proved that this flesh is produced by the same proportion of feed. A small ox will fatten on inferior pasture and in a much shorter time than a larger. The return is therefore quicker and more certain, and there are experienced men who maintain that such a small North Devon or a Scotch highland ox will give a better average profit on his cost and food, in a given time, than the larger Hereford. The small Scotch oxen, which fatten so readily in English pastures, will always bring a better price than on the Scotch market, and there is never any difficulty in disposing of them. Oxen are now much less frequently used in the plough than they were formerly in this county. The greater speed and general usefulness of the horses causes them to be preferred in spite of the pretended economy in the use of oxen. Hay is the chief food of the cattle in winter, but turnips and straw begin to be substituted, notwithstanding the bad taste which turnips impart to the butter. This taste may be dispelled by carrying some mixture of meal, or a part of warm water to the new milk, and putting a small piece of salt petre in the cream. No great quantity of cheese is made in this county, except at a few cream cheeses in the neighbourhood of the principal towns. The butter is chiefly sent to London made up in the form of oblong rolls weighing two pounds each. It is sent in baskets called from their shape, which hold from
20 to 40 rolls. Their depth is uniformly 11 inches. Each flat is marked with the initials of the dairyman who sends the butter, and the carrier who buys it, to whom also the flat belongs; and the quantity contained in each flat is also marked upon it. The factor in London pays the carriage, and remits the amount of the sale once in the month. Dairy farms the calves are usually sold, when three or four days old. The farmers to whom the calves are sold are those farmers who being within a moderate distance from London or any considerable town, find it more profitable to fatten calves by sucking them than to make butter. The calves fattened by farmers to make this business profitable should sell by weight at about half the price of butter. It often sells for much more.

Many ewes are kept in this county for the sake of early lambs for the London market. The Dorsetshire ewes, which have been very rare in the season, are consequently preferred for this purpose. Where mutton is the object, the South Down breed is in greater request. The Gloucestershire and Leicester and a breed crossed between them have lately come into favour, especially since long wool has borne a better price in proportion to the quantity than the shorter and finer. On the Chiltern hills they buy two-thirds of wethers and one-third of ewes in autumn; the wethers are fattened on turnips, and the ewes, after their lambs are fat and sold off, are themselves fattened on grass the next summer.

There is a breed in the county generally large and black; some of them are bred in the county, but most of them are brought when young by dealers from Northamptonshire and Lincolnshire. The largest and finest are usually brought from dealers in Northamptonshire. The dealers draw large profits at a considerable profit. The mode of feeding horses is good and economical. They are sold in the stable on green clover or tares in the summer; and in winter they have hay with straw and oats.

The favourite breed is the Berkshire, sometimes crossed with foreign breeds, as the Chinese or Neapolitan, or with the Sussex and Suffolk breeds. The Neapolitan cross increases the aptitude to fatten, but renders the hog more delicate and liable to disease. The Chinese cross very greatly small porkers and sucking pigs. The quantity of pigs now introduced from Ireland has much diminished the profit on breeding this species of stock in this county.

There is a peculiar trade in this county, which is the rearing and fattening of ducks, especially for the London epicures. The eggs are hatched under hens, and the ducklings are reared in the house with great care. Ducks six weeks old will in January fetch 12s. a couple. It is usual that ducks to the value of 4000l. are sent annually from Aylesbury alone, and 20,000l. from the whole country.

The value of labour varies in different parts of Buckinghamshire, being generally in the inverse ratio of the poor rates. In some of the northern and western parishes of the county, the wages are above the average wages. No beer or food is allowed except in harvest.

There are numerous fairs in Buckinghamshire, the principal of which are as follows:

Amersham, Whit Monday, Sept. 25; Aylesbury, Friday after Jan. 18; Saturday before Palm Sunday, May 8; June 14, Sept. 25, Oct. 12; Beaconsfield, Feb. 13, Holy Thurs.; Buckingham, Jan. 12, March 6, Whit Thursday, July 16, Sept. 4, Oct. 5, Nov. 8; Burnham, Feb. 22, May 1, Oct. 2; Chesham, April 21, July 22, Sept. 29; Cosgrove, May 5, May 3; Fenny Stratford, April 10, July 18, Oct. 11, Nov. 28; Ivinghoe, May 6, Oct. 17; Marlow, May 1, 2, 3, Oct. 29; Newport Pagnell, Feb. 22, April 22, June 22, Aug. 29, Oct. 22, Dec. 29; Olney, Easter Monday, June 29, Oct. 2; Rioborough, May 6; Stony Stratford, Aug. 2, Oct. 11, Nov. 12; Wadow, May 12, Oct. 2; Winslow, March 20, Holy Thursday, Aug. 21, Sept. 22; Woburn, May 4, Nov. 12; Wycombe, Monday before Sept. 29.

In the year 1826, when the Parliamentary Survey was made, this county was divided into eighteen hundred. They are now reduced to eight; one of them however still retaining the title of "The Three Hundreds of Aylesbury. We give the ancient and modern hundred in a tabular form, noting our situation in the county.

## Antient Hundreds.

- Bonehill (Dunstow), nearly coincident with Newport (N.)
- Ellesberie (Aylesbury), ditto
- Stones (Stone), ditto
- Raiborough (Rioborough), ditto
- Coslau (Cosgrove), ditto
- Muresla (Mossley)
- Eralai
- Essendon (Ashendon)
- Votechale (Waddesdon)
- Tichesdele
- Rustonburgh, ditto
- Stoches, ditto
- Burnham, ditto
- Desborough, Stoke, and Burnham, 'Chiltern Hundreds,' the stewardship of which is a well-known nominal office, bestowed upon a member of parliament who wishes to vacate his seat.

The number of parishes given by Camden is 183; Messrs. Lyons (Magna Brittan) compute them at 201, 'as nearly as can be ascertained,' including 8 which have parochial chapels dependent on other churches, and two churches which were pulled down by Cornelius Holland, one of King Charles's judges, and have never been rebuilt. The number of rectors and vicars, with the total of their tithes, is 202; Messrs. Lyons, viz. 201; but the chapels are not distinguished. Several chapels are indeed noticed in that return, but all as combined with or dependent upon one or other of the 201 parishes. Some of the parishes have a very small number of inhabitants, and the tithes of the 183 parishes are less than 40. Cressow has only 1 house and 5 in.; and Tattenhoe only 2 houses and 13 in. Portions of 5 parishes belonging to Oxon are included in this co.

The manor of Aylesbury, as being one of the assize towns, the place where the quarter sessions are always held, and the principal place of county election, has the best title to be considered as the county town. It is on a little stream which flows into the Thames. It was built by the Romans in the 1st century of our era, and in 1831, 3110. The other manors are Great Marlow (pop. 4237) on the Thames; High Wycombe and Chipping Wycombe (pop. of the bor. 3158, of the whole parish 6293) on a small stream flowing into the Thames; Newport Pagnell (pop. 3338), as the junction of the Ouse with the Ouse; Aylesbury (pop. 2816) on the road from London to Aylesbury, by Ouse; Beaconsfield (pop. 3338), including several parishes, on the road from London to Aylesbury, by Ouse; Chesham (pop. 1762) between Uxbridge and Wycombe; Stony Stratford (pop. 1619) on the Ouse; Winslow (pop. 1290) between Aylesbury and Buckingham; and Ivinghoe (pop. 578) between Dunstable and Wadow. [Amersham, Aylesbury, Beaconsfield, Buckingham, Marlow (Great), Newport Pagnell, Wycombe (High).] Of the less important of these places we shall subjoin a few particulars, as well as of Fenny Stratford and Colnbrook, which formerly had markets (now disused), and are consequently sometimes reckoned among the m. t. of, and a few other places, which have some claims to notice.

Chesham is a m. t., in the hund. of Burnham, to the right of the road from London to Aylesbury, 29 m. from London through AYLESBURY, or about 26 through Watford and Rickmansworth. It has a market on Wednesday, and three fairs, April 21st, July 22nd, and September 28th. The living is a vicarsage, in the gift of the duke of Bedford. The parish church, dedicated to St. Mary, is a large Gothic structure. There are four Dissenting meeting houses, most of the in. being Dissenters. There is an almshouse for four poor persons, endowed by Thomas Weldon, who died 1624; and a free school, or national school, for the education of the children of the poor.

The town is in a pleasant and fertile valley, watered by the Chess, a branch of the Coln; it consists of 3 streets. The pop. of the par. in 1831 was 5388; but from the vast extent of the par. (11,880 acres, 18 to 19 sq. m.), this furnishes little clue to the pop. of the town itself. The
chief trade of the place consists in making shoes for the London market; the females are employed in the manufacture of lace and straw plait. There are some paper-mills in the neighbourhood. Formerly considerable business was done in the manufacture of turnery and coarse wooden ware, but the branches of these trades have ceased to exist. Of the population, 504 were employed in manufacture, trade, or handicraft.

Olney or Oulney is a m. t. on the N. bank of the Ouse, in the hundred and deanery of Newport; it is to the right of the great road from London to Castle Hedingham. The town is known as the haunt of scribes; it has a market on Monday according to some of our authorities, or Thursday according to others; and three fairs, one on Easter Monday, one on June 29th, and one on October 21st. The living is a vicarage, in the patronage of the Earl of Burlington, in the diocese of Canterbury. The town consists of one long street; the houses are built of stone, and the older of them for the most part covered with thatch; but in consequence of a fire in 1786, in which 43 dwelling-houses, besides other buildings, were consumed, those of later erection are chiefly covered with tiles. The church, dedicated to St. Peter and St. Paul, is a spacious building, ornamented with a tower and a lofty stone spire, 185 ft. in height from the ground. There are meeting-houses for Quakers, Baptists, Independents, and Methodists. There are some almshouses, and there are in the church four arches, besides several small arches extending over the meadows, which in winter are frequently flooded. To this bridge it is likely Cowper refers in the well-known lines,—

"Hark! 'tis the twanging horn o'er yonder bridge,
That, with its닐 nail, must befall itself,
Hides the winter's flood."

The pop. of the par., in 1831, was 2344, and 74 in the hamlet of Warrington; of the 2344, 201 were employed in retail trade or handicrafts. Lace-making was for a long time one of the chief occupations of the town, silk weaving and the manufacturing of hosiery have been introduced. Olney was the residence of the poet Cowper. Moses Browne, author of "Piscatory Eleguages," was vicar of Olney; and the Rev. John Newton, an esteemed religious writer and preacher, was curate here during the residence of Cowper.

Prince's Risborough is a small town in the hundred of Aylesbury, about 37 m. W.N.W. of London, on a by-road from High Wycombe to Thame. It has a market, formerly held on Saturday, but now on Thursday, but very little business is done; also a fair on the 6th of May. The town is supposed to have received its name from Edward the Black Prince, who had, according to the tradition of the inns, a residence here. A stone bridge erected in 1520, in a street joining the churchyard, is thought to surround the site of this house. The living is a vicarage, in the gift of the crown, held also of the annual value of £250; there are two Dissenting meeting-houses, an endowed school, and a national school.

The celebrated John Hampden represented Wendover in five Parliaments. Stony Stratford is on the Ouse, in the hundred of Newport, 53 m. from London, on the parliamentary and mail-road to Holyhead; it is built also on the ancient Watling Street, along which it extends about a mile. The houses are built of stone, and in Caversham, in the neighbourhood. There is a church, that of St. Giles, on the S.W. side of the town, rebuilt in 1776; it exhibits a bad imitation of Gothic architecture. (Lyon's "Mag. Brit."). On the N.E. side of the town is the tower of the former church of St. Mary Madgalen; the body of the church was destroyed in 1742, in a fire which laid a considerable part of the town in ashes. The streets are partially paved, and not lighted. There is a stone bridge over the Ouse at the farther (i.e., N.W.) end of the town. One of the crosses erected by Edward 1. is at the places where the corpse of his queen Eleanor of Castile rested on its way to interment in Westminster Abbey, stood in this town, but it was demolished in the great civil war. There was in remote times an hospital of St. John. There are Independent, Baptist, and Wesleyan meeting-houses in the town, or very near it. You enter the national school and two large Sunday schools, in which the children of the poor are taught the rudiments of education.

It has been supposed by Camden and others that the Lactorodrom from the Celtic lech, a stone, and ri and ryd, a ford to that of Stratford. In the map of Antient Britain, published by the Commissioners, Stradford is marked. Lactorodrom is fixed at Tewctor. It was in this town that Richard III. possessed himself of the person of the unhappy Edward V. and arrested Sir Thomas Vaughan and the Lord Richard Grey.

The market is on Friday, and there are three fairs, viz. on August 2nd, October 11th, and November 12th. There was till of late years a fourth fair, held in April, but this has been discontinued. The only manufacture is that of lace. Carlisle (Top. Dict. of Eng.) fixes the October fair on the third Thursday. There is a stone bridge over the Ouse. Winslow is in Cotsal hund., on the road from Aylesbury to Buckingham, 49 m. by the road through Tring, and 51 through Amersham. It is a neat town on the brow of a hill, commanding several fine prospects. It consists chiefly of three streets, composed of brick-built houses. The church, dedicated to St. Lawrence, is a large pile of building, with a square embattled tower at the W. end. The living is a vicarage, in the gift of the crown. The market is very small, and is held on Thursday. Before Easter, the year, March 20th, Holy Thursday, August 21st, September 22nd, and the Thursday before October 11th. The town is in the hundred of Cotsal hund., and has several white-painters. There is a market for vegetables, in the neighbourhood for making opium. Some lace is made at Winslow.

Ivinghoe is in Cotsal hund., 33 m. N.W. of London, just under the N.W. slope of the chalk range. It has a small regular market on Saturday; and two fairs, May 13 and October 17th. The church, dedicated to St. Mary, is a handsome Gothic building. There is an ancient altar-tomb on the N. side of the chancel; it has been disputed whether this was the tomb of Henry, bishop of Winchester, brother of King Stephen. The living is a vicarage, and was in the gift of the late earl of Bridgewater. The par. of Ivinghoe is extensive, and has several dependent hamlets: the pop. of the whole was, in 1831, 1646. Berryishly house, in the town, now a farm-house, is said to have been the seat of Henry, bishop of Winchester.

Some straw plat is made in Ivinghoe. The manor of Ivinghoe, according to tradition, once belonged to the family of Hampden; but one of this family, having had a dispute with the Black Prince, was disinherited and the manor was taken by way of fine or composition. The lines which embody the tradition are thus given by Gough in his Additions to Camden.

Hamden of Hamden did forge
The Tower, West, and Ivinghoo,
For striking the Black Prince a blow.

Mears. Lyons have set aside this tradition, by finding that neither of these three mansors was ever in the Hampden family.

The following two places once had markets, but they are now discontinued.

Fenny Stratford is in Newport hund., on the great Holyhead road, 45 m. from London, and about 7 m from Stony Stratford. It is a chapey dependent upon the parsh of Fenny Stratford. The market used to be held at the Cross, on the market-day through the exertions of the antiquary Bourne Willis, and dedicated to St. Martin. Willis himself is buried within the rails of the communion-table. The market was on Monday while it continued: there are four fairs, April 15th, July 15th, October 15th, and the 11th of November. Fenny Stratford, like Stony Stratford, is on the Watling Street. There is a stone bridge over the Ouse, which flows by the town. Pop. of the chapey, in 1831, 635. In 1665 Fenny Stratford was much depopulated by the plague. There are Baptist and Wesleyan Methodist places
of worship, and a national school. Fenny Stratford gets its name from the nature of the surrounding country: it is itself on a hill.

Some fix the Magovintunus of Antoninus at Fenny Stratford.

Colnbrook is on the high western road, 17 m. from London, near Langley, Bexley, and Iver, (Bucks,) except a small part which is in the parish of Stanwell, Spelthorne hund., co. of Middlesex. The town consists of one long street of neat respectable-looking houses. The Coin here flows in four channels, crossed by a bridge, both built by the crown. The circumstance, combined with the agreement of its distance from London, Camden and others are inclined to regard it as the Pontes of the Itinerary of Antoninus; but in the map of Antient Britain, published by the Society for the Diffusion of Useful Knowledge, in 1827, the Coin is represented as an ancient chantry chapel at Colnbrook, which continued to be used after the Reformation, was endowed by private benefaction in 1682. This old chapel, which was in Langley parish, has since been pulled down and rebuilt on a different site, at Colnbrook and Maidenhead. There are still two fires, on the 8th of April and 3rd of May. The town was incorporated in 1543, by the style of the bailiff and burgesses of Colnbrook.

The following places had charters for markets, which have continued to be held at Bisham, Rayleigh, and Old Bushley, on the border of Northamptonshire; Little Brickhill, near Fenny Stratford; Burnham, between Colnbrook and Maidenhead; Credenhill and Haddenham, on the border of Oxfordshire, near Thame; Hambleden, near Marlow; Haslence, near Uxbridge; Great Harwood and Hoggeston, near Winslow; Iver, between Colnbrook and Uxbridge; Laverden or Lavendon, near Olney; Linclade, on the border of Bedfordshire, near Leighton Buzzard; Muresley, near Winslow; Snelshill, in Whaddon parish, between Stony Stratford and Moulton; Whitchurch, between Aylesbury and Winslow; and Wormehall, on the border of Oxfordshire, near Thame.

Brill, on the border of Oxfordshire, near Thame, is now still: it was in 1831, 1839; but it is said with much probability, that it has a fanatical church, and a fair held at the first week of April, which is a favourite residence of King Edward the Confessor. It is certain that King Henry II. kept his court here in 1150, attended by Thomas a Becket as his chancellor; he was there again with his court in 1154, when Henry III. kept his court at Brill in 1224 (Lysons's Magna Brit.). In the war between Charles I. and his parliament, Brill and Bourstall, a neighbouring vil. (pop. in 1831, 268), were made garrisons by the royal party.

Chalfont St. Giles, on the road to Amersham, is the place where Milton finished his 'Paradise Lost.' Here, too, he is said to have had the idea of his 'Paradise Regained,' suggested to him by his friend Elwood the quaker. The house in which he resided was, when Messrs. Lysons wrote, occupied by a farmer. Here is a school endowed by Sir Henry Palmer, in which the children are instructed, and at Chalfont St. Peter, close by, is a school supported by the Portland family. Pop. of Chalfont St. Giles, 1297; Chalfont St. Peter, 1416.

Hambleden (pop. in 1831, 1357), near Marlow. Greenland farm here; this vil. was at Wat Tyler's rising, a severely contested post in the war between Charles I. and the parliament.

Hampden (pop. in 1831, 286), near Prince's Risborough. The manor was for centuries in the Hampden family, the male line of which became extinct in 1764. The celebrated John Hampden lies buried in the churchyard; and there is a representation of the battle of Chalgrove field, in which he received his death-wound in 1643, on the monument of John Hampden, Esq., the last heir male of the family. Hampden house, the former seat of the Hampden family, contains several family pictures, but the individuals whom they represent are unknown. There is a whole-length portrait of Oliver Cromwell.

Great Missenden, between Amersham and Wendover, was the seat of a rich abbey of the canons of St. Austin. Some part of the conventual buildings remain. The church is a handsome Gothic building. Pop. in 1831, 1527.

Pitstone, antiently Pightelstathorn (pop. in 1831, 578), near Ivinghoe. In this par. was the rich abbey of Ashridge. The abbey, for some time after the dissolution of the community, was a royal palace; and Queen Elizabeth, before her accession, resided here. Part of the conventual buildings remained till the present century; they were nearly all pulled down by the then possessor, the late Lord Wodehouse.

Edward I. spent his Christmas at Ashridge, either at the monastery or at the neighbouring castle of his cousin, Edmund earl of Cornwall, son of Richard king of the Romans, A. p. 1290. He held a parliament there at the same time.

The site of the old abbey, in the parish of Pitstone, was in the manors of Colnbrook and Maidenhead. Pop. in 1831, 1255. The manor was in the reign of Queen Elizabeth seized by the crown for a debt. It was the residence for a time of 'the grave Lord Keeper,' Sir Christopher Hatton; and subsequently of Sir Thomas Coke, who, in his lifetime, retained Queen Elizabeth here, and presented her with jewels to a considerable amount. Upon the death of Sir Edward Coke, to whom the manor had been granted in fee, it came to his son-in-law Lord Purbeck. The manor-house afterwards came into the possession of the family of the Berners of Buckingham; the house was pulled down and re-built. The park is adorned by a colossal statue of Sir Edward Coke, and a sarcophagus on a pedestal has been erected in its vicinity to the memory of the poet Gray.

The old manor house of Stoke Poges is the scene of Gray's 'Long Story;' and the churchyard of his well-known 'Elegy.' The poet spent much of his youth in this vil.; and his remains lie (without any monumental inscription over them) in the churchyard, under a tomb which he had erected over the tombs of his mother and his brother, to arrange to stand, interspersed with columns, obelisks, and towers. They are adorned with arches, pavilions, temples, a rotunda, a hermitage, a grotto, a lake, and a bridge. The temples are adorned with busts, under which are suitable inscriptions. The churchyard is enclosed by a wall built by the then possessor of the manor, the Binghams; it was re-opened by Lord Clarendon, when in the reign of Elizabeth; it was re-built by Sir Richard Temple, who died in 1697, and has been enlarged and improved since. The whole front extends 916 ft., the central part 454. This mansion contains a valuable collection of religious paintings, with the arms of the Binghams. Pop. in 1831, 794.

At Stowe, near Buckingham, is the seat of the Duke of Buckingham. The grounds were originally laid out in strict paths and avenues, and adorned with canals and fountains. Subsequent improvements have been made in keeping with the design of the later century. A band of gentry and amateurs; and the beauties of Stowes have been commemorated by Pope and West, who spent many festive hours with the then owner Lord Cobham. The grounds, when belted from a distance, resemble, like a great park, interspersed with columns, obelisks, and towers. They are adorned with arches, pavilions, temples, a rotunda, a hermitage, a grotto, a lake, and a bridge. The temples are adorned with busts, under which are suitable inscriptions. The churchyard is enclosed by a wall built by the then possessor of the manor, the Binghams; it was re-opened by Lord Clarendon, when in the reign of Elizabeth; it was re-built by Sir Richard Temple, who died in 1697, and has been enlarged and improved since. The whole front extends 916 ft., the central part 454. This mansion contains a valuable collection of religious paintings, with the arms of the Binghams. Pop. in 1831, 794.

Water Stratford, near Buckingham, was the scene of a singular delusion in the latter part of the 17th century. Mr. John Mason, the rector, a man of sincere and fervent piety and troubled conscience, was the deluded one. His fate and curtailment of life, into a delusive notion that he was appointed to proclaim the second advent of the Saviour. Many believed on him, left their homes, and resorted to Water Stratford, in consequence of his declaration that 'the Lord Jesus would appear and condescend to visit him,' Pop. in 1831, 186.

Taplow, on the banks of the Thames, opposite to Maidenhead, may just be mentioned for the sake of noticing
Taplows Court, the seat of the marquess of Thormond; and the former mansion of Cleden House, destroyed by fire in 1795. This magnificent house was begun by the witty and profligate Duke of Buckingham, and was for some time the residence of Frederick Prince of Wales, great-great-nephew of the present king.

Slough, near Windsor, was for many years the residence of Sir William Herschel, and the place where he constructed his two great telescopes. It has been his residence ever since 1816.

Weston Underwood, near Olney, was for some years the residence of the poet Cowper; and some of his descriptions of rural scenery were drawn from nature in his walks round this place.

Buckingham for Ecclesiastical and Legal purposes.—Of the 201 par. 79 are vics., and 29 curacies or donatives. The co. is the most part in the diocese of Lincoln, and in the archdeaconry of Buckingham. Two par., according to Browne Willis (History and Antiquities of the Town, Hundred, and Deanery of Buckingham), four acres of that in Moseley. Lysons (Magnae Britanniae), are in the peculiar jurisdiction of the Archbishop of Canterbury, and four others are included in the diocese of London and archdeaconry of St. Alban's. The several par., by the law of 1792, are divided among the seven rural deaneries of Buckingham, Burnham, Muresley, Newport, Waddesdon, Wendover, and Wycombe.

Buckinghamshire is in the Norfolk circuit; the Lent assizes are at Aylesbury, the summer assizes at Buckingham, and the quarter sessions for the co. at Aylesbury, where also is the co. gaol.

The co. returns three members to parliament, one having been added by the Reform Bill. Aylesbury is the chief seat of commerce, the manufactory of such goods as there, and the return announced: the polling places are Aylesbury, Beaconsfield, Buckingham, and Newport Pagnell. Two members are returned for the hund. of Aylesbury (the right of voting for the bor. of Aylesbury having, in consequence of the corruption of 1835, been thrown open to the freeholders of the hund.) and two each for the bor. of Buckingham, High Wycombe, and Marlow. The whole number of members returned for the co. itself and places within it is eleven. It lost four members by the Reform Bill, and acquired two, each returning two members, having been disfranchised.

Civil History and Antiquities.—Camden and most other antiquaries have included Buckinghamshire, and probably with good reason, in the territory of the Catuvaeuni or Catuvaeuni. This people they consider to be identical with the Cassi, and to have been the subjects of Cassivellanus, who headed the confederate forces of the Britons against Julius Caesar. It may be justly doubted, we think, whether the people called the Catuvaeuni or the Catuvaeuni were the same people. [Britanniae.]

When the Romans, under the command of Aulus Plautius, in the time of the Emperor Claudius, seriously undertook the conquest of Britain, it has been considered by some that they first went, as is supposed by others, in the battle within its borders, the navigable Lud, one of the British chieftains, who was slain. It is not unlikely that this co. was crossed by the Britons in their retreat towards the Severn, and by the pursuing Romans; but we have no data for fixing any conflict of importance within its borders. The death of Togodumnus occurred, it is more likely, in the marshes of Essex, near the mouth of the Thames. When South Britain was subdued by the Romans and divided into provinces, Buckinghamshire was included in Venta Cesaris.

Several of the ancient British and Roman roads crossed this county. The 'Watling Street' coincides with the parliamentary and mail road to Holyhead in that part of it which runs from Brickhill to Stony Stratford through this county. No remains of the elizabethan road itself remain, although the line of its direction is undisputed. The 'Ickling' or 'Icknole Street' runs along the edge of the Chiltern hills, and a road runs nearly parallel to it under the hills, called by the country people 'the lower Achnall way.' The 'Aken Street' was within this county and, but its direction is uncertain. A Roman road, coinciding with part of the turnpike-road from Bicester (Oxon) to Aylesbury, may have been part of a road leading from Alester to Londonium (London) and from the Thames to the sea; and some Roman roads thought to have passed by Water Stratford and Stow in the direction of Towcester. Of Roman stations some notice has been already taken. The 'Magistriu'm' of Antonine may be at Fenny Stratford; 'Lactodorum,' which Camden fixes at Stony Stratford, and Pontes, which he fixes at Colnbrook, are placed by more modern antiquaries at stations beyond the limits of Buckinghamshire; 'Vexatodorum,' at Towcester in Northamptonshire; and Pontes, at Staines in Middlesex. There are several ancient camps or earth-works in the county, chiefly near the edge of the Chilterns, or the course of the Thames: there is an earth-work at Towcester, the ridge of the Chilterns, in the corner of which is a high circular mound or keep, 80 paces in circumference, called 'Castle Hill,' or 'Kimbly Castle.' The name of the adjacent villa. of Kimble (Great and Little) was written in ancient records Kynoble or Cynoble. The site of Buckingham under St. Alban's and under London, Buckinghamshire was the scene of contest, but not of any marked event. Hanslope castle, near Stony Stratford, held for the barons against John by its owner, was taken by the king's favourite, 'Fulk de Brent, A. D. 1213, or 1214.' It is one of the castles mentioned in the great civil war between John and Henry I., and his parliament, the vil. of Brill was garrisoned by the king. Upon this garrison the parliamentary forces under Hampden made some unsuccessful attempts. Aylesbury seems at this time to have been the seat of a bishop. In 1643 the parliamentarians under the Earl of Essex were quartered at different places in the county. Prince Rupert attacked by surprise their quarters at Wycombe and another place, and took several prisoners, with which he retired to Oxford. Buckingham and Stony Stratford were both inclosed in a skirmish which took place on this occasion that Hampden received his death-wound. He lingered in great pain for three weeks and then died. In 1644 the king had his head-quarters at Buckingham. In the same year Boscawen, the royalist, had his head-quarters at Water Stratford, and Castletown, near Stony Stratford, was occupied by the royalists. The remains of the buildings belonging to the various religious establishments are but scanty. There are some very small remains of Buryham abbey and Medeuham abbey. Of Medeuham a short party, having groined arches resting on pillars, with enriched capitals in the latest Saxon or Norman style. Some part of the cloisters of Asbridge monastery escaped destruction by accident, when the other conventual buildings were destroyed. Not far from this place was the Duke of Buckingham's castle, and the ruins of a large building of considerable remains of Nutley abbey, which is now converted into a farm. The buildings occupy three sides of a quadrangle. On the S. side is the hall, 68 ft. long by 24 ft. (nearly) wide, now used as a barn: the style of this building is very different from the rest of the cloister, and bears no resemblance to the English style; part was probably built after the dissolution. Part of the monastery of Muresley (or St. Margaret), in the par. of Tingleho, is yet standing, and is used as a dwelling-house. Lysons (Magnae Britanniae).

Of the churches of early date, Stewkley, between Winslow and Leighton Buzzard (Bedfords.), is the most remarkable. It has usually been cited as a Saxon church, although there is no authentic proof of this. It was erected, not by the Conquest, and it has nothing to distinguish it from other churches erected after that time. It is a good Norman structure; no part of it has been altered internally or externally, nor materially defaced. The porch on the S. side, and the short tower between the nave and chancel, have been added since its erection. (Lysons; Rickman's Gothic Architecture.)

At Hitchenden, near High Wycombe; Stanton Bury, near Stony Stratford; Upton, near Colnbrook; Water Stratford, near Buckingham; and Dinton, near Aylesbury, the churches have some portions of Norman architecture.

Chetwode church, near Buckingham, formerly the church of the priory of Austin Canons, may, from the style of the architecture, be considered as coeval with the foundation of the priory itself, A.D. 1144. Among the most antient and elegant specimens of stained glass to be found in the kingdom. Hillesden church, rebuilt 1493.
Affords a rich example of the style of a later age; it has some good perpendicular parts. (Lysons; Rickman.)

**Education.**—The number of schools and scholars in the county, according to the returns made to the House of Commons in 1835, was as follows:

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<th>Schools.</th>
<th>Scholars.</th>
<th>Total.</th>
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<td>Sex not specified</td>
<td>1989</td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td>420</td>
<td></td>
</tr>
<tr>
<td>Total of Children under daily instruction</td>
<td>10,634</td>
<td></td>
</tr>
<tr>
<td>Sunday Schools</td>
<td>294</td>
<td></td>
</tr>
<tr>
<td>Number of Children from 4 to 13 years:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>7198</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>8566</td>
<td></td>
</tr>
<tr>
<td>Sex not specified</td>
<td>4964</td>
<td></td>
</tr>
<tr>
<td>Maintenance of Schools.</td>
<td></td>
<td>20,728</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant Schools</td>
<td>9</td>
<td>2</td>
<td>9</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Daily Schools</td>
<td>1717</td>
<td>36</td>
<td>1266</td>
<td>989</td>
<td>5196</td>
</tr>
<tr>
<td>Sunday Schools</td>
<td>9</td>
<td>271</td>
<td>76</td>
<td>524</td>
<td>1264</td>
</tr>
<tr>
<td>Total</td>
<td>2127</td>
<td>315</td>
<td>20,848</td>
<td>897</td>
<td>13,653</td>
</tr>
</tbody>
</table>

**Occupations.**

**Persons.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inhabited.</td>
<td>Families.</td>
<td>Building.</td>
</tr>
<tr>
<td>Ashendon Hundred</td>
<td>2,556</td>
<td>2,619</td>
<td>17</td>
</tr>
<tr>
<td>Aylesbury</td>
<td>3,516</td>
<td>3,578</td>
<td>19</td>
</tr>
<tr>
<td>Buckingham</td>
<td>2,062</td>
<td>2,594</td>
<td>51</td>
</tr>
<tr>
<td>Burnham</td>
<td>3,593</td>
<td>4,138</td>
<td>15</td>
</tr>
<tr>
<td>Cottesloe</td>
<td>2,363</td>
<td>2,774</td>
<td>10</td>
</tr>
<tr>
<td>Desborough</td>
<td>3,953</td>
<td>4,459</td>
<td>23</td>
</tr>
<tr>
<td>Newport</td>
<td>5,155</td>
<td>5,716</td>
<td>18</td>
</tr>
<tr>
<td>Stoke</td>
<td>2,342</td>
<td>2,902</td>
<td>8</td>
</tr>
<tr>
<td>Aylesbury Borough</td>
<td>990</td>
<td>999</td>
<td>7</td>
</tr>
<tr>
<td>Buckingham</td>
<td>710</td>
<td>780</td>
<td>6</td>
</tr>
<tr>
<td>Totals</td>
<td>28,159</td>
<td>31,849</td>
<td>134</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HUNDREDS, &amp;c.</th>
<th>Agricultural.</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashendon Hundred</td>
<td>349</td>
<td>37</td>
<td>2,025</td>
</tr>
<tr>
<td>Aylesbury</td>
<td>340</td>
<td>120</td>
<td>2,239</td>
</tr>
<tr>
<td>Buckingham</td>
<td>251</td>
<td>23</td>
<td>1,635</td>
</tr>
<tr>
<td>Burnham</td>
<td>185</td>
<td>37</td>
<td>1,892</td>
</tr>
<tr>
<td>Cottesloe</td>
<td>373</td>
<td>66</td>
<td>2,578</td>
</tr>
<tr>
<td>Desborough</td>
<td>165</td>
<td>58</td>
<td>1,171</td>
</tr>
<tr>
<td>Newport</td>
<td>362</td>
<td>69</td>
<td>2,831</td>
</tr>
<tr>
<td>Stoke</td>
<td>97</td>
<td>23</td>
<td>1,300</td>
</tr>
<tr>
<td>Aylesbury Borough</td>
<td>7</td>
<td>209</td>
<td>9</td>
</tr>
<tr>
<td>Buckingham</td>
<td>23</td>
<td>5</td>
<td>197</td>
</tr>
<tr>
<td>Totals</td>
<td>2,152</td>
<td>453</td>
<td>16,743</td>
</tr>
</tbody>
</table>
The population of this county at each of the decennial enumerations made in the present century was as follows:—

<table>
<thead>
<tr>
<th>Year</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
<th>Inc. per cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1801</td>
<td>33,934</td>
<td>55,350</td>
<td>89,284</td>
<td></td>
</tr>
<tr>
<td>1811</td>
<td>56,208</td>
<td>61,442</td>
<td>117,650</td>
<td>97 90</td>
</tr>
<tr>
<td>1821</td>
<td>64,867</td>
<td>69,201</td>
<td>134,068</td>
<td>13 93</td>
</tr>
<tr>
<td>1831</td>
<td>71,734</td>
<td>74,795</td>
<td>146,529</td>
<td>9 29</td>
</tr>
</tbody>
</table>

The increase in 30 years is thus shown to have been 30,865 persons, or 34 per cent.; the increase in the whole of England during the same period having been 57 per cent.

At the census of 1821 an attempt was made to ascertain the ages of the people, and this experiment proved more successful in Buckinghamshire than in many other parts, the ages of more than 98 in 100 of the inhabitants having been returned: they were as follows:—

<table>
<thead>
<tr>
<th>Under 5 years of age</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>5,973</td>
<td>9,538</td>
</tr>
<tr>
<td>8,522</td>
<td>8,763</td>
</tr>
<tr>
<td>7,922</td>
<td>7,153</td>
</tr>
<tr>
<td>6,469</td>
<td>6,719</td>
</tr>
<tr>
<td>8,861</td>
<td>11,206</td>
</tr>
<tr>
<td>6,690</td>
<td>7,889</td>
</tr>
<tr>
<td>5,825</td>
<td>6,579</td>
</tr>
<tr>
<td>5,468</td>
<td>6,477</td>
</tr>
<tr>
<td>3,198</td>
<td>3,247</td>
</tr>
<tr>
<td>1,713</td>
<td>1,825</td>
</tr>
<tr>
<td>446</td>
<td>478</td>
</tr>
<tr>
<td>30</td>
<td>32</td>
</tr>
</tbody>
</table>

Total of ages ascertained 65,617 68,187 133,754

The pop. of the co., exclusive of the four parliamentary boroughs—Buckingham, Wycombe, Aylesbury, Great Marlow—was, according to the census of 1831, 125,437, leaving 21,992 as the pop. of the four boroughs. The proportions of electors for the co. to the gross pop. of the co. were, in 1832, 1 to 23.65, and in 1833, 1 to 26.25. In the boroughs taken together the proportions were in 1832, 1 in 7.78, and in 1833, 1 in 8.08.

Roads.—It appears from a return made to a committee of the House of Lords in 1833 that the extent of turnpike roads within the county of Buckingham, in the year 1829, was 165 miles. The management of these roads was then conducted by 13 different sets of trustees under the provisions of 33 Acts of Parliament. The sum annually expended in repairs averaged 15,251l.

Poor Rates.—The sums expended for the relief of the poor at each of the four decennial years of enumeration, and in each of the three years following 1831, were:—

<table>
<thead>
<tr>
<th>Year</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1801</td>
<td>66,156  1811</td>
</tr>
<tr>
<td>1811</td>
<td>133,944</td>
</tr>
<tr>
<td>1821</td>
<td>117,477</td>
</tr>
<tr>
<td>1831</td>
<td>137,356</td>
</tr>
<tr>
<td>1832</td>
<td>144,987</td>
</tr>
<tr>
<td>1833</td>
<td>139,977</td>
</tr>
<tr>
<td>1834</td>
<td>124,200</td>
</tr>
</tbody>
</table>

Real Property.—The estimated annual value of real property within the county assessed for the property-tax in 1831, was 644,130l.

Local Rate.—The total sum raised within the county for local purposes in the year ending 25th March, 1834, was 153,040l. 6s. The expenditure was—

<table>
<thead>
<tr>
<th>Item</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the relief of the poor</td>
<td>£124,200 0 4</td>
</tr>
<tr>
<td>In suits of law, removal of paterners, &amp;c.</td>
<td>3,140 0 0</td>
</tr>
<tr>
<td>For other purposes</td>
<td>23,645 19 0</td>
</tr>
</tbody>
</table>

The sums raised and expended in the two previous years ending 25th March, were—

<table>
<thead>
<tr>
<th>Year</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1832</td>
<td>£173,339 1 0 1833</td>
</tr>
<tr>
<td>1833</td>
<td>£159,783 11 0</td>
</tr>
</tbody>
</table>

Expended.—For relief of the poor | £144,587 17 0 132,937 12 0 |

For local purposes in repairing roads, &c. | 5,625 4 0 |

In suits of law, &c. | 3,515 0 0 |

For other purposes | 12,074 0 0 2,078 0 0 |

£172,285 1 0 £181,150 12 0

*Not separately stated this year.*

## The assessment of 1833, the only year for which such particulars are given, was collected from the owners of various descriptions of property, as follows:—

- On land: £136,225 18 0
- dwelling-houses: 20,429 9 0
- mills, factories, &c.: 3,302 6 0
- manorial profits, navigations, &c.: 828 16 0

= £159,786 11 0

## The county expenditure for various purposes in the year 1833, the latest of which any return has yet been made, was:

- For bridges and roads leading to them: £5,622 9 3
- gaols: 339 12 0
- expenses of criminals tried at quarter-sessions: 944 7 4
- at assizes: 950 6 11
- expenses of coroners: 142 4 6
- militia: 25 2 6

## Crime.—The number of persons tried at the assizes and sessions for criminal offences committed within the county in the three septennial periods ending with 1820, 1827, and 1834, were 145, 906, and 1356 respectively, being an annual average of 75 for the first, of 92 for the second, and 194 for the last septennial period. We have no information concerning the nature of the crimes committed except for the year 1834, when the number of persons charged with offences was 222. Of these, 29 were accused of crimes against the person, 27 were accused of crimes against property, 7 of malicious offences against property, 3 of uttering false coin, 1 of perjury, and 32 of simple breaches of the peace. Of the persons brought to trial 67 were acquitted, and 165 were convicted. Of these 1 was executed, 24 were transported for life, and 20 for terms of years. 116 were imprisoned for various periods, all except 9 for less than six months, 1 was publicly whipped, and 3 were fined and discharged.

Of the persons tried, 218 were males and 14 females: their ages were—

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 years and under</td>
<td>2 0</td>
<td></td>
</tr>
<tr>
<td>From 13 to 16 years</td>
<td>11 0</td>
<td></td>
</tr>
<tr>
<td>16 to 21</td>
<td>85 6</td>
<td></td>
</tr>
<tr>
<td>21 to 30</td>
<td>74 2</td>
<td></td>
</tr>
<tr>
<td>30 to 40</td>
<td>28 2</td>
<td></td>
</tr>
<tr>
<td>40 to 50</td>
<td>7 3</td>
<td></td>
</tr>
<tr>
<td>50 to 60</td>
<td>4 0</td>
<td></td>
</tr>
<tr>
<td>Above 60</td>
<td>3 1</td>
<td></td>
</tr>
<tr>
<td>Age not ascertained</td>
<td>4 0</td>
<td></td>
</tr>
</tbody>
</table>

= 218 14

The proportion of offenders to the population was 1 in 422. The centesimal proportions in which crimes of the various classes were committed were:

- Offences against the person: 12 50
- property with violence: 11 64
- without violence: 57 32
- Malicious offences against property: 92 23
- Forgery and offences against the currency: 1 29
- Other offences: 14 23

= 100

The number of persons committed to the county gaol in the course of 1834 was 792, including debtors and persons charged with minor offences, who were summarily dealt with by the local magistrates. Among the number of offenders there were 35 who were known to have been committed before—13 of them once, 7 twice, 8 three times, and 5 four and more times; the cases of sickness in the year were 60, and of deaths among the prisoners 6.

## Savings-Banks.—There are four savings-banks in Buckinghamshire—at Aylesbury, Buckingham, High Wycombe, and Newport Pagnell. The number of depositors and amount of their deposits in each of the three years ending 20th November, 1832, 1833, and 1834 were as under:—

= £136,225 18 0
= 20,429 9 0
= 3,302 6 0
= 828 16 0
= £159,786 11 0
= £5,622 9 3
= 339 12 0
= 944 7 4
= 950 6 11
= 142 4 6
= 25 2 6
BUCK-WHEAT (Polygonum sativum) is said to be found wild in Persia. The cultivation of it, according to many authorities, was as early as that in which the crusaders; according to others, the Moors introduced it into Spain from Africa; and hence it has in France the name of Oed sarrasin. The name of buck-wheat is a corruption of the German buck-wiezen, which signifies beechn-wheat, from the resemblance of the seed to that of the beechn-tree. It is called wheat, because, when grown, it produces a fine farina, which resembles that of wheat in appearance. The botanical name of the genus, Polygonum, is taken from the Greek words polus, much, and grana, grain, from its resemblance to beechn-mast. Buck-wheat grows with a strong heraceous, cylindrical, and branching stem of a reddish colour, about 2 feet high. The leaves, which are ivy-shaped, are placed alternately on the stems. The flowers, but in general, are in the great majority, white, and are succeeded by black angular seeds, formed of four triangles, being thus nearly regular tetrahedrons. The plant is an annual, and the flowers appear soon after it is out of the ground. They continue to blow and bear seed in succession till the frost destroys the plant. Being a native of a warm climate, the smallest appearance of frost in spring, while the plant is tender, entirely destroys it. Hence it is never sown in northern climates till all danger of frost is over, which in many parts of England is not till the middle of May; but its germination is so rapid, that it might be sown in September, at which time the principal part of the blossoms will have ripened their seeds. No advantage would be gained by leaving it longer on the ground, for even if the frost did not kill the whole plant, the earliest ripened seeds would be shed and lost; and the last blossoms would not produce perfect seeds.

The cultivation of buck-wheat has never been very extensive in the variable climate of Britain. It is not so well adapted to cold moist soils as to soils in colder countries, such as oats or barley on lands which are suited to the growth of these grains. For countries where there are very poor light lands with a hot dry climate, unfavourable to the growth of oats, and not rich enough for barley, buck-wheat is a great good as a fallow, and may be considered as a substitute for both, as it is one of the hardest crops, and one of poor land would scarcely be capable of supporting a population. As a principal crop, therefore, it is confined to some parts of the south of France and other countries similar in soil and situation. As a secondary and occasional crop, it often occurs in Switzerland, Germany, and especially in Flanders, where it enters as a regular part of their varied and complicated rotations. Under particular circumstances, it might be introduced with advantage into many parts of England where it is now unknown. The only counties in which it is cultivated to a moderate extent at present are Norfolk and Suffolk, where it is called brank. If a small patch of buck-wheat is occasionally met with elsewhere, it is, in general, mainly for the sake of encouraging game, particularly pheasants, which are extremely fond of it.

When sown as a principal crop it is sown either as a green crop, especially in warm and dry seasons. On richer and better soils it may be occasionally a good substitute for barley, when the land cannot be properly cleaned and tilled sufficiently early in spring; for it allows a full month more to prepare the ground; the crop may be hoed twice, the first time dry, a good fillage may produce nearly all the advantage of a summer fallow. Buck-wheat, on good land, will produce nearly as valuable a crop as barley, though it is certainly more precarious; the seed sown with it will probably produce more grass or clover than they would if sown with wheat; for buck-wheat, sown in this case, does not choke the grass, but shelters it from the scorching rays of the sun; and as it draws the land less than any other grain, it leaves it in better heart for the clover. It has been strongly recommended to be sown on good, close-grassed land, to which it may be allowed to grow, and then, before it is pulled, fed off by sheep or cut green for horses. By this means, the root weeds, which had been smothered by the tares and ploughed up immediately after the tares were off, will not have time to spring up again; the rapid growth and the sudden cutting will prevent the root weeds, otherwise effective in preventing the annual weeds from going to seed. Thus a crop is obtained between the tares and the wheat, and the land is kept perfectly clean. This is mentioned by Arthur Young, in the Survey of Suffolk, as a successful practice, which may not receive much attention, as it is always advisable to introduce into the ground in a green state. For this purpose, it is sown tolerably thick, and when the plant is in its greatest vigour and in full blossom, a roller is passed over the crop to bring it level with the ground. In this state, with the addition of a skim coulter, it turns neatly into the soil, and completely buries it. It soon decays from its own moisture, and the decomposed parts being incorporated with the soil greatly add to its fertility.

It is poorly adapted to cultivated soils, especially if they are trenched to a considerable depth, buck-wheat may be sown with great advantage for the purpose of being ploughed in as a preparation for the first crop of turnips. The turnips fed off by sheep penned on them will enrich and consolidate the surface of the land, and by the quick growth of the buck-wheat, get rid of weeds, and the decaying stems leave it very loose and hollow; but if the soil is moist and the air which is wet in mellow it and makes it crumbling, which is a great advantage. Provided the soil is stony and not compact, nor, on the other hand, too rich and poor or light it may be, or however dry the weather, it will produce a good crop of seed. It only wants a few showers at first, and at the time when the seeds begin to be formed, to bring the blossoms to their height, and if the first-formed seeds should not be so full as might be wished, the later may probably make up for it. The careful husbandman must examine the plants at different periods, and reap when he finds the greatest quantity of ripe and full seeds.

It is generally recommended as not being a mucilagineous crop, and the flowers come to seed in perfection, but under favourable circumstances from four to five quarters of good seed may be obtained from an acre of well-tilled land.

Manure is seldom or never laid upon land in which buck-wheat has been sown, as it is thought that the manure is reserved for other crops supposed to require it. It is asserted by many that manure makes the buck-wheat run to haunch and diminishes the crop of seed. That this may be the case, with injudicious additions of dung, we are not inclined to dispute; but if the land was tilled to a sufficient depth, if the manure was well prepared and intimately mixed with the soil, and if the buck-wheat was sown thin in proportion to the richness of the land, we have no doubt that it would not only grow high and strong and blossom well, but would produce a much better manure for the new crop. As to the objections that the crops run to straw and are deficient in corn, when the land is moist and has been highly manured, is, that the manure ploughed in and covered only with a few inches of soil exhausts the moisture which makes it shoot out a strong vigorous corn, but by the time of flowering the dry weather has exhausted the rich moisture of the manure, and the plant, pushing its roots downwards in search of food, finds a less fertile soil below, and the crop is weakened by which it cannot fill the manure to form a good plump seed. But when a soil is naturally rich, or artificially made so to a considerable depth, a strong and high stem is generally the forerunner of a great bulk of seed, as is often seen in those oats which are scattered thinly among winter wheat, and even when they are cut down, if allowed to ripen, is always both heavy and abundant.

Buck-wheat is sometimes cut in its tender state for 3 X 2
soiling cattle. It is said to increase the milk of cows greatly: it is also occasionally pastured by sheep. There is a diversity of opinion on its qualities, some speaking highly of it, and others denouncing it. One supposes, of truth, that it is not eaten by sheep or cattle in preference to any other plant, and that it has a stupefying and intoxicating effect when eaten in any great quantity. Upon the whole, we are inclined to think that its value is chiefly as an addition to the plants cultivated for their seeds, and as a cheap vegetable manure.

Buck-wheat may be reaped with the sickle or mown with the scythe, or it may be pulled up by the roots. The latter method is recommended in dry weather, as less likely to shed the seed when gathered. In dry weather it is recommended to cut or pull it very early in the morning or late at night, when the dew is on it, and not to move it much in the day. It may be tied up in sheaves or put into small heaps, as is done with peas. In either case birds must be carefully scared away, or they will take a large share of the produce.

Buck-wheat as a grain may be given to horses instead of oats, or mixed with them. No grain seems so eagerly eaten by poultry, or makes them lay eggs so soon and so abundantly. The meal, when it is ground, is excellent for fattening cattle or pigs. The flour is fine and white, but from a deficiency in gluten does not make good fermented bread. It serves well for pastry and cakes; crumpets made of buck-wheat flour eaten with jam or honey have a pleasant taste. In Holland, hasty pudding is also made of the flour with water or milk, and eaten with butter or sugar.

On a careful consideration of the reasons for and against a more general cultivation of buck-wheat and similar crops in this country, it appears that certain qualities which make it well worth attention. As it belongs to a different natural family in the vegetable kingdom it is probable that it may be a useful change when the land has been too long cropped with grainy plants. It may impart to the soil, or, as is more usual, be lost, certain principles by which its power of producing other crops may be increased. This can only be learned with certainty by repeated experiments; but some considerable effect may be expected from the powerful salts which are better inhaled than used as manure. The manure is indispensible; the only thing required is an accurate calculation of the comparative expense of its application, with that of bones or other purer purchased manure, taking quality and quantity into consideration. A few experiments on a small scale, and with the assistance of minute circumstances which is so often neglected in agricultural experiments, and repeated with perseverance, might place the cultivation of buck-wheat in a new point of view.

The result of the analysis of the ashes produced by burning buck-wheat straw as given by Vauquelin is

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbonate of potash</td>
<td>29.5</td>
</tr>
<tr>
<td>Sulphate of potash</td>
<td>3.8</td>
</tr>
<tr>
<td>Carbonate of magnesia</td>
<td>13.5</td>
</tr>
<tr>
<td>Silica</td>
<td>16.2</td>
</tr>
<tr>
<td>Alumina</td>
<td>10.5</td>
</tr>
<tr>
<td>Moisture and loss</td>
<td>9.5</td>
</tr>
</tbody>
</table>

These results will no doubt vary according to the soil in which the plants have grown. The carbonate of potash is so abundant that it has been suggested as a profitable use for the manure. The carbonate of magnesia is the chief use of the manure. The colour, being a smaller seed, but is much harder. Its stubble will remain alive during the winter, grow out in spring, and produce a second crop the next year if left alone; but this does not seem any great advantage, as the second crop is very apt to be inferior in quality. Yarranton mentions a crop grown in the Department de l'Isère which appears extraordinary; 12 measures sown produced 1296 measures, or more than a hundredfold, in a very dry season. Another gentleman obtained 80 for one. Notwithstanding these accounts, Thaer, who has repeatedly tried it, says that 'its presence is injurious, and it produces no advantage of which it is capable.' (vol. iv. s. 162.) Perhaps the experiments made in a rich spot in a garden have given results which multiplied the above extraordinary returns. Agricultural experiments are unfortunately often made in this way, and conclusions from them are more generally to be relied upon than from experiments made on the island exhibits abundance of pastoral scenery. Others have said, that on the invasion of Greece by the Persians, when the festivals of Diana were suspended, the country people thronged the temples and sang hymns to that goddess concerning their rural occupations, which thence were called Bucolic. There has been equal difference about the name of the inventor, and Dioscorus and Daphnis, whoever they may be, Steichorus and Theocritus, has each had his support for the other. But as it is forgotten that she is one thing to sing as shepherds do while tending their flocks, and quite another thing to sing as poets do when relating the life of shepherds.

Theocritus, Moschus, and Bion, have written Bucolics in Greek, and Callimachus and the Sicilian Epimenius or Epymenius, a later Latin poet, has shown us how tame and insipid Bucolic poetry may be. Such beauties as these compositions contain are chiefly comprised in delicacy of expression and refinement of language. Bucolic poetry has been little cultivated by the moderns; the French have converted it into mawkish gallantry; and the rank which it maintains in England may be estimated, when it is stated that Cunningham and Shenstone have been its principal ornaments. Those who deem this subject worthy of consideration, will find it amply treated in the works of i. 4; 'Salmacius on Solinus,' pp. 851, 857; and the dissertation prefixed by Heyne to his edition of the Eclogues of Virgil.

BUCU [DIOIMA].

BUD, or LEAF-BUD, in vegetable physiology, is the organized rudiment of a branch. Whatever becomes a branch is, when first organized, a bud; but it does not therefore follow that all buds become branches; on the contrary, owing to many disturbing causes, to which reference will be made, buds may abort into flowers, other inflorescences, or other contrivances which mask their real nature.

A leaf-bud is constructed thus:—In its centre it consists of a minute conical portion of soft succulent cellular tissue, and over this it is distributed in layers, the deeper layers being in the form of scales. These scales are closely applied to each other; those on the outside are the largest and thickest, and the most interior are the smallest and most delicate. In cold countries the external scales are often covered with hair, or a resinous varnish, or some other contrivance which enables them to prevent the access of frost to the young and tender centre which they protect; but in warm countries where such a provision is not required, they are green and smooth, and much less numerous. The cellular centre of a leaf-bud is like that of an ordinary bud, except that the parts towards the development of which its vital energies are first directed.

A leaf-bud usually originates in the axil of a leaf; indeed there are no axils in the axil of which one or more buds are not found either as rudimentary or as actual or as cellular centres communicate with that of the woody centre of the stem, and its scales are in connexion with the bark of the latter. When stems have the structure of Exogens, the bud terminates one of the metamers or phylloids; in Endogens it is simply in communication with the cellular matter that lies between the bundles of woody tissue in such stems. It is moreover important to observe that this is true not only of what are called normal buds, that is to say of buds which originate in the axil of the leafy organs, but also of adventitious buds, or such as are occasionally developed in unusual circumstances. It would seem as if, under favourable circumstances, buds may be formed wherever the cellular
BUD
325
BUD

Tissue is present; for they occur not only at the end of the medullary processes of the root and stem of Excogetes, but on the margins of leaves, as in Bryophyllum, Malaxis paludosus, and many others; and occasionally on the surface of leaves, as in the case of an Ornithogalum published by Fuchs. They are not uncommonly in form.

A leaf-bud has three special properties, those of growth, attraction, and propagation. In warm damp weather, under the influence of light, it has the power of increasing in size, of developing new parts, and so of growing into a whole plant. Thereafter veritably, and for ever, destined for. In effecting this it lengthens by the addition of new matter to its cellular extremity, and it increases in diameter partly by a lateral addition to the same kind of tissue, and partly by the deposit of woody matter emanating from the bases of the leaf-buds. When this deposit commences, the sap which a bud contains is either expended in forming new tissue, or lost by evaporation; in order to provide for such loss, the bud attracts the sap from that part of the stem with which it is in communication; that part supplies sap up to its turn from the tissue next it, and so a general movement towards the buds is established as far as the roots, by which fresh sap is absorbed from the soil. Thus is caused the phenomenon of the flow of the sap. Every leaf-bud is in itself a complete bud; and the first bud of the Blacxbasian bee is a bud-test, and not a bar. Although it is usually called life while attached to its parent plant, yet it is capable of growing as a separate portion, and of producing a new individual in all respects the same as that from which it was divided; hence it is called a normal brute, and as a seed, although not of the same kind; and advantage has been taken of this for horticultural purposes. [Budding.]

In general a bud is developed into a branch; but that power is interposed with or destroyed by several causes. This may be illustrated as follows: independently of all other. Every one knows that leaves are arranged with great symmetry upon young branches; as buds are axillary to leaves, the branches they produce ought therefore to be opposite to each other, and, a spurious leaf, as this we see does not happen. We may account for this in two or three ways: accidental injuries will doubtless destroy some; from want of light others will never be called into action; and of those which are originally excited to growth a part is always destroyed by the superior vigour of neighbouring buds, which attract away their food and starve them. There is moreover in many plants a special tendency to produce their leaf-buds in a stunted or altered state. In fir trees the side buds push forth only two, or a small spurious leaf, and the latter is lost; while in the cedar of Lebanon they lengthen a little, bear a cluster of leaves at their points, and resemble short spurs; in the sycamore, the whitebark, and many other plants, they lengthen more, produce no leaves except at their very base, and grow into low spreading trees. In the Cotoneaster, the leaf-buds, with unusually fleshy scales, and with the power of separating spontaneously from the mother plant; and flower-buds are theoretically little more than leaf-buds without the power of lengthening, but with the organs that cover them in a special state. Hence flowers are modified branches. [Flower.]

Buda, or OFEN (the first name, as well as the Sclavonian 'Budin,' being that by which it is known in the eastern part of Hungary), is on the right bank of the Danube, in the circle of Pesth, and nearly in the centre of the kingdom of Hungary, is united with Pesth, which lies opposite to it on the left bank of that riv, and is joined to it by a bridge about 3800 ft. in length: the two towns constitute the metropolis of Hungary; the city was first established to derive its name from Buda, a brother of Attila, who made the town his residence, and much enlarged it. On the other hand, Alt-Ofen, which extends further up the Danube, and is looked upon as a separate quarter of Buda, and is a part of the Hungarian capital, is derived from the name of the Romans, and was by them called Scambria. The name of Ofen (oven or kiln) has been given to it by the Germans, who form the bulk of its inhabitants. It was the spot where the modern Hungarian nation was first established, and gave the name to the rank of a royal free-town by Bela IV.; and became the seat of government in the year 1784. Buda, from its greater antiquity, has not in any way been styled the mother of Pesth. It is built round the Schlossberg in the midst of a mountainous and picturesque country, bordering E. on the banks of the Danube, and encircled by vineyards and forests on the other three sides; it is about 9 m. in circuit, and according to Blumenbach contained three years ago 3089 houses and 29,457 in habitants, independently of the garrison and strangers. These numbers exhibit an increase of 2509 since the year 1804, when they were 2278 families and 24,948 in habitants. The central part of Buda is comprehended in what is called the, a long narrow street with remarkably high houses; and further to the E. of both stands the New-town (or Neu-stadt), a more populous, but on a less lofty scale of construction, with a line of warehouses on the Danube; this suburb is immediately S. of Alt-Ofen. The fourth is 'Tabor' or 'the Raizen-town,' which skirts the Schlossberg on the S., and is the largest and most populous of any quarter outside of the walls. North of the Raisentown, between this and the Via Regia, lies 'Christians-town,' which is full of gardens, and built in the valley that separates the Schlossberg from the vine-clad heights which extend W. of it. To the S. of the whole there is a lofty eminence called Buda hill. According to the census of 1812, the Royal Observatory has been built, and its sides are studded with a multitude of small isolated villas and houses. The Fortress, which occupies about a twelfth part of the entire area of Buda, is laid out on a regular plan, and is full of streets, houses, and spacious gardens, and is as a seed, although not of the same kind; and advantage has been taken of this for horticultural purposes. [Budding.]

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spinning-will for silk thread, and an earthware and a tobacco manufactory. A few woolens and linens are also made. The trade of the town principally consists in the wines produced by the vineyards in the environs, to the average amount of 140,000 or 150,000 anuals (2,100,000 to 2,250,000 gallons). The red is marked specially under the name of Jaffa wines, or about 4,500,000 gallons, are made. The bulk of this wine, which is not much inferior to Burgundy, and is well known under the name of 'Fermer-Wein,' comes from the extensive vineyards belonging to the town itself, which are considered the best in the country, and the production of 70,000 gallons.

Independently of a theatre, Buda possesses within its walls a variety of places for public amusement, and without them, an inextinguishable fund of attractions in the beauty and diversity of the surrounding country. Buda was captured by the Turks from the Ottomans in 1541, and remained in their possession until the year 1686.

BUDA, BUDDHISM. Among the religions of Asia, that of Buddhism is one of the most remarkable, partly for the peculiar character of its doctrine, and partly on account of the vast number of adherents. From India, the country which gave it birth, nearly every trace of Buddhism has now disappeared; but it has become the religion of the great majority of the inhabitants of the high table-land to the north of the Himalayas as far as Turkestan. It is the prevailing creed of China, of the Peninsula of India beyond the Ganges, of Ceylon, and several islands of the Indian archipelago, and of the empire of Japan. According to an estimate given by Hasse, there are, at present, in the Buddhist countries, 120 millions of Chinese, 40 millions of Japanese, 120 millions of Jowans, 7 millions of Mohammedans, and 11 millions of Buddhists, or 319 millions in all. Though much has been written upon Buddhism, a critical investigation of the system, its system of doctrines, and the history of its diffusion among so large a portion of mankind, is still a desideratum. Hardly any of the original authentic documents of the sect, which are written in Sanskrit, have yet been fully examined, and the information which we now possess is not a trustworthy basis on which to build. It is generally believed, that in the second century, after the time of the Buddha, six terms descriptive of his hair are enumerated (ayonjana, No. 72—78), which, though some are not very clear in themselves, seem to attach a notion of beauty to its peculiar appearance: this could hardly be the case if the hair had been considered a sanitary instrument, and the preservation of the hair. The answer which Mr. Hodgson obtained from a priest in Nepal to an inquiry respecting the reason of Buddha being represented with curled locks was to this effect, that it was considered a point of beauty; still the fact that the Buddha now observes, an odd one for a sect which insists on tonsure.

The Buddhists themselves, however much they may disagree as to the period at which the founders of their religion lived, make no pretensions to a very high antiquity of their institution, but claim a date much more remote. The superior antiquity of the Buddhists over the Brahmanism has by some been asserted, are, 1st, the existence of large architectural remains evidently referable to the Buddhist sect, which are widely spread over nearly the whole country now occupied by the various sects of the Brahmanical profession; 2nd, the entire absence of every living remnant of the Buddhist sect throughout India, which presupposes that it must have ceased to exist at a very early date; 3rd, the admission of the Brahmanical sect that the Buddhists invaded India from the north or north-west, which might seem to favour a conjecture that the earlier inhabitants of the country, whom they subdued and subsequently expelled, were Buddhists; and 4th, the peculiar characteristics of Buddhism, which is in many respects simpler than Brahmanism, e.g., in the absence of castes, and thus seems to agree better with our notions of the state of society in the early stages of its development. It will however be shown that these arguments are not conclusive. The existence of architectural remains, far from establishing any claim on the part of the Buddhists to absolute priority, only proves that the sect to which these monuments belong must for a time, and probably at a later period, have occupied a greater extent of country; also that it had attained considerable proficiency in the arts of architecture and sculpture, which would naturally lead us to presume an advanced state of general civilization. That there are no Buddhists at present beyond the confines of their country is to be inferred from the circumstance that those monuments, may be considered as corroborating the well-established report of the violence and intolerance with which the Buddhists were for many centuries persecuted in India, and at last, in the seventh century of our era, were expelled from the northern parts of the country. The Boudhadas were in the possession of the country at the time when the Brahmanic tribes invaded it, is likewise subject to serious doubts. The caste named Suidras in the Brahmanic code of laws, and our, in our opinion, of such of the original inhabitants of India as became reduced, and who were suffered to continue in the country where the conquerors settled, but were entirely dependent on the will of the latter, and did not participate in any of those civil rights which the Brahmanic community conferred on its members.
The circumstances of the life of Buddha, which we find recorded, are only few. Conformably to the prevailing usage of the country, the infant was, a few days after his birth, presented before the image of a deity, which is said to have inclined its head when the child was brought near it; and for this reason he was named the 'Mind of the Future.' At the age of twenty years the boy was placed under the guidance of a spiritual instructor, whose name, according to a Mongol account of the life of Buddha, was Bab-Burenu Bakshi. He soon developed mental faculties of the first order, and became equally distinguished by the piety of his person. At the age of 20 years he married a noble virgin called Yasodhara Devi in the Ceylonese account of his life. He had by her two children, a son (whom the Mongols call Racholi, the Ceylonese, Rahul Kumareya) and a daughter. At this time it is stated that he became fully conscious of the depravity and misery of mankind; began to engage his mind, and he conceived a plan of retiring from human society and becoming a hermit. His father endeavoured in vain to frustrate this design; Buddha escaped the vigilance of the guards appointed to watch him, and took his abode on the banks of a river, named in the Mongol history Arasara or Narasara, in the kingdom of Udipa. Here he lived during six years, undisturbed in his devout contemplations. At the expiration of this period he came to a resolution of founding a religious order. Being instructed in the sacred sciences by his teacher. It is said that, by some who heard him, doubts were at first entertained as to the soundness of his mind; but his doctrines soon gained credit, and were propagated so rapidly that Buddha himself lived to see them spread all over the Indo-Germanic race. Before the year 563, he had brought into a tabular arrangement no less than 35 different statements as to the time when Buddha died. Eight of these vary between the years 5420 and 1502; between the years 6061 and 1000; and between the years 959 and 543 before our Christian era. The concurrence of a comparatively large proportion of those statements, in placing Buddha in the eleventh century, is remarkable, and, combined with other circumstances hereafter to be mentioned, renders it probable that the Mongol account which fixes his birth in either 1292 or 1197, and his death in 942 or 947 before Christ (Schmidt, i. e., p. 314), may come very near the truth. The discrepancy of the other accounts may perhaps to a certain extent be accounted for by the fact, that when the lamas of the various sects, Iclavangs, Siamese, Burmese, and Ceylonese Buddhists, who assign a comparatively recent period, confounded the original author of the sect with one of his successors, who likewise received the title of Buddha; and the very early dates given by some, chiefly Tibetan Buddhists (e.g., 914 B. C. according to Sanang Sweten), may possibly owe their origin to the notion of six sages, similarly gifted with divine wisdom, who are said to have preceded Sakyasina. (Hodgson, Trans. of the Roy. Asiat. Soc., i., p. 239.)

According to the concurrent traditions of the Buddhists, in various parts of Asia, the founder of the sect was the son of Suddhodana, King of Magadha, and his mother was Surodvati, or Sarvatattvaditi; but he was frequently called by what appears to have been a sort of patronymic designation, Gautama, and by the complimentary surnames Sakyasina and Sakyamuni, i.e., the lion or the deer (of the Sakyas) in the Sanskrit language, which has been corrupted into Shigimmu; Gautama, preceded by the honorific Sanskrit title of Sramana, the ascetic, has, in Siamese, become Sommona; and the Chinese have converted Magadha into Moki-to, under which name they comprehend India generally, a name which has been corrupted into Fo-to and Rosi; and Suddhodana, like many other Sanskrit compound names, they have analyzed and translated into their own language by King-fan-wang, i.e., the eater of pure food.
of Ho-nan. He died there in A.D. 495. The fact that no more than 28 patriarchs are enumerated in a period of 1445 years (between 950 B.C. and 495 A.D.) would alone be sufficient to convince us that the list is imperfect, and that many names are wanting in it. The list indeed corresponds to the following: the previous years. The precise date of the accession or death of several of the patriarchs is stated not to be found on record, or to be known only approximately; and these undisguised imperfections, which an intention to deceive on the part of the compiler, might so easily have concealed, are calculated to confirm rather than to weaken our faith in the authenticity of the document.

Mr. Wilson, in his account of the 'Radj Tarangini,' a Sanskrit chronicle in verse, of the country of Cashmir (As. Res., vol. xvi. p. 111), gives the name to this passage which he translates 'dotes upon the world.' — 'When 150 years had elapsed from the emanicipation of the Lord Śīkṣāsini in the epoch of the world, a Bodhisattva in this country (Cashmir), named Nāgdrūpas, was Bhūmīśvarā (lord of the earth). As previous passages of the same chronicle allude to Buddha behind the scenes in Cashmir, Mr. Wilson is of opinion that Śīkṣāsini, the founder of the sect, has been here confounded with one of his successors, a Bodhisattva of the sixth century B.C. In the list of early Bodhisattvas published by Rāmasū, (compare Kālānā, in the Newcomer Journal, vol. iii. 1843, p. 243), we find one 'Foethomanthi, (Būhdhānandī?) of Kanara, of the family of Gau-tama,' who is stated to have died in the year 535 B.C. We think it not unlikely that this may be the person intended in the passage quoted by Mr. Wilson. Deducting 150 years from the date after which we have our year 383 B.C. as the epoch at which the chronicle speaks of a Buddha who resided and lived in Cashmir as spiritual chief, (according to Mr. Wilson's illustration of the text,) contemporary with Goncordia, a temporary religion.

The name of a sect to the sect of Buddha in any western writer has been supposed to occur in Herodotus (iii., c. 109; Kora, Propr. Hel. Bibl. p. 571), who says of certain Indians, that they kill no animals, and live on the vegetable products sprung by the soil. This may, however, possibly allude to the very words of Herodotus, in a detached passage where he speaks of an abstruse sect called Artoni (Arūrōn), which name seems to be the Sanscrit Arhat, or Arhata, a very common designation of the Cashmir sect, who are even more distinguished than the Bhuddhas by their extreme tenderness for animal life. Arrian (Indic., c. 8) mentions the name of an ancient fabulous king of India (Bodhāca), which resembles that of Buddha in sound; but the context in which it occurs does not prove that the word was the name of a Brahman (Indien, i. p. 319), that the founder of Buddhism be intended. Strabo (xv. c. i, p. 712, ed Cassub.), on the authority of Megasthenes, states that there are two classes of philosophers among the Hindus, the Brahmanes and Garmaches. Megasthenes account of the Garmaches who are by Clemens of Alexandria (Ström, i. p. 305) more correctly called Sarmanes, it is clear that by them the Brahmanes are to be understood. The name Sarmanes appears to be the Sanscrit word Sarmana, a religious mendicant, an ascetic, a sort of a Brāhman who was a denizen of the world, a Brāhman in the 'Mríchhakati, a Sanskrit drama, supposed by Mr. Wilson to have been written either one century before, or two centuries after our era (vii. p. 215, ed. Calcutt.) We recognise the same word under a slightly modified shape in a second Sanskrit text, the greatest and most important of the Indian philosophers, Sarmanes Chaun (Sāmanes Ācārya, written in some MSS. Zāmānēs, Zāmanoś, Zāmānēs, Zāmano-śan; and in Dion Cass. liv. c. 9, Zāmańos, Zāmanos, or Zāmanos), who came to Europe with an embassy from king Paros to Augustus, and voluntarily burnt himself at Athens. (Strabo, xcv. c. i. pp. 719, 720.)

Two very remarkable passages on the various sects prevailing in India occur in Clemens of Alexandria. In the first (xv. c. i. p. 559, ed. Potter) he says that there are two classes of people, named the Sarmanes and the Brāhmanes. 'Among the Sarmanes those called Hyloubi (Hīlobi, Mountagu thinks, should be read instead of Ηλλοβιος) do not dwell in towns or houses; they are clad with their hands, eat with their hands; they know not marriage, nor procreation of children.' He then proceeds to say that 'there are likewise among the Indians persons observing the precepts of Butta (Butos), whom they venerate like a god on account of his extreme sanctity.' Here the followers of Butta (Buddha) are distinctly distinguished from both the Brahmanes and Sarmanes. In the second passage (p. 539, ed. Potter) Clemens speaks of a sect whom he calls 'Sarmanes of the Sanskrit name Sarmanes': 'they go naked all their lives; they make it a point always to speak the truth, and they inquire into the future. They worship a certain pyramid, beneath which they believe the bones of some god to be deposited. Neither the Gymnacides nor the Sarmanes have any intercourse with women, for they deem this contrary to nature and to law, and for that reason they adhere to chastity. There are also females of this class (Σαρμαναία) who live in perpetual virginity.' The pyramids here spoken of are evidently the dagobas of the modern Buddhists.

The statements respecting the religion of India and China given by the two Arabian travellers who visited these countries in the ninth century (Renaudoit, Anciennes Relations des Indes et de la Chine, &c., Paris, 1716, 8vo.) are too vague to enable us in every instance to discern whether the 'pagans,' of whom they speak, were Buddha or not. In the report of the first traveller (l. c. p. 3) we meet with an allusion to the impression of a foot on Adam's Peak in the Island of Ceylon, a spot known to Ebn Ba'tuts (Lee's translation, p. 189) as a place of pilgrimage, which it has continued to be till the present day with the Ceylonese Buddhists: the second traveller, in speaking of the natives of India, calls their priests Brahmanes (l. c. p. 107), and in the account which he gives of their ascetics, speaks of the 'Buddhistes' (l. c. p. 107) as the ascetics. That would, in our opinion, admit of an application to the Buddhas. These statements, though not very explicit, are yet interesting, as they seem to attest the expulsion of the Buddhists from India some time previous to the ninth century, and to enhance the sanctity of the place.

In the Anti-Islamic portion of the Arabic chronicle of Abulafa, published some years ago by Fleischer (Abulfeda, Hist. Antestacomica, &c., ed. H. O. Fleischer, Leipzig, 1851, 4to.), there is a curious chapter on the various tribes or sects of the Indians. In this, Desaguliers speaks of a writer who flourished in the first half of the twelfth century. Most of the Indian tribes, or rather sects, there noticed, are easily recognised even under the somewhat adulterated names given to them by the Arabs, as various branches of Brahmanic Hindus; and the only sect, the name of which bears any similarity to that of the Buddhists, the Behudhit (al Bahuddiyah, in the Arabic text), are described in a manner which removes every possibility of their being taken for followers of Sākṣīsina.

This is the case with the Kāmpions, a sect who record him, who is the most famous of the Indian philosophers, being the author of the great treatise called the Sāhīs, in which he avowed his claim to the sovereignty of India. He was regarded as a philosopher of the highest order, and was named Sāhīs (Sāhīsh, the Arabic text); this prince reigned about the year 1202, and was dethroned by Gengizkhan. (Kapistr John.)

However small is the information to be gathered from these
passages of foreign writers as to the history of Buddhism, it is at least in accordance with the traditions preserved among the Buddhists themselves. For several centuries after the appearance of Sākyamuni his sect seems to have flourished in India, and to have been tolerated by the Brahmanas in naked subserviency. The government among Hindus who follow the religion of the Vedas, Buddhism appears during this period to have penetrated the peninsula in every direction; and a succession of men of Ceylon's parts of India, pre-eminent for piety, and considered as (figuratively) linear descendants, and as the patriarchs or spiritual heads of the sect.

The numerous Buddhist temples, the remains of which are to be seen in a wide extent of country in India, must be considered as national shrines, especially in the regions distinguished from others often found in their immediate neighbourhood, but erected for the purposes of Brahmanical worship. The principal characteristics of temples built for the Buddhists are the dagobas and the images of Buddha. The dagoba is a hemispherical or sometimes pyramidal structure containing some relic of Buddha, which usually stands either within or (as in Ceylon, Siam, &c.) close by a Buddhist temple, and is supported by a pedestal, generally of a cylindrical shape, which varies in height. All images of Buddha are made in a meditative or posture, sometimes standing upright or reclining, but more frequently sitting on a bench, or squatted down with the feet crossed and resting upon the thighs; the forefoot of the right hand sometimes rests on one of the fingers of the left hand, and the left hand is either resting upon the left knee, or the right hand is placed on the lap, being held open, as if to receive an offering. The hair is always curled almost in the fashion of a wig, and the ears are extended and drawn down as if by the weight of some ornament suspended at them. A favourite picture with Dr. Francis Buchanan's seen near a Buddhist temple, apparently intended to afford shelter to pilgrims, or to asetics and priests permanently resident near the sanctuary.

This picture has been found near Benares, at Buddha Gaya in Bengal, at Bag in Malva, near the Ajunta pass, at Ellora, at Nasik, at Juner, at Carli, on Salsette, and at Guntoor. Some have even supposed that ruins of a similar structure, which have been found at Jumna, on the Solon Mountains, and at Manikula in Afghanistan, belong to the same class. Those of Boro Bodo (or Bura broker), in Java, cannot be mistaken, and prove undeniable that Buddhism once prevailed in the very centre of that island. The simultaneous occurrence of the same is evident. According to the traditions preserved in the Mahâvamsa the most celebrated of these places is remarked, and has not yet been satisfactorily accounted for; the most likely mode of solving the problem is, in our opinion, one of the three explanations suggested by Erskine, namely, that this proximity of the two religions is not due to the gradual invasion of Buddhism in that part of the island, but to the introduction of the religion of the Mahâvamsa into the Mahâvamsa region. It is not yet ascertained whether the Mahâvamsa is the work of the Mahâvamsa, or not, and the author of it is not yet determined. The Mahâvamsa ascribed to a Brahmanic author, or to a Brahmanic writer, was known to the Mahâvamsa, or not.

But whilst Buddhism had thus gained ground in Ceylon, and was from thence propagated to the eastern peninsula, it had to endure in India a long-continued persecution, which ultimately had the effect of entirely abolishing it in the country where it had originated. The motive of these persecutions we confess ourselves unable fully to discover. That the caste of the Brahmanas could not without jealousy and alarm witness the progress of a sect which threatened northern Circars), who, being expelled from his father's kingdom, embarked with 700 followers, and landed on Ceylon on the day of Buddha's death; i.e., according to the Cingalese computation, in April, 543 B.C. (See the Epitome of the History of Ceylon, from Pali and Sinhalese records by George Chalmers, Royal Almanack for 1833, p. 224, &c.) But Vijaya himself was not a Buddhist; and although there is a notion of a primate Buddhism in Ceylon previous to the age of the reputed founder of the sect, yet its doctrines were not introduced into the island till the reign of his successor Devanipatissi, who, according to the statements of the Cingalese chronicles, must have reigned from 306 till 266 B.C. Devanipatissi prevailed upon Dharmasuka, an Indian sovereign, who resided at Pattiliputta (Pataliputra?), to send his son Mi- \nNiduddi and his son, who had been instructed in the religion of Anurâdhapura, the capital of Ceylon, for the purpose of introducing the religion of Buddha. They arrived in the first year of Devanipatissi's reign, and propagated the doctrines of Buddha orally. Relics of Buddha were obtained from various quarters, and dagoba was placed in the temple of Buddha, and had the tenets of Buddhism reduced to writing. From this time we may consider Buddhism as completely established in Ceylon. Nearly five centuries subsequent to Walaampabhu, a learned priest named Buddha-gfhâsana, the father of the Mahâvamsa, sent a dagoba to Ceylon to Pugio by a priest named Buddogosaic the date assigned to this occurrence is the year 940 of the Birman era, corresponding to A.D. 397. (Alphabetum Burmanum seu Regni Assamitiae, Ed. Joh. Schiöner, p. 114.) But that the Bhudda still acknowledged the reception of their religion and laws from Ceylon is attested by the curious fact, that in the year 1790, the king of Ava sent at separate times two messengers to Ceylon, to procure copies of their sacred writings; and in 1788, the minister made an official application to the Governor-general of India to protect and assist the person charged with the commission. (Syrmes, Emblisse to Ava, p. 304.) An opinion seems to prevail among the Talapoins or priests of the Bhudda, that the temple of Buddha and the island of Ceylon there are no true and legitimate priests of the laws of Buddha. (Sangermanus, p. 83.) Of many of the sovereigns of Ceylon we find it mentioned that they formed tanks, or built and restored edifices religious in character. The various religious edifices put up by these sovereigns played a conspicuous part in the history of the island, owing to the importance attached to it by the inhabitants. As early as the year 209 of our era we find a schism among the Ceylonese Buddhists mentioned; it originated in the schism of Wirrawadya, a learned priest, who divided the religion of Buddhism into two sects, and between the two sects. Many notions peculiar to the mythology and cosmography of the Brahmans seem at an early period to have been received by the Buddhists, and to have been by them admitted as part of their own belief. This remark is well illustrated by Dr. Francis Buchanan's paper on the Religion and Literature of the Burman's (Aistat. Res. vol. vii. p. 136, &c.), and by many passages in Sangermanus's Description of the Burmese Empire, edited by Dr. Tandy (Rome, 1833), which would, we think, be found in various edifices put up by the priests resident at a temple called the Abagyir vihara. An inquiry was instituted, and the doctrine having been found incorrect, the books in which it was set forth were destroyed. These strong measures did not however in this case destroy the schism; and during a considerable period we find indications of the alternate triumph and oppression of the heretical party. Another heresy, called the Wirawadaya, is stated to have been introduced into Ceylon from the continent of India during the first half of the seventeenth century. But whilst Buddhism had thus gained ground in Ceylon, and was from thence propagated to the eastern peninsula, it had to endure in India a long-continued persecution, which ultimately had the effect of entirely abolishing it in the country where it had originated. The motive of these persecutions we confess ourselves unable fully to discover. That the caste of the Brahmans could not without jealousy and alarm witness the progress of a sect which threatened
The collection of writings regarded as sacred by the Buddhists is probably as voluminous as that of any sect that ever existed: up to the present time however we know little about them. Apart from a few scattered fragments of ancient Buddhist writings which the Baudhāyaṇa sages originally committed their doctrine to writing we believe to have been the Sanskrit, from which they were subsequently translated into the Pali, and into other languages current in the several countries where Buddhism existed. The most important records of the Buddhist sects are contained in the Sanskrit records of Buddhism which have been recently procured in Nepal by Mr. B. H. Hodgson; and it is but natural to suppose, that among them some of the ancient and original treatises on the doctrines of Buddhism should have been preserved. The most noticeable of these rhetorical works is the estimation of the Nepalese Buddhists are nine 'Purāṇas,' also named the nine 'Dharmas,' narrative works, in which elucidations of the Buddhist doctrines seem to be blended with a legendary account of the life of Buddha and the most eminent saints of the sect. Besides these there are works called 'Tantras,' which contain prayers and forms of invocations, and are illustrated by ample commentaries; and also collections of prayers, apparently composed for use on certain occasions, which are called 'Dhāranis.' (See Mr. Hodgson's enumeration of the principal existing Baudhāyaṇa writings of Nepal, in the 16th volume of the Asiatic Researches, p. 422, &c.) Quotations in Sanskrit from a collection of 'Sūtras' or short aphorisms, attributed to Buddha himself, occur in Sanskrit works on the Vedānta philosophy. (Asiatic Researches, 14th vol., p. 177.)

In the Essay on Buddhism by Kitikeyama Dewanmita Unnasse, a native of Ceylon (printed in the Ceylon Almanac for 1835, pp. 211—219), 94,000 sermons preached by Buddha are mentioned (p. 226), which the writer of the essay says are all in the Pali language, and were performed by Buddhist patriarchs there. From China Buddhism was subsequently extended to Corea, A.D. 528, and to Japan, A.D. 552.

About the middle of the fifth century Buddhism seems to have been carried to Java, whether Brahmanical settlers had previously preceded it. It is as yet uncertain whether the Buddhism of Java was of Ceylonese or of Indian origin. According to a tradition current in Java, the strangers, who civilized the island, came from Kaling (i.e. Kalinga, or the northern Ceylon), a name by which the modern Malayas of Java seem to designate the whole continent of India.

The early introduction of Buddhism into Cashmir has already been noticed. According to the local history it continued to flourish there till the reign of Nara, A.D. 295, who was an ardent adherent of the faith, and burned their temples. (Wilson, Asia Res., vol. v. p. 56 and 81.)

Dr. F. Buchanan (Hamilton) is of opinion that the time of the introduction of Buddhism into Nepal may be fixed about the middle of the first century after the Christian era, which was the last great teacher of the Buddhists, passed through the country, and settled at Lassa, where he is supposed to be still alive in the person whom we call the Grand Lama.' (Account of Nepal, p. 10. Compare pp. 32, 56, 196.)

From the Mogul chronicle, published by Schmidt, we learn that the Buddhists were for the first time introduced into Tibet during the reign of Histotitori, in A.D. 407. The great grandchild of that king, Srongdnam Gambo, who ascended the throne in A.D. 629, sent Tongmi Ssamba, attended by priests, into Tibet, and instructed him in the art of writing. Along with an alphabet, which has till the present day preserved its similarity to the Indian Devanagari character (see the plates accompanying Mr. Hodgson's paper in the 16th vol. of the Asiatic Researches), these missionaries seem to have carried the first writings on the religion of Buddha into their native country. But not all the succeeding kings of Tibet were favourable to the new religion. Giang Darno, who reigned from 902—935, as well as his son Gori Shikichi (925—977), were enemies to Buddha, and persecuted its faith. After a period of persecution which lasted 86 years, the doctrine was re-established in Tibet, in the year 988. Nearly three centuries subsequent to this restoration Buddhism was introduced among the Mongols, during the reign of Godan, a prince of the Thibetan line, who reigned A.D. 1247, by Sāyka Pandita, a teacher (Bodhai-sa) who came from the south. (Schmidt's Szamung Seistem, pp. 25, 29, 48, 113, &c., and the notes of the trans. Asia Res., pp. 282, 239, &c.)

1. According to the Swabhāvika school, Swabhāva, a sort of innate faculty, springing from, or rather identical with, Iswara, or God, is the source from which the elements and all things and beings proceed, and into which they are ultimately to be re-absorbed. The universe constantly revolves between Pravitā and Nirvāṇa, and creation and re-
absorption or annihilation; and this eternal change of existence and non-existence is the system and law of nature, without any co-operation of will or design on the part of Iswara. (Hodgson, l. c. p. 297, No. 9.)

The cosmography of the Buddhists divides the entire universe into four principal divisions. The first consists of thirteen Bodhisattva-bhuvanas, or mansions, created by Adi-Buddha, and including the Agnishthha-bhuvana, his abode. The second division of the universe of Buddha will proceed to one of these mansions after death. The third division comprises the second division, which consists of eighteen mansions, called Rūpyavachara-bhuvanas, and created by Brahmadeva; farther down is the third division, comprising the six Kāmavachara-bhuvanas, which, as a whole, overlap the other; and below them are the three Bhuvanas called Ārūpyavachara-bhuvanas, created by Siva, and forming the fourth division. Pious worshippers of Brahmadeva, Vishnu, and Siva will, after death, proceed to these divisions respectively. (Hodgson, Transact. Roy. As. Soc., vol. ii. p. 234.) In these Brahmadeva another series of mansions begins, which belong to Indra, Sūtra (the sun), Chandra (the moon), Agni, Vāyu, &c.

Then follows the earth, with its seven dwipas or continents, separated by seven seas. Below the earth is the 'world of waters,' on which the earth floats as a boat; beyond the 'world of waters' are the seven Patalas or infernal regions, six of which are the abode of the Daityas or malignant spirits, and the seventh, which is divided into eight compartments, is the hell of sinners.

Mr. I. J. Schmidt has translated an extract from a Mongol work, giving an account of the creation (Sannang Setten, p. 302), according to which nonentity or empty space is the original state of everything that exists. The creation of the world is in this account represented as proceeding from the self-contemplation of the Deity, and as effected in the 'region of the first Dhyāna' (or the divine will and agency?), which comprises the abodes of Brahmadeva, Vishnu, and Siva. A wind arises in this region, which, by blowing the abode of the very highest beings, the 'region of the bliss of the order of spiritual beings;' so that the abode of the entire order of spiritual beings, and in the same manner a succession of abodes of spirits gradually inferior is formed, until the winds reach the lowest region of empty space, and there produce a condensation of air which becomes the germ of the material worlds, and abodes of men, with the exception only of the 'region of the second Dhyāna,' are subject to alternate production and dissolution.

Along with many other mythological conceptions the Buddhists seem to have borrowed from the Brahmanists their doctrine of the four yugas, or periods of time, now called a Kāla or the duration of one existence of the world is divided. These yugas they distinguish by the gradual decreasing length of men's lives in them. In the first yuga of the present Kāla men lived 8,000 years; in the second, 6,000 years; in the third, 4,000 years; and in the fourth, 2,000 years; and in a similar manner. The cause of the creation of the world, says its followers, is Yatena, i.e. an effort or a determined will on the part of the Creator. In the same manner in the affairs of this world all difficulties are overcome by Yatena; and the kind of World-knowledge which is necessary to the liberation of the soul from matter depends on (Yatena) a conscious intellectual effort. (Hodgson, l. c. p. 305.)

Various terms are in use to denote the state of final liberation of the soul, which is by all those sects proposed as the object to which man should aspire; but the expression, which Baudhāya seems to be particularly fond of employing, is Nirvāna. This word is properly a passive participle of the Sanskrit root 비 (bhave), which means 'to blow,' as the preposition 비, 'out from,' prefixed to it; and its primary idea is to blow out, which it is said is the word used in the ancient Veda; and hence 'departed, defunct;' but the word is likewise used with the preposition 비 taken in a negative sense, and it then signifies 'calm, unruffled,' or employed as a substantive, 'calmness, tranquillity;' whence is derived its use as a description of the happy state of imperishable serenity and apathy at which the soul arrives on its reunion with the Divine Essence.

The popular belief in Nepal attributes the superintendence of the work of creation especially to Padmapani, one of the four presiding deities of the Dharmakāya, who is from a sacred book, from having produced the three Hindu deities Brahma, Vishnu, and Siva, and as having assigned to them respectively the tasks of Creation, Preservation, and Destruction. It is Brahma therefore who, according to this account, created the line of Tīrthankaras and is said to have been the appointed architect of the world, while Padmapani, by Adi-Buddha's special command, created all animate things.
cessive Lamas is strikingly illustrated by a passage in a letter addressed in 1774 by the Lama of Teshoo Loombo to the governor-general in India, in which he applied for the privilege of growing hemp, that it will be used as a motive for his request, "that although in the different periods of his reivivness he had chosen many regions for the places of his birth, yet Bengal was the only country in which he had been born twice, for which reason he had a preference for it beyond any other." (Turner's Embassy to Tibet, pref. p. xv.)

The Buddhists reject entirely the authority of the Vedas, and the religious observances, sacrifices, and ceremonies which are prescribed in them and kept by the Hindus. They have no distinction of any castes. The priests are chosen from all classes of men; they are obliged to live in celibacy, but may resign their sacerdotal character, if they desire it, and are then permitted to marry. In Ceylon three orders of priests are distinguished: those of the highest order (who seem to be the only ones in dispute, state that the leaf of the palm-tree, and Knox mentions that they are permitted in Ceylon to wear this screen 'with the broad end over their heads foremost, which none but the king docs.' In Ceylon they wear a yellow coat, gathered together above the waist, and hanging over their shoulders, and girded about with a belt of fine packthread. In the appendix to Symes's Embassy to Ava there is an account of the ceremonies used in the Birman empire at the consecration of a Buddhist priest: the candidate is reminded of four principal commandments which he must observe, to wit, to sacrifice purity, to commit murder, not to steal, and not to practise sorcery, or to disgrace the priestly character by covetousness; and he must promise that he will procure his maintenance by preaching and begging; that he will dwell in houses of a certain description, and that he will endeavour to turn to some use things thrown aside as useless by others, or to discover the medicinal powers of plants not previously employed. Buddhist priests are not forbidden the use of animals; but if a bullock be slain for its own use, it is to be given to the priest. Convents for priests as well as nunnaries exist in all countries where Buddhism has been introduced. Their processes and their forms of religious worship are described as being attended with much pomp and splendour, and intended to impress the multitude with its majesty. The first Christian missionaries that proceeded to Tibet were surprised to find there, in the heart of Asia, monasteries, processions, festivals, a pontifical court, and several other ecclesiastical institutions resembling those that are in the Catholic church, and many were induced by these similarities to consider Lamaism as a sort of degenerated Christianity. It should however be remembered that at the time when Buddhism was introduced into Tibet, Nestorian Christians had ecclesiastical settlements in Tibet, and Italian and Syrian messengers who were invited to the court of the Khans carried church ornaments and altars with them, and celebrated their worship in the presence of the Tartar princes; and that an Italian archbishop sent by Clement V. established his see at Karakorum, and ordains the sect in which divinities were worshiped with all the ceremonies usual in Europe. It is by no means improbable that the Lamas, whose court then began to assume a splendid exterior, should have adopted some of the forms of the Catholic service as they saw it conducted in their own country. Tenants, also, have co-operated in producing a similar mode in conducting the divine worship in two religions essentially foreign to each other.

Concerning the details of the ecclesiastical establishments of the Buddhists, we must refer our readers to the articles giving an account of the several countries into which Buddhism has been introduced, such as China, Japan, Ceylon, Tibet, &c.

BUDDING, an operation in horticulture, by means of which the branches of one kind are often made to grow upon the stem of another kind. It is stated in the article Bud, that this organ has the power of growing when separated from the mother-plant. Not only will it grow, but it will increase in size. It is therefore said to be a motive for its use, and in fact a motive for its propagation by eyes [Exs]; the latter only is technically named budding.

Budding is usually executed thus:—With a very sharp knife a fully formed bud, and the leaf to which it is axillary, are pared off the branch, along with about half an inch of bark adhering to them at the upper end, and an inch and a half at the lower end. By holding the leaf firmly between the finger and thumb of the left hand, with the wounded side of the paring uppermost, the operator is able to disengage from the bark the small slip of wood which adheres to it, and by a jerk to snap it off the paring, leaving nothing but the cellular centre of the bud adhering to the bark. This done, he makes in the branch to be operated on, one incision transversely through its bark, and another longitudinal at right angles to the first, just far enough towards the base, so that the two together resemble the figure of the letter T. He then, with a flat ivory blade, lifts up the bark on each side of the longitudinal incision, so as to separate it from the wood, and inserts beneath it the prepared bud. Care must be taken to keep out the air, which in hothouses is kept down by a cover placed a little below the transverse line. This done, a ligature of bass is carried round the stem so as to bind the bud firmly to the new wood on which it is placed. If the operation is well performed, the bud will thus be fixed on a new plant in the same relative position as when it occupied the branch from which it was taken; the mouths of the medullary rays of its bark will unite with those of the wood of the stranger plant, it will be kept in contact with a continual supply of food oozing out of the alburnum on which it is placed, it will shortly be supplied with all that is necessary for its development. Then when the growing season arrives it will be stimulated by light and warmth to attract sap from the new wood to which it adheres, it will push forth new wood of its own over that upon which it touches, and thus will form as a new plant. Budding is thus a very advantageous kind of propagation, with its parent plant. In order to enable the latter to do this, it is customary to head down budded branches to within a few inches of the buds, so as to compel the sap which oozes from the roots to expend itself upon the former; a few natural or forced buds from the parental branch are also left to attract the sap to their neighbourhood, and are then destroyed; when the stranger bud has pushed to the length of a few inches, it is tied to the stem so as to be secured from being broken off by accident; and finally, when it is quite secure, that small portion of the stem of the parent which had been left above the bud in the first instance is cut away, and the branches produced by the bud become the head of the new tree.

Budding is the generic nature of budding, but like all other operations can only be well performed after some experience. It may be varied within certain limits, and there are in fact a few other modes, such as reversed budding and scallop-budding, which are occasionally practised (see Scallop, and Engæl of Horticulture, new edit. p. 656); but that here described is the most common and the best. Roses, plums, peaches, nectarines, cherries, and many other plants are chiefly propagated thus, and there is no theoretical reason why it should not be extended to all similar species, if it is occasionally found impracticable, as in heaths, in which, owing to specific causes which vary in different instances.

Budding is usually performed in the months of July and August, because at that season the bark separates freely from the wood, and the young buds are fully formed; but whenever the two latter conditions can be satisfied, the operation may take place equally well.

It must however be observed, that the bud of one plant can only be made to grow upon the wood of another when both bud and stock are nearly related botanically.
Thus roses will bud upon roses, but not upon currants, as is vulgarly supposed; apples will bud upon pears or thorns; pears upon medlars or quinces, and apricots upon plums, because all these species are closely related; but an apple will not bud upon a plum or a peach, because, although they are allied to a certain degree, yet their consanguinity is not sufficiently strong.

BUDGE, GUILLAUME, or, as he is better known by the Latinized name, Budusius, was born in Paris in 1467, of an ancient and honourable family. His early education appears to have been neglected, and when he went to Brussels to study the civil law he profited little, owing to his very imperfect knowledge of Latin.

Indulgence and a love of amusement consumed much of the remainder of his youth, till he was suddenly inspired with so ardent a love of letters that he entered a monastery in the house of the Benedictines of the holy chapter of St. Thomas, and under the direction of Father Martin d'Avezac, learned to read and write Latin, and in the chase, music, and dancing.

Budusius, as we have observed, went a hunting, but was not a good sportsman. His propensities were rather towards the study of letters, and he was destined to become one of the most learned men of his time. He was a great lover of books, and was always to be found in the company of some learned man, or in some library, or in some society of philosophers.

He was a man of great activity, and was always engaged in some work of importance. He was a great writer, and was the author of many works, which were printed and published.

In 1536, he published a work on the history of the Council of Trent, and in 1539 he published a work on the history of the Council of Constance.

His works were read and studied by all the learned men of his time. He was a great favorite with the Emperor Charles V., and was appointed his privy councillor.

He was a great friend of the Emperor, and was always ready to do anything for him.

He was a great man of affairs, and was always ready to do anything for his country.

BUDWEIS, the southernmost city in Bohemia, bounded on the E. and S. by the archduchy of Austria, and at one point in the S.W. by Bavaria. It is the highest land in Bohemia, and is only about one hour's journey from the Moldau, which has an area of about 1617 sq. m., is watered by the Moldau, and its tributaries the Malech and Luschnits, and contained, in 1817, 170,670 inh., but at present about 204,500. The forests are extensive, and produce much timber. Cattle, and especially sheep, are fed in great numbers; the soil is fertile, and much grain is raised; and the mountains yield iron, coal, and other minerals. The manufactures consist of glass, woolens, paper, iron, ware, cotton, &c.

Budweis enjoys the advantage of a canal, called the Schwartenberg Canal, which has been constructed, and which connects the Moldau and the Lusatia, and contains eight towns, among which are Budweis; Krumau, a mining and manufacturing town, with 4400 inh.; and Wittingau, 2800 inh.; 25 market vill., and 897 other vill. and cities.

BUDWEIS, the capital of the circle, is situated close to the confluence of the Moldau and the Malsec, and bears, in Schlovonic, the name of 'Cesky-Budweisovice.' It is a well and regularly built town, includes three suburbs, is the seat of a bishopric instituted in 1793, and has a population of 15,000. It is a centre of commerce, and is the seat of a university, and the headquarters of the philosophical academy, a diocesan and theological seminary, between 740 and 750 houses, and a pop. of about 7500 souls.

The markets for horses and grain are important; the manufactures consist of glass, woolens, paper, &c.

Budweis is a town of considerable importance, being the seat of a bishopric, and is the centre of commerce and manufactures for the whole of Bohemia.
BUENOS AIRES. [LA PLATA.]

BUENOS AIRES, the capital of the republic La Plata (Provincias Unidas del Rio de la Plata), in South America, is in 34° 36' 29" S. lat., 58° 16' 11" W. long., on the S. bank of the upper part of the wide estuary of the La Plata river, about 150 m. from the place where it enters the sea. The estuary is about 20 m. wide, so that Colonia, a small place on the opposite bank, is only visible from the more elevated places in the town, and then only in very clear weather. Though the estuary has a considerable depth in the middle, it grows so shallow towards its S. bank that large vessels are obliged to remain in the outer roads from 7 to 9 m. from the shore; small vessels enter the inner roads, called belizzy, where they are still 2 m. from the town. The beach itself is extremely shallow; even boats cannot approach nearer than 50 yards or a quarter of a mile, according to the state of the tide, and persons as well as goods are landed in rudely constructed carts drawn by oxen. When it blows fresh, the surf on the beach is very heavy, and often causes loss of life.

A pier which was constructed in the time of the Spanish government is nearly useless, except at very high tides.

The city stands on a high bank for about 2 m. along the river. Between the city and the water's edge is a space of considerable width, rarely covered by the tides, on which some trees are planted. To the E. of the pier, at a distance of a few miles, there is a noble forest of pine-trees, which extend to the water's edge, and are mounted with cannon. It is of little importance in a military point of view; at present it has no garrison, and the buildings are appropriated to public offices, and the residence of the president of the province.

About a mile lower down the high bank suddenly turns inland, leaving a vast level plain along the shore, traversed by a little stream, which makes a good harbour for small craft, its mouth forming a kind of circular basin.

Buena Esperanza is a picturesque little place, which occupies a considerable space: it is divided into two parts by a long and low edifice, which serves as a kind of bazaar, and has a corridor along the whole length of each side, which is used as a shelter for the market people. The space between this bazaar and the fort is appropriated to the market, where all kinds of provisions, especially excellent fruits, are sold; but there are no stalls, and the goods are spread on the ground. The opposite side, which is much larger, is a kind of place d'armes, and contains a very fine edifice, called the cabildo or town-house, in which the courts of justice hold their sessions, and the city council or cabildo meets. Near the centre of the square is a neat pyramid erected in commemoration of the Revolution, by which the country was freed from the dominion of the vassals who assembled from different parts of the empire, representing Justice, Science, Liberty, and America: the whole is inclosed with a railing.

The streets are at regular intervals, and are open at right angles to the river, with a rather steep ascent from the shore. They are straight and regular; a few of them near the piazzas are paved, but the greater part are unpaved. In the rainy season they are a slough of mud, and in the dry season the dust in them is still more insupportable. Most of them have footpaths, but they are narrow and insufficient.

In the neighbourhood of the piazza there are many houses of two stories, but towards the outskirts the houses have only one story. They are built of brick, have flat roofs, and are white-washed. Towards the street they have commonly two windows, which have seldom glass panes, and are generally protected by a reja or iron railing, which gives the houses the appearance of a prison. In the middle of this outer wall is a gateway, the rooms on each side of which are generally occupied as places of business, or as markets; a small gateway or door of the garden is entered, which is surrounded on three sides by buildings, the wall of the adjoining house making up the fourth. The building at the back of the court is usually the dining-room; that on the left or the right is the sitting-room or parlour. The walls is usually paved with brick, or sometimes with black and white marble, tesselated.

In the better part of houses canvas awning is spread from the roof over the veranda to protect against the excessive heat of the sun. Grape vines are planted round the walls. The houses have as little wood as possible about them, both the first and second floors having brick pavements. There are no chimneys except in the kitchens, and no fire-places, so that the rooms are never warm enough to render fire-places necessary in the rooms.

There are fifteen churches, of which the principal are the cathedral, which of itself covers almost a whole square, San Domingo, San Merced, San Francisco, and the Recoleta; they are all large and handsome buildings, but of a somewhat gloomy aspect. In the time of the Spaniards these churches were ornamented with a profusion of gold and silver, but the revolutionary wars have drained them of their wealth.

The majority of the inhabitants are the descendants of Spaniards, who have settled in that country during the last three centuries. The number of free negroes or slaves is small; that of native Indians is much greater: they compose the greater part of the lower classes, and speak only Spanish, having entirely forgotten the language of their ancestors. The whole pop. of the town is estimated by some at only 40,000, but by others at 60,000 and upwards.

No other town of South America has so many institutions for the promotion of science. The university, which was founded much later than that of Buenos Ayres, possesses a library of about 20,000 volumes. There is also a collection of objects of natural history, an observatory, a separate school of mathematics, a public school, and a school for painting and drawing. Since the Revolution there has been also established a literary society for the promotion of natural philosophy and the mathematicians, an academy of medicine, and another of jurisprudence, a normal school for mutual instruction, a patriotic union for the promotion of agriculture, besides some charitable societies. A considerable number of newspapers is published in the town. [For the commerce of Buenos Ayres see LA PLATA.]

The town was founded by the Spaniards in 1535, but in 1539 being obliged by the neighbouring Indians to abandon it, they retired to Assumption, on the Paraguay. When the Spaniards were firmly settled in the country they rebuilt the town in 1550, and since that time it always has been increasing, though slowly. The climate is healthy, as its name Buenos Ayres (good air) implies, an appellation which was bestowed on it by its founder Mendonza.

(Taken from Travels of Brockenridge, by Croker and Haigh; and the Historical, Political, and Statistical Account of the United Provinces of La Plata.)

BUFFALO. [Ox.]

BUFFALO is a populous town of Erie county, State of New York, situated near the right bank of the Niagara river, by which the waters of Erie are discharged into Ontario: in 42° 54' N. lat., and 78° 55' W. long., and 296 m. W. of Albany. Buffalo stands on ground somewhat elevated, and is surrounded on three sides by a fine alluvial plain. Its growth has been very rapid. The pop., in 1810, was only 1508; it had increased, in 1820, to 2093; in 1825 it contained 5140, and in 1830, the latest enumeration, 8653 inh. This increase may be attributed to the circumstance of the canal from Albany, or the Hudson river, to Lake Erie, having its termination at this spot. This canal, which was commenced in 1817, and finished in 1825, is 363 m. long, with a surface width of 40 ft. it has 84 locks. The cost of its construction was 210,075 dollars, and its utility may be estimated from the fact, that in 1831, the amount of tolls collected exceeded a million of dollars.

The number of travellers passing through Buffalo is at all times very great; it forms the port whence persons going to the northern part of the western states first embark upon the lakes, and the port by which they are attended by the British in 1813, and so entirely destroyed by fire, that only one house escaped. The town was soon restored, and building of all kinds is now (1836) rapidly increasing. Provisions are so cheap that the charge made to boarders, at the first hotel in the place, is only 24 dollars per week.

END OF VOLUME THE FIFTH.

WILLIAM CLAYTON and Son, Stamford, Connecticut.