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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 Blois and Orleans. It is in 47° 35' N. lat., 1° 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 Hesso. 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 Carlovingian, 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 Orleans, 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. (Expil. 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 Orleans, brother of Louis XIII., and of Philip, only brother of Louis XIV., from whom it was inherited by the subsequent dukes of Orleans.

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 feasts and tournaments which signalized the marriage of the Duke of Alençon with Margaret, sister of Francis I. Blois was also the scene of festivity 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 1568, 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 Orleans 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 antient, 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 antient 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 Orleans, 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 Renolt 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 Orleans. 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 Carmelites, now used as a dépôt des étalons; 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 the water is brought by the Roman aqueduct already noticed. The public walk,
which is very beautiful, stretches along the river. (Matte-Brun.)

Before the Revolution Blois 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, Capucins, and Minimes; and numerous hospices, hospitals, and nunneries. In these and other establishments trade is carried on, as timber, drugs, wine, brandy, and vinegar.

BLOIS is the capital of the department. It has a tribunal de première instance, or subordinate court of justice, and a chambre de commerce. It contains 11,002 inhabitants.

On the side of the Loire opposite to Blois 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 Blois, which at that time amounted to 18,238 for the town and whole commune. The people of this town have the reputation of speaking French with great purity, free from any provincialism; but the justness of the eulogy has been disputed by some, who consider it to have been a mere complimentary inference for the frequent residence of the court here. There are at Blois a Collège or high school, which however is not of any great importance or repute, two hospitals, a cabinet of natural history, an agricultural society, a public library (already noticed), and a theatre. (M. Robert, Dictionnaire Geographique; Ribard, Descriptive Roux of France.) Near Blois are the schools of Menars, established by the Prince of Chimay, 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 Blois.

The Cisse, a river, flows for five miles N.E. from Blois 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 interest now attaches to this beautiful palace; Prince Joseph de Chimay, the owner of the Château, and a most munificent man, has recently purchased, under the title of the Prytaneum, extensive establish-ments 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 commercial education. The second division is the 'School of Arts and Trades,' and the third is a separate apartment; those of the wheelwright, joiner and cabinet-maker, blacksmith, polisher and finisher of hardwoods, 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, shoemaker, bricklayer (maçon), sawyer, gardener, &c. Different 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 sought to establish in a way that has not yet been resolved as it is now by the Prytaneum of 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 perseverance, and at great sacrifices, has so completely devoted himself to the noble labour of improving education, at an age when so many men have scarcely finished their own.

The manufactures of this town consist of serges and other light woollens, leather (which branch of industry has rather declined), cutlery and hardware, glass, glazes, and earthenware. Among the manufactures of the Loire, the importation of brandy is considerable. The Loire is divided into ten cantons and 146 parishes.

Blosais was made the seat of a bishopric in the year 1697, and, with the exception of the bishoprics of Dijon and St. Claude, the latest of those established up to the Revo- lution. Under the reduced hierarchy of the present day it maintains its episcopal rank. The diocese comprehends the department of Loir et Cher; the bishop is the suffragan of the Archbishop of Paris. The celebrated M. Grégoire was bishop of Blois, or rather the department of Loir et Cher under the constitution of Civié du Clergé, 1791; but as the church has always protested against that act, he is not counted as a part of the consecration of this territory.

Among the more eminent natives of Blois may be men- tioned the good king Louis XII., under whom, as already noticed, the county of Blois was united to the crown; Father Jean Morin (Morinus), a learned orientalist and biblical scholar; and the Marquis de Faveres, 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 Blois (commonly called in maps Le Blésois, but written by some Le Blosétois) is bounded on the north by Le Dunois and L'Orléanais, properly so called, on the east and south by Berri, from which it is separated in one part by the Cher, and on the west by Touraine and Le Vendémois. It is divided into two parts by the Loire; the part to the south of that river comprises part of the district of Sologne, one of the most barren tracts in France. The Loire is the only river of any importance which flows through it; the Beuvron and the Cosson, which fall into this river on the south side, are of minor importance, as also the Oèr and the Sauldre, which also falls into the Loire on the north bank. The Saurion, a tributary of the Cher, falls into the Loire in this part.

The chief towns in the Blésois, beside Blois, already described, were Romorantin, St. Dié, and M. Romorantin had, in 1832, 6537 inhabitants, or 6985 for the whole commune; and Mer, 1717 for the town, or 5735 for the whole commune. The communes of Blois and Le Mans are perfect images of the Chimay, who, in 1830, his death, was repute, 2006. The Blésois was reputed one of the finest districts in France, abounding in game, poultry, and fish. It is now included in the department of Loir et Cher. The changes which this county passed through in the middle and later ages have been already noticed in speaking of the town of Blois. This country, in the time of the Romans, formed part of the territory of the Carnutes. (Matte-Brun; Expilly; Millin; Communication from Blois.)

BLOMFIELD, FRANCIS, A.M., F.S.A. rector of Freesfield, Oxfordshire, in 1739 was appointed to a very excellentcuracy of that county, was born at Freesfield on July 23rd, 1705. He was first educated at Diss, and then at Thetford, 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 at St. Giles's in the Fields, London; and in the following year was made a licensed preacher by Dr. Tanner, then chancel- lor of Norwich. In 1729 he was instituted rector of Harphame in Norfolk, on the presentation of Thomas Hare, Esq., and was the friend and a member of the former rector of Freesfield, on the presentation of his own father, Henry Blomefield, Gent. He continued to hold both recto- ries till 1739, when he relinquished Harphame. The above particulars are derived from the genealogical table given by the biographer. He has also made some attempts to cross and recollect all that he could, but has found it difficult to get any further information concerning him, as the continuator 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 1800, exerted themselves to procure a likeness of Blomefield, and having ascertained that there was none in existence, the projectors appeared to be 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 subsequently to 1751, as his last work, printed in his own house at Norfolk, bears the date of 1751. Traces of his posthumous works appear in his pension, and consist in his letters to the editors of the 'Proceedings of the Learned Society of London' and the 'Monthly Magazine,' and the publication began in numbers in 1759. 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 Oulton, 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 continuance was so mistaken as the statement that the book 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 has greatly assisted in his work by the collections which had been formed by Peter Le Neve, norroy king-at-arms, who spent 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. By his kindness Blomefield was enabled to consult the 'Collectanea Cantabrigenia,' 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 1754, including the period of his residence at the university.

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

BLONDEL, or BLONDAYX, a French minstrel of the twelfth century, and the first of the Raphen, or Lay of England, to Palestine. He is known to have stayed at Blondel de Neales, from the name of his native town; but Fauchet ('Origines de la Langue et Poesie Francaise,' Paris, 1831), in his series of French poets anterior to 1300, expresses doubts whether the Blondel de Neales was identical with the Blondel de Neales of Damiens, or whether the latter was the 'Collectanea Cantabrigenia,' 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 1754, including the period of his residence at the university.

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BLOOD, the animal fluid contained in the tubes called from their 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 the blood character as a whole is so peculiar that there is nothing perfectly analogous to it.

On first flowing from its vessel the blood is a thick, viscous, 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. In several classes of animals which possess true vessels and blood, the blood is seen to be of a bright red colour. 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 the insect is colourless and transparent; that of the ameba is of a yellowish colour; in the main part of the body of the fish, that is, in the whole of its muscular 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 circle of nutrition, called the organic organs, the blood is of a red colour, as in the heart, the branchium 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 almost black. By a kind of self-regulation, it is deeper than the blood in the fish. 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 in the same person at different times. This essential properties no 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 commonly estimated at 1052, and the latter at 1049; the difference between them is very small, and depends 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 is greater than that of the lower animals, and the change of the blood in the vessels. In man it is 1026. Arterial is warmer by one degree than venous blood.

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, well above the temperature of the surrounding air. The temperature of the blood 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 106° to 107°. In man it is 98°. Arterial 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 normal standard. In a moderate fit 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 normal 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-
tint 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 claret; the fluid portion is called the serum, arising from the separation that is denominated coagulation.

The change in the constitution of the blood by which this separation into a solid and fluid portion is effected, probably commences the very instant the blood leaves the blood-vessel. In the first fifteen minutes of the process, it is said not advisable to 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 twenty 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 mode in which death occurs in blood vessels.

A very vapour, termed 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 peculiar colour, and it is this which gives to the slaughter-house its characteristic taint.

The clot or claret, 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 red mass which fills all the lower half of the same. A yellowish white substance forming the top of the clot is completely separated from the red mass, it is found to be a solid of considerable consistence, soft, firm, elastic, and tenacious, or gluty. Its distinctive character is derived from the disposition of 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 musculus, of which we have described the fibres destined of its enveloping membrane and of its colouring matter.

Several names have been given to this substance, gluten, 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 our fibrin 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 the bottom of the clot. The proportion of the red 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 ferocity of 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 limits of the constituent of the clot, the red matter. We are certain, 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 globules, each 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 singly appear to be nearly or quite colourless, but which are always found to have a bounding envelope of variously 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. The familiar object which these bodies are conceived most nearly to resemble is a penny-piece, with its thickened margin and slightly concave surface. According to this account, the red particles are wholly destitute of an external envelope. Instead of consisting of a solid nucleus, enclosed in a red vesicle, the whole body is solid. The former opinion was that of the older physiologists, arising from the examination of the particles of the blood with the microscope, when this instrument was much less perfect than it is at present, and when the use of it was much less accurately understood. Mr. Lister, who has succeeded in effecting a considerable improvement in the use of the microscope, has been able to form a less erroneous opinion. Hodgkin, has examined the red particles of the blood with great care, describes them as flattened solid bodies without any membranous envelope.

All observers are agreed that the size of these particles, as long as they retain unimpaired the form they possess on escaping from the blood-vessel, is perfectly uniform; but their real magnitude is variously estimated: the size of the red particle of the human blood, is according to

<table>
<thead>
<tr>
<th>Bauer</th>
<th>Young</th>
<th>Kater</th>
<th>Prevest and Dumas</th>
<th>Hodgkin and Lister</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/10</td>
<td>10/10</td>
<td>8/8</td>
<td>8/8</td>
<td>8/8</td>
</tr>
</tbody>
</table>

The red particles of the blood have a circular form in all the animals constituting the class mammali, but in the three other classes of vertebrated animals, the fish, the reptile, and the amphibia, it is observed that their form is more or less elliptical. These elliptical particles are larger than the circular, but proportionally thinner. They are larger in fishes than in any other animals, and the largest of all in the skate. They are far more numerous in the bird than in the reptile and fish, but very much smaller.

In what manner, and even in what part of the system the red particles are formed, we are wholly ignorant. The perfect uniformity of their size and form in the several species of animals, and the undeviating precision with which they differ from each other, is very instructive. In one class of carnivorous, and a circular figure in viviparous animals, would indicate that the power which forms them, whatever it be, is simple in its nature and very general in its operation.

The red particles of the blood are much greater in magnitude than the colourless particles, the fibrin; hence the fibrinous particles readily enter blood-vessels too minute to admit the red particles. Both sets of particles, diffused through the body of a living animal in a state of extreme subdivision, appear also to be in a state of extreme self-repulsion. This state of the blood of the animal is prevented and the blood is maintained in a fluid state. In blood withdrawn from the body of a living animal, the property of self-repulsion, more especially among the fibrinous particles, ceases, and they readily cohere, this cohesion being increased by heat.

The fluid part of the blood called the serum is a transparent fluid, of a light straw-colour tinged with green. The proportion of it to the solid part of the blood, or clot, differs exceedingly in different species of animals and in the same animal at different times, according to different states of the system. There is a strict relation between its relative proportion and the strength and ferocity, or weakness and gentleness of the animal. It is small in proportion to the power and ferocity of the animal, and large in proportion to its weakness and ferocity. Thus it is small in the carnivorous animals, and large in the harmless animal, and so on. Its quantity is often very much increased in many diseases, and more especially in fever of the typhoid type, in which malady the solid part of the blood is sometimes so much diminished, that coagulation is incapable of taking place, and the entire mass, instead of separating into a transparent fluid and a firm solid, remains a fluid gore.

Serum has an adhesive consistency and a salmine taste. Its characteristic property is that of coagulating by heat and by the application of certain chemical agents. At the temperature of the body, it solidifies into a firm, hard, but not compact, solid substance, exactly resembling the white of egg when hardened by boiling, being in fact perfectly pure albumen. Serum contains a quantity of uncombined alkali, for it converts the vegetable colours to green, and it holds in solution various earthy and neutral salts. According to M. Le Comte, who has made the most recent chemical analysis of serum, 1000 parts contain, of
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 of decomposing the organized and living body as they have inanimate material. 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 and alive, and as long as it remains alive it is capable of self-preservation under circumstances where, if rapidly decomposed, its vitality is extinguished. During the period of incubation the egg is kept at the heat of 105° for the space of several weeks in succession, without undergoing the slightest degree of putrefaction; if its vitality be 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 power of the egg to resist cold in a measure proportionate to its vitality, 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 the same temperature it required nearly a quarter of an hour. A living egg, together with one that had been already frozen and again thawed, were put into a freezing mixture at 15°; the dead egg was frozen twenty-five minutes sooner than the fresh. In the one case the diminished energy of the vital principle 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 have been obtained in similar 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 colder than blood the vital energy of which is already partly 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 vital energy of the blood. It has been stated that coagulation is a principle in health, being 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; when, on the contrary, it is taken in diseases attended with an exaltation of the vital energy, as in intense inflammation, it is not coagulated in triple or quadruple the time it is in health. 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 coagulates. Blood was received from a horse at four times, about a minute and a half intervening between the filling of each cup.

---

**Table 1:**

<table>
<thead>
<tr>
<th>Water</th>
<th>906.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumen</td>
<td>78.00</td>
</tr>
<tr>
<td>Animal matter soluble in water and alcohol</td>
<td>169.00</td>
</tr>
<tr>
<td>Albumen (constituents of)</td>
<td>21.00</td>
</tr>
<tr>
<td>Crystallizable fatty matter</td>
<td>12.00</td>
</tr>
<tr>
<td>Oily matter</td>
<td>1.00</td>
</tr>
<tr>
<td>Hydrochlorate of soda and potash</td>
<td>6.00</td>
</tr>
<tr>
<td>Subcarbonate and phosphates of soda and sulphuric acid of peat</td>
<td>21.00</td>
</tr>
<tr>
<td>Phosphate of lime, magnesia, and iron, with subcarbonate of lime and magnesia</td>
<td>91.00</td>
</tr>
<tr>
<td>Loss</td>
<td>1.00</td>
</tr>
</tbody>
</table>

1000.00

If a mass of coagulated serum be cut into small pieces and placed in the mouth of a funnel, a thin fluid drains from it, which is called soroity, and which constitutes the gray of meat dressed for the table.

Phœbus, having account of the constitution of the blood, it is manifest that its chief constituents are of an albuminaceous nature, that is, it contains albumen in three states of modification, viz., albumen, properly so called, fibrin, and red particles; these are suspended some oily matters, various minute portions of other animal substances, together with cells, and the smallest of all dissolved or rather suspended in a large quantity of water.

According to M. Le Comte, the relative proportions of the constituents of human blood to each other, as they exist in most individuals, is as follows, this table being the mean of two analyses on: 1000 parts of human blood contain,

| Of Water | 783.37 |
| Fibrin | 2.83 |
| Albumen | 67.25 |
| Colouring matters | 126.31 |
| Fatty matters in various states | 5.16 |
| Various undefined animal matters and salts | 15.00 |

1000.00

The relative proportion of the different constituents of the blood is constantly varying. Thus the quantity of water, in a certain case, according to M. Le Comte, is capable of varying in 1000 parts from 835.13, the maximum, to 778.62, the minimum. In the male, the medium quantity is 791.94, in the female 821.764: the watery proportion also varies with the temperament. In the lymphatic temperament, in the male, it is 939.66; in the female, 892.716; while in the sanguineous it is, in the male, 788.584, and in the female it is 793.007.

The proportion of albumen contained in 1000 parts of blood is capable of varying from 78.276, the maximum, to 77.929, the minimum. The quantity of fibrin varies from 1360 to 7236, the medium of twenty-two experiments being 4298. It appeared to be the greatest in the young or middle aged of the sanguineous temperament, and in the inflammatory state; and least in the lymphatic constitution, the aged, and those suffering under congestion and hemorrage.

The proportion of the red particles varies more markably than that of any other constituent of the blood. In sound health the maximum was found to be in 1000 parts of blood 148.450, and the minimum 69.349: the medium 105.399. In the male, the medium quantity is 122.150; in the female, 99.169. It varies considerably with the temperament. In the lymphatic temperament, the medium quantity was found to be in the male, 117.657, in the female, 116.210; in the sanguineous temperament in the male, 138.157, in the female, 129.174. According to the statements there are contained in 1000 parts of blood, of a sanguineous temperament, 1930 more red particles than in the lymphatic temperament. Both spontaneous hemorrhage and the artificial abstraction of blood from the body diminish the relative proportion of the red particles for beyond their loss of any of the other constituents of the blood.

This is found on examination of the blood in the female after an excessive loss of blood by the caesarean discharge; and on examining portions of blood taken from the same body after certain intervals, it was found that a first bleeding furnished, 792.89 parts of blood; 79.018 parts of albumen; 9183 soluble salts and extraneous matter, and 127.37 of red particles; but a third bleeding a few days afterwards in the same patient, a female, gave 834.053 of water; 71111 of albumen, 7329 of soluble salts and extraneous matter, and 67.510 of red particles.

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*In cup No. 1 coagulation began in 11 min. 10 sec.*

*In cup No. 2 coagulation began in 11 min. 10 sec.*

*In cup No. 3 coagulation began in 11 min. 10 sec.*

*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 2 min. 10 sec.*

*In cup No. 2 coagulation began in 2 min. 10 sec.*

*In cup No. 3 coagulation began in 2 min. 10 sec.*
The same result was obtained in blood taken from a human subject. A pound and a half of blood was removed from the body, a quantity of which received 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, and others of the same kind, show that 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.

2. In the second place the vitality of the blood is demonstrated by another classical phenomenon. 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 result takes place in the blood. If blood be excluded 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 activity 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 passing from the surrounding living parts into the mass of solid blood; others are so thin that no communications whatever can be traced. Now those 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, it is of the highest importance that we should recognize an action terminating in 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 body not endowed with life. This argument however was never satisfactorily advanced by those who maintain the intrinsic or original 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. It is this which makes the blood so peculiar and the blood-vessels, as its vessels, so delicate. It is the blood flowing in its living vessel the blood is always maintained in a state of fluidity, in consequence of the state of repulsion of both its red and of its fibrino-particles: and the maintenance of this fluidity is indispensable to life, for the blood could not circulate, and could not divide itself so as to pass through the constantly diminishing tubes of the arteries and 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 pathology 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 liver, hence it may be too little or too much, 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 vessels which received more or less may be so, as to which ought to be retained may be removed, and hence the actual quantity in the system may be superabundant or insufficient.

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 proportion is so much over the solid constituent, that the blood is too watery. Thus, in albumins, 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, that the coagulum formed by it is exceedingly thick, and in others so much of the liquid is absent, that the coagulum 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 sufficient tenacity to form a coagulum, or, 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 a little change in form, in the water housed in the matter in solution. It would seem that one 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 chronic and malignant diseases, such, for instance, as malignant fevers, it is shown that this form of its termed perversity. 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 quality of the blood may be also essentially changed by the occurrence of the forms 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, render the blood impure, either by directly contaminating it, or by destroying the vital principle. It is in vital substances that we have matters to accumulate in it, or by destroying the relative proportion of its constituents. Organs are specially provided, the main function of which is to separate and remove from the blood these injurious substances. Organs of this class are the lungs, the liver, the kidneys, the intestines. 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 to eliminate elements, the kidneys to eliminate the substances 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 disfigured and its distribution defective. 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, or overwhelmed, or stimulated to violent and destructive action. In either case health is disturbed and life endangered.


BLOOD, THOMAS, generally called Colonel Blood, was a native of Ireland, and an adventurer of no ordinary character. Whether he was the son of a blacksmith, or of a person in better condition who had property in iron-works, is uncertain. The story is that he was born at Kilkenny about 1658. He came over to England and married the daughter of Mr. Holcroft, a Lancashire gentleman, as is supposed, in 1648. He returned afterwards to Ireland, served as a lieutenant in the parliament forces, and had a certain influence with the Earl of Devonshire, who had appointed him to his pay. Henry Cromwell well put him into the company of the Irish administration in King's restoration, the Act of Settlement in Ireland, by affecting Blood's fortune, made him discontented beyond the common feeling of the republican party, and finding a de-
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 Thomas Blood.

(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; Stigur. Britanniæ, Kippis's edit. vol. v. p. 361; and as a final authority, Concerning the Design Reported to be laid Against the Life and Honour of George, Duke of Buckingham, fol. London, 1650.)

**BLOOD-DOUND, the name of a hound, celebrated for its exquisite scent and unwearied perseverance, was a name which Blood and his companions 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 a quick, sharp chace, 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 forehead is black, but the parts below the eyes are tawny; the muzzle 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 same breed) had not these marks. Some, but such instances are little known; and then there are such as are objects such as a star in the face, 

Gervase Markham, in his 'Maison Rustique,' speaking of hounds, says, 'the bair-coloured ones have the second place among poolecas; the mottled, as having been bred to the scent of a quicke scent, finding out very well the turnes and windings . . . . . they runne surely, and with great boldnesse, commonly loving the stagge moro than any other beast, but they make no account of hares. It is true, that they be more head-strong and hardie to reclaime than the white, and put men to more paine and travail 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 having therewithall a white spot in the forehead, or in the face, in like manner, where those spots are, as they incline to a light yellow colour, being graie or blacke spotted, are nothing worth; such as are trussed up and have dewclawes, are good to make bloodhounds.'

Our ancestors soon discovered the inoffiency 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 place was indicated to the Bloodhound 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 for the more regular business of hunting. Hounds purchased in a border foray was termed. Indeed, the name of this variety of *canis domesticus*, to which Linneus applied the name of *Sagax*, cannot be mentioned without calling up visions of feudal castles with their train of knights and hounds, and all the stirring and picturesque incidents of old times when the best tenures 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 'felled 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,
with the sorrow of a warrior who had lost the stern joy afforded by a hero worthy of his steel

'Yet rest thee, God! for well I know
I shall bear a nobler foe,
In all the northern countries here,
Whose woods be braes, aye, and hills,
Thou went the best to follow grey,
Twa pleasant as we looked behind.
To see how thou by the chase couldst win;
Cheer the dark-blood-hound on his way,
And help the offspring of the stag,
I'd give the lands of Dalmatia
Dark Mortgarre were alive again.'

In the same 'Lay' there is one of the best poetical des-criptions of the blood-hound in action, if not the best; for though some lines may be more eloquent, none convey more detailed an idea or hint of the wants the vivid imagination of the images brought absolutely under the eye by the power of Scott, where the 'noble child,' the heir of Branksome, is left alone in his terror.

'---Starting off, he journeyed on,
And deeper in the wood is gone
For aye the man he sought his way,
The father still he went astray,
Until he heard the mountains round
Ring to the baying of a hound.
And hack! and hack! the deep-mouthed brute
Comes skirring still and skirring;
Bursts on the path a dark-blood-hound,
His tovny muzzle traipsed the ground,
And his red eye shot fine.
Now as the wilderness child saw be,
He flew at him right furside.
If he fell, then may rest his joy
The bearing of the gallant boy.
When, worthy of his noble size,
His wet cheek glowed 'twixt late and bee;
He fed the blood-hound manfully,
And had not a mite left on hail;
So fierce he struck, the dog, afraid,
At the one that body bay'd.
But still in act to spring;
When dashed an archer through the glass,
And thence he fed the hound was stay'd.
He drew his tough bow string;
But a rough voice cried 'Stop, boy! no boy!
Ho! shoot not, Edward—is a boy!'---'

Indeed, this feudal dog is frequently introduced by our poet, from his ballads, where Smalley's 'Lady Gay,' wooing the Phantom Knight to come to her bower, in the 'Eve of St. John,' tells the spectator that she will 'chain the blood-hound,' as a great and important step in the battle of Montrose, where Dalgetty and Ranald of the Mist are traced to their wood-girt abode after their escape from Argyll's dungeons.
The pursuit of border forayers was called the hal-tread, The 'horr'd' party and his friends followed the marauders with blood-hound and bugle-horn, and if his dog could trace the scent into the opposite kingdom he was entitled to pursue them thither.
We have only to look into history, and we shall find that moss-troopers, and the miseries of the misrule of the Borderers, were not the only persons who were put to their shifts to evade the diligence of the sleuth-bratch, or blood-hound. Barbour and Henry the Minstrel relate events where personages of no less than the Bruce and Wallace were the principal actors. The former gives accounts of the King's repeated escapes from such pursuit, and the 'wily turns' whereby he threw the hound off the scent. On one occasion he waded a bow-shot down a brook, and climbed a tree which overhung the water. Barbour well describes the 'waver'ing of the sleuth-hound—'ta and fra,' when it was thrown out by the water and the stream, and the consequent disappointment of 'Jion of Lorn.' Henry the Minstrel, in a romantically wild story, relates how, after a short skirmish at Black-Rene side in which Wallace was worsted, the English followed up the retreat which he was forced to make, attended by a blood-hound with a border-blood-hound.

'To spill blood was accordingly the sure way to stop the hound in its career; and Henry states that, upon this occasion, Wallace had been joined by Fawdon or Fadzean, an Irishman of a dark and suspicious character. During the retreat, this manason was ordered to proceed on account of fatigue, either real or fictitious. Wallace, however, entreated with him, and irritated by the delay of the retreat and the approach of the enemy, struck off his head;—when the English came up they found their hound by the dead body.

* Sure. † Tul.

'The Minstrel' concludes his story with the following catastrophe. The lonely tower of Gask was Wallace's place of refuge. A band of 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 fell back into the tower, tore open the boards of a window, and there raised the upper part of his body and one arm. But—'

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

* Sir Walter Scott's notes to his 'Lay of the Last Minstrel.'
for the detection of sheep-stealers. To demonstrate the
unnerving inefficacy 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 in-
different 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 ter-
foreom than anything else.

Strong and hardly 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
freezing cold of the northern regions which were the scene
of his exploits.

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, ap-
pointed garrisons, from whose barracks excursions were
from time to time made against the insurgents. 'Every
barrack,' says Bryan Edwards, 'was also furnished with a
pack of dogs, provided by the churchwardens of the re-
spective 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 paci-
fection with the Maroons of Trelawney town were con-
cluded on the 1st of March, 1738. This alliance continued,
not without frequent complaints of the conduct of the Ma-
roons, till July, 1755, when two of these people from Trelaw-
ney 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 Trelaw-
ney 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, re-
membering the expedient of employing dogs previous to
the treaty of 1738, 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 slaughter 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

* 'Sportsman's Cabinet,' vol. ii. p. 96.

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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 harder. 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 ancient 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 Davies Quarrell, to whom his work is dedicated, gives a description and representation of one of these 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 musket, 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 two 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 moon 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 torn, 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 Ban-dogs. They show great attachment, and are very gentle till seriously provoked, and then their ferocity is alarming.

Spanish chasseurs with their 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,

[Chasseur with Cuban blood-hounds.]

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 Havana. 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 renegados. The part of the coast on which the ship was stranded being wild and unexplored, the

[Chasseur with Cuban blood-hounds.]

A long straight musket, or contento, longer than a dragon's sword, and twice as thick, something like a flat iron sharpened at the lower end, of which about eighteen inches are as sharp as a razor. The point is not unlike the W, represented by Dallas as a description of the chasseur's musket.

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 Hawanna, 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-Hound.—On his return from Africa, the late Colonel Denham, the agent of the company, presented two dogs and a bitch of this variety to the royal menagerie in the Tower, which, under the care of the keeper, Mr. Coss, then contained a very choice collection of animals, recorded in that interesting publication, The Tower Menagerie, London, 1829. The Mayor informed Mr. Coss that with them he had placed 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 other varieties here mentioned, and were commonly employed in Africa to trace a flying enemy to his retreat. It is well remarked in the work last above-mentioned that their 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.

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 taught to read. Her poverty 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 feeble for agricultural labour, he was placed with a relative in London to become a shoemaker. With no assistance or stimulus beyond the reading of a newspaper, and a few thin volumes, chiefly 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. Thus, though so poor, and he hired by several London publishers, was printed under the patronage of Cepel Loft, Esq., in 1800; and the admiration 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. Loft may well be considered as more injurious to Bloomfield's reputation even than such contemptuous derision as that of Byron in his 'English Bards.' An edition was published the following year at Leipzig. At Paris a translation, entitled 'La Gazelle,' was made by Etienné Allard; one was also made into Italian; and in London appeared, in 1805, Agricola Puer, poems Roberti Bloomfield celeberrimum, in versibus italicis amatoribus promissa Luculli Clubbe, L.L.B., a very clever effort in imitation of the Georgics.

The fame of Bloomfield was increased by the subsequent publication of 'Rural Tales, Ballads, and Songs,' 'Good Tidings, or News from the Farm,' 'Wild Flowers, and Banks of the Wye.' He was kindly noticed by the Duke of Rutland, but a subscription appeal to the public to found the Bloomfield Menagerie, a charitable foundation was not attended. The appearance of the first volume of The Farmer's Boy, 1824, a subscription is requested to support the maintenance of a school for children, undertaken to support several other members of his family, he became involved in difficulties; and, being habitually in bad health, he retired to Sheffield in Bedfordshire, where, in 1816, a subscription, headed by the Duke of Rutland, was raised by Mr. Coggeshall, In the profession of a gentleman farmer, he had become a friend 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 a condition little short of infirmity. He was received into the Town and Parish of Sheffield, Aug. 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 handwriting, was sold for 14l.

The works of Bloomfield have been published in 2 vols., 12mo., 'Hawlewood Hall,' which appeared a short time before his death, has little merit in comparison with his earlier productions. His 'Remains,' consisting of Songs, Arcades, Poems, &c., were edited by J. Weston, Esq., in 1829. The 'Farmer's Boy,' 'Wild Flowers,' and 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 pervaded 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 'Läthrhorn,' from the two words 'Läther,' to solder, and 'roth,' 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 this point is finely sharpened down, simply bending 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 readily and without loss of time into a state of fusion: the solder is placed on the fragment of metal, and is heated 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.

Such was its sole use until the year 1739, when, as was informed by Bergman, Antony Swab, a Swelle, or rath, 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 work 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 very existence—to possess a simple method of determining 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 Engeström, and in Spanish and French, and finally published in London in 1770 under the title of "An Essay towards a System of Mineralogy," by Cronstedt, translated from the Swedish by Von Engeström, revised and corrected by Mendez da Costa. London, 1776.

The employment of the blow-pipe in detecting the constituents of minerals 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 composition. In Sweden, there still remains to be determined 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 Bergman. Bergman's "System of Mineralogy," is the first extensive treatment of the subject, 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 his "Experiments." This work was first published in an English translation at Vienna in 1779 under the title, 'De Tubo Feruminatorio, ejusdemque usu in explorandis Corporibus, presortim Mineralibus.' A translation of the above into English will be found in the second volume of Bergman's "Chemical Essays," by Dr. Cullen, London, 1788. 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. Very often he has 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 it was his good fortune in thus having it in his power to add another to 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 accuracy he was thus enabled to determine the nature of a body, which from its appearance of 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 recognising 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 lost or to be neglected. In latter days.

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 Blow-pipe in Chemical Analysis, and in the Examination of Minerals,' by J. J. Berzelius Translated from the French of M. Fresnel, by J. G. Chil- dren, 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 in determining the chemical constitution of a mineral, and consequently in recognising to what species it belongs. 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 great 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 c 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 d, which rising as it were
from out of the cup produced by the blue, ascends in the form of a cone. In close connection with this cone will be observed a smaller one 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 luminous cone is bounded by a thin coating of blue gas rising from 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 composition. Compare, as it was shown by Sir Humphry Davy in the course of his beautiful and philosophical inquiries into its nature, which terminated with the discovery of his safety-lamp, is gaseous matter heated to whiteness: its most striking properties are evidently its power of contracting the strength of its own musculature, and consequently may appear to be connected, the circumstances by which the one may be developed to its greatest extent in a flame is unfavourable to the production of the other. The explanation of this is simple and obvious: the heat depends on the rapidity and energy of the chemical combinations taking place; the light on the contrary on the quantity of the matter kept at the white heat, and on the length of time it remains in that state. If therefore into a stream of burning gas (to take a particular case, let it be coal gas) a jet of water be projected which through the finely rendered more rapid, the temperature of the flame will consequently rise, while its illuminating power diminishes, as will probably have been observed by many who have seen the oxy-hydrogen flames, where the light is derived from the burning of whatever be the composition of the burning gases. On applying these views to the common flame, the existence of the three concentric cones will be readily understood: in the exterior cone, the inflammable gases arising from the decomposition of the burning matter, as it were, are supplied with oxygen, and they consequently here undergo 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 holding a small piece of knowledge instrument, or whatever be the case, in such a manner as it may will be found to glow most strongly in the points of its emergence from the luminous cone, and by holding the wire at different elevations in the flame, it will be found that the portion of the outer cone immediately above c, 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 small tube, the observations hereafter are made a 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 corresponds 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 is the focus at the base of the cup. The reason therefore of the high temperature which may be produced by the blow-pipe is the result of the concentration of the hottest points of the flame into a focus; and another circumstance tends also to heighten this effect, that while the natural flame the points of highest heat is its outer boundaries, and are therefore rapidly robbed of their temperature, they here occur encaised by the luminous flame which thus protects them against the loss of temperature from this cause.

The combustion 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 continuing the blast any time. This inconvenience is avoided by employing the blow-pipe. For to further this end, there is 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 producing the current of air, as it would not only be detrimental to his health, but he would be unable to sustain the blast 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 process of inspiration being unaffected, the only inconvenience being the muscular exercise of the muscles of the cheek from their unusual exercise. The power of being able to perform this depends on the individual being able to keep his mouth inflated while he respires. After this has been learnt, some little experience will be required to enable the operator to regulate 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 new process to the experiments themselves to which the blow-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. Fusibility. 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 occur in the usual state of nature, can be taken apart, and each 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 substance may be resolved into those elements of which it is composed. This may be done 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 informs us upon is, that whatever be the case, there is unchangeable or not at the degree of heat capable of being produced by means of it; and according to the result we know among what class of bodies the one under consideration will be found. Nor is this mere fact the sole guide to the understanding of the utility of this instrument, or difficulty with which the change is effected, the character 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 that these are by no means the most 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 when 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 capable of 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 condition in which they are liable to be 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 and characteristic phenomena, the blow-pipe is thus the instrument best fitted to detect 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 of the metal will combine with the oxygen气, in the presence of the flame which has already been determined as possessing the presence of metals, which may in many cases be extracted in their perfect metallic form from the smallest fragment of their ore.

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 assay constantly in view. To this end the writer has recommended the use of charcoal. 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 the metallic glance, 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.

We were the first to speak of the experiments in which fluxes are employed, the most important of which and their use will be briefly described. They are, carbonate of soda, borate of soda, the double phosphate of soda and ammonia, saltpetre, boric acid, bisulphate of potash, gypsum, flour-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 only lead us too far, but belong more particularly 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 designated by the term calcium carbonate: 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 then dried. It may be tested for sulphuric acid by adding a small portion of warm nitric acid in this 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 was pure; if not, it is free from the impurity, 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 fused and to reduce the oxygen of the metal.

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 paste further worked into 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 globe.

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 dexterous blower, at some expense of time, will be able to obtain a trifle of the mass in the form of metallic tin. If however a little carbonate of soda be added to the oxide of tin, the reduction is effected with ease and rapidity.

The influence of the carbonate of soda is not understood, for it is not constant; and Cahn has even obtained a consequent by 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 these metals are present.

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 reducing flame. After some time an additional quantity of soda may be added to the blast must be again 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 be so fusible, it will pass through the little metallic leaves; if not, it will be found as a metallic powder. By this process the operator should be aware that the metals antimony, bismuth, and tellurium may have escaped his observation, from having been volatilized as soon as reduced, which is also always the case with selenium, cadmium, zinc, and mercury, which can only be obtained by sublimation.

The borate of soda of commerce is never sufficiently pure for these purposes, but it may readily be obtained by use for the process recommended by Muth, charcoal, and a blowpipe, and by 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 upon its forming a most powerful flux, by which a number of other substances that are readily fused may 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 fusion better than when it is applied to a large mass of the metal. Of much greater importance, however, is the question of the operation; the first will be observed, whether the fusion is accompanied with effervescence, or whether it takes place tranquilly; to examine the colour of the glass when obtained, and the changes it undergoes on setting. These qualities are particularly to be observed when performing the operation on the charcoal, and also to observe whether any changes take place either in the colour or transparency of the glass as it cools.

The phosphor salt, to use the term by which it is usually designated in works on this subject, is a double salt of phosphoric acid and silica. It is prepared 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 was pure; if not, it is free from the impurity, 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 fused and to reduce the oxygen of the metal.

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hussars as ensign. 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, the rapidity and decision with which 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 Prussian army, to which he firmly adhered, leaving behind another Swedish officer. In the service of Frederie 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 in remonstrances, he caused a request for leave to resign, to be delivered to his royal master—that singular personage, to whom in stioal endurance of hardships and energy of character he was so remarkably similar. The reply of the king was—"Captain Blücher has permission to quit my service, and may go to the devil if he thinks fit." Upon receiving this unexpected morsive he retired to the duchy of Silesia, became a farmer, and by persevering assiduity acquired a 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 in 1803, as colonel and major-general, at the battles of Ormond and Luxemburg, Frankfort, Oppenheim, Kirchweiler, and Edesheim 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 took possession in 1802 of Epernay, and possessed himself of it. In 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 rest, he succeeded without disorder in forcing his retreat westward as far as Lubeck, and, though harassed by the forces of the marshals Soult, Murat, and Ney, he was enabled to execute a capitulation 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 courteous 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 into Fomerania to assist the Swedes. He was afterwards employed in the Saxo-Bavarian campaign, 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 a hurried manner at the close of the campaign, and at those of Bautzen and Hanau he was no less conspicuous. In the battle fought August 26th, 1813, on the banks of a small river near Liegnitz in Silesia, called the Katschbac, Blücher first held undivided command; and with 50,000 men, the largest force which the raw militia, defeated the French marshals Macdonald, Ney, Lauurston, 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 the hussars, and the field army, weakened by fatigue, 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 Katsbach—you have 18,000 prisoners and all their baggage—offer thanks to the God of battles. 7,000 men, that was the number of 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 Prussian army, which, after the treaty of Tilsit, treating towards France. Having passed over the Rhine at Kaul 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 nature of Napoleon, who was obliged him to make a retreat, and exposed his army to losses which prudence might have avoided, an alarm began to arise in England about the final result of the contest; and, after various battles lost and won on the way to the Rhine, he finally fled from France, on March 21, 1814; and, but for the intervention of the other commanders, it would, by him, have been made a scene of revengent retribution. Among his less extravagant demands, he firmly insisted upon the restitution of every picture and work of art which had been plundered from Prussian palaces in the Louvre. As field-marshall and prince of Wahlstatt 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 as an over-confident and precipitate occasioned his defeat at the battle of Ligny, and consequently had 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, whilst several regiments of French cuirassiers passed over him in charging. A burning and ammunition of his car 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. But late in the evening of that memorable day, with the fatigue of seventy days' incessant action, and his name, Blücher, who on the night of his accident had, owing to the darkness, escaped unburst, appeared suddenly emerging from the forest of Frichemonat at the head of a great portion of his Prussian army. At first Napoleon took it for the French division of Marshal Grouchy arriving from Wavre; that illusion however was quickly dispelled, and a simultaneous panic having seized upon the whole of the French forces and produced the utmost confusion, a general attack was ordered by the Duke of Wellington, which at once terminated in the rout. In the pursuit of the Prussian army 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 was kept up the whole night, until the roads were choked with the dead and dying. As the army approached 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 Jena, paid his 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 trampling upon a dragon. His health now beginning to fail, he returned to the country, and retired to his residence at Liegnitz 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 of any use.' Having requested that he might be buried without any parade, in a necklace of grass and anæmis, a herdsman's coat 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 captain so daring and full of energy.

The astonishing celerity of his movements got him the
appraisal of Marshal Forward, by which he was gen-
 rally 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
equally 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 discov-
ered by accident in 1710 by Diesbach, a manufacturer of Berlin;
but the method of preparing it was first described by Wood-
ward in the Philosophical Transactions of 1723. The first
step in the operation is to calcine 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 phlo-
gisticated alkali, and triple prussiate of potash, according
to Berzelius it is a double cyanide of potassium and iron,
consisting

\[
\begin{align*}
\text{Cyanide of potassium} & \quad 62. \\
\text{Iron} & \quad 25.3 \\
\text{Water} & \quad 12.7 \\
\text{Total} & \quad 100.
\end{align*}
\]

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

\[
\begin{align*}
\text{Cyanogen} & \quad 59.3 \\
\text{Iron} & \quad 40.7 \\
\text{Total} & \quad 100.
\end{align*}
\]

Very commonly the solution of cyanide of potassium and
iron, procured from the residue of the calcination, 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 pre-
cipitated uncombined with the colouring matter; in order to
prevent this from injuring the colour of the pigment, either
dilute sulphuric acid is added, which dissolves it, or it is not
acting on the Prussian blue; or alum is mixed with the
sulphate of iron, and the uncombined part with its
sulphuric acid, alumina is precipitated instead of oxide
of iron, which merely dilutes without otherwise injuring the
colour of the product. On evaporation of the 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 indostous, tasteless, insoluble in water,
alcohol, and spirit of wine. It is a powerful fixing dye,
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 com-
ponent 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 alkali-
line earths, but with different results. It is also decom-
posed 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 some it was used
in Sweden instead of black, 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 Guatamala 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 frac-
ture is earthy, but becomes brilliant and of a copper red
when rubbed, and it is seen to have been altered to a
small 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 contact with atmospheric air. This salt is prepared
by mixing blue indigo in powder with lime and a solution of
prosuphate of iron; the lime decomposes the sulphate of
iron, precipitating its protopxide; this acting on the indigo
takes oxygen from it, and then it is rendered colourless
and soluble in water by the action of the excess of lime;
this solution when agitated with atmospheric air, the indigo
gaining 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 protect its properties; it is a colour of considerable
tempers. 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. It is called Saxon
blue. Chemists are not agreed as to the exact nature of
this solution. Chlorine immediately destroys the colour of
indigo.

Blue Verde.—This pigment is used as a water-colour,
and dyes the readjustments of paper, and paper-sagings. It is
a gritty powder of a very fine light blue. It is a carbonate
of copper, composed of nearly

\[
\begin{align*}
\text{Peroxide of copper} & \quad 70. \\
\text{Carbonic acid} & \quad 25.4 \\
\text{Water} & \quad 4.6 \\
\text{Total} & \quad 100.0
\end{align*}
\]

It is prepared by precipitation from the solution of nitrate
of copper which results from the refining of silver by pre-
cipitating the silver by each of the methods of operating
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 copper shining in the process. This solution in water,
whether pure or acidulated with a little dilute muriatic
acid, will separate the peroxide of copper; it is blackened
by sulphured hydrogen, and it is decomposed at a high temperature.

Ultramarine.—This splendid and permanent blue pig-
ment was discovered about the year 1820 by Jean-Baptiste
Sanson, a manufacturer of soda; and about the year 1826, M.
Gmelin of Tübingen, 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 in-
structions for making this pigment, and he assures that it will
inhibibly 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 silica by muriatic acid; the second by de-
composing 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
hydrated alumina and hydrate of silica in water as will
serve to precipitate the earths of each in a separate
solution, and let each of these solutions be kept to
the quantity of filtrated water just sufficient, and
alter the two solutions, or the quantity of the two
independently, till the earths of each separate ion
when added to the other, they separate in a state
of dry earth, whereupon the precipitates are
obtained simultaneously, and each is washed
dry and separated, and the latter are carefully
mixed. Then separate the two solutions by
distillation, and suspend them in water, and
mix them in a state of a fine paste, and
stir well, and a solution of a very
fine blue, but not of purple, is obtained.
It is then precipitated by means of precipi-
tating agents, as hydrochloric acid, and
acids of this kind, or by means of soda
water, or water of hydrogen carbonate; and it
is anhydrous and a permanent blue, but not of
the same intensity as the natural ultramarine.

Put into a Russian crucible, which has a cover that fits
closely, a mixture of two parts of sulphur and one part of an-

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BLU 16
Like our red-breast, this harbinger of spring to the Americans 'is known to almost every child, and shews,' says 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-post. 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 solicitude 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 espies an insect delicious to her taste, he takes it up, flies with it to her, spreads his wing 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 Artica, Swainson, Stalia Artica, 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 Borasli-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-BREST (zoology), the English name for the pretty bird, which, as Bechstein observes, may be considered...
As the link between the redstart and common wagtail, having strong points of resemblance to both. It is the Gallicaretta or the Flavioguttus, the Bluebird of the Molong, a Petito turcino of the Italians, the Cyaneula of Brisson, Motacilla Suecia of Linnaeus, Sylvia cyanecula of Meyer, the Blue-throated warbler and Sylvia Suecia of Latham.

According to Temminck, the blue-breast is found in the sand hills of Australia, and appears to be generally visited by the red-breast, and particularly on the borders of forests, but is more rare in France and Holland than the latter bird. Bonaparte notes it as accidental and very rare in the neighbourhood of Rome, and as now appearing in severe winters. Bechstein says, 'I often heard it said that the blue-breast is a rare bird; that in some parts of Germany it appears only every five or even ten years, but I can declare that this opinion arises from a want of observation. Since I have taught my neighbours to be more attentive to the time of their passage, they very often catch as many as they please. If in the first fortnight of April, up to the 20th. cold and snow return, plenty may be found by merely following the streams, rivers, and ponds, especially in the neighbourhood of a wood.'

In England it is very rarely seen.

The food of the blue-breast, according to Temminck, consists of flies, the larvae of insects, and worms. Bechstein says that it eats elahberries. It is one of those unfortunate birds which is called by some a Becalcoo. The neck is surrounded by bushes of blue berries and the tails of trees. The eggs, of a greenish-blue, are six in number.

The following is Bechstein's accurate description of the male:—'Its length is five inches and a half, of which the tail occupies two and a quarter. The beak is sharp and black. The eyes are large; the forehead is black. There are fourteen lines high, of a reddish-brown, and the toes blackish; the head, the back, and the wing-coverings are ashly-brown, mottled with a darker tint; a reddish-white line passes above the eyes; the cheeks are dark-brown, spotted with white, and edged with black; the back and the tail are dark-brown, and their branches are grey; a brilliant sky-blue covers the throat and half-way down the breast; this is set off by a spot of the most dazzling white, the size of a pea, placed precisely over the rump, which, enlarging and diminishing successively by the middle of the neck, where it is entirely grey; the sides are reddish; the quill-feathers dark-brown; the tail-feathers red at the base and black towards the points. And the two intermediate ones are entirely dark-brown. Some males have two little white spots on the throat, some even have three. While others have none; these latter are probably very old, for I have observed that, as the birds grow older the blue diminishes and becomes maroon.

Temminck describes the very old male as having a white streak above the eyes, followed by a black one; no white space on the throat, and some blueish-black between the eye and the beak; the red band of the breast much larger, and that, as well as the origin of the tail-feathers, of a more lividly red.

The female resembles the male in the upper parts. On each side of the neck is a blackish longitudinal streak passing on the upper parts of the breast into a large blackish space in the course. On the middle of the neck is a great spot of pure white. Flanks clouded with olive, the rest of the lower parts white. The very old females have the throat sometimes of a very bright blue. This is probably a sign that they have done laying, and are putting on the plumage of the male. Bechstein says that the females, when young, are of a celestial blue tint on the sides of the throat, which deepens with age and forms the two longitudinal lines.

The young, according to Temminck, are brown spotted with white, and all a large white spot above the throat. 'Its song,' says Bechstein, 'is very agreeable; it sounds like two voices at once; one deep, resembling the gentle humming of a violin string, the other the soft sound of a flute.'

TWO MOUNTAINS, in Australia, may be considered as beginning at Bass's Strait with the rocks of Cape Wilson, and running in a north-eastern direction parallel to the shore as far as Cape Howe. We are not acquainted with the distance of the range from the sea in this part of the country. Opposite Cape Howe the mountain-chain changes its direction and again extending parallel to the shore runs nearly due north, declining one or two points to the east, as the Mount Wellington. As the Mount Wellington, it runs 23° 40' W., 32° E., and 36° 51' S. It is nearly 130 miles long, 45 miles wide and 1500 feet high.

To the south of the upper branches of the Morumbidgee river the principal range of the mountains extends eastward and southward. It begins as the Mount Wellington, where it then suddenly turns 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° 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.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 Warragong Mountains, between 36° and 33°, whose peaks being covered with perpetual snow, have received the name of the Australian Alps. But the southern range, beginning from the White Mountains, and ascending the alps to the Liverpool Range, which is more properly called the Blue Mountains, does not attain a very great elevation. Its average height may be 3000 feet, and though doubtless less than the average height of the blue mountains, it does not seem 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 foundation of the colony of Port Jackson before our countrymen were passed 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 dry plains between them and the sea. In some places the hills come down to the very shores, as at Illawarrra and Newcastle; at other places they terminate at a distance of thirty miles and upwards from the sea. On the western side the mountains are lower and more desolate, than the eastern, though they terminate in the low plains which occupy the interior of Australia.

In order to go from the coast to these plains, the mountains must be passed. Up to the present time this has been effected by the high places at the head of the sea. The 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 Table-mountain Hill continues rising to Spring-wood, twelve and a half miles distant from Emu Ford. Further on to Weather-board Hut, sixteen miles from Spring-wood, the ascent is not considerable. Weather-board Hut is on Kingsland Table, 2727 feet above the sea. Hence the road passes through the valley of the Oxley, where it ascends to 3292 feet, which valley is called the Mount York, which vale is 2496 feet above the sea; Mount York rises to 3292 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, which pass is twenty-nine miles distant from Weather-board Hut. It is considered as the western extremity of the mountain pass; the remainder of the road to Bathurst leads over an undulating plain. Bathurst is 1790 feet above the sea, according to Oxley. This portion of the mountains is formed of sandstone, which descends to the plains of Sydney 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 with the Macquarie is succeeded by freestone. But as the country farther to the south from the junction of the rivers is heavily forested, the continuation 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 Wolondilly River turns to the north. It ascends along the course
of this river to Goulburn Plains, then passes through a narrow ridge to Bredalbane Plains, and again through another ridge to the Narrominna Bight, at the eastern end of the range between Yass River and Morrominna 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 east, where there is a large amount of coal mining. The west is underlain by coal, and the east by limestone, sandstone, and ironstone.

BLUE RIDGE. [See Appalachian Mountains.]

BLUE HILL MUSEUM, an assemblage of choice specimens of fossils, minerals, statues, 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 Lancas-
shire, about nine miles north of Liverpool. A large portion is 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, and each of 200 copies were engraved by Longinelli in Italy at the same time with his friend Mr. Charles Townley, and not only collected with a kindred taste, but was fre-
quently 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 Albacini. 3. Theseus, seven feet two inches high; found in Hadrian's villa; purchased from the Duke of Modens, in the centre of the saloon at whose villa at Tivoli it stood. 4. Bescula-
pins, from the Villa Mattei, nearly seven feet high. 5. A consular figure, in white marble, and a statue of a Roman lady, from the Villa del Principe Bithynia, bought out of the Villa D'Ease from the Duke of Modens. 6. Faustina, the wife of Marcus Aurelius; the head, feet, and hands of Parian marble; the drapery in Lesbian marble, a kind of opaque basalt. 9. A group of two statues, an old man and boy, by the sculptor Diocles; the latter is of twenty-seven feet, and the former of twenty-three. 8. The name is upon the plinth; it was found by Nicolao le Pic-
cola 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 Mattei Villa; Augustus and Marcianus, found at Ostia; and Julius Cæsar, the adopted heir of Hadrian, which was also pur-
chased from the Prince Mattei. 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; and a group of the three Muses, which latter I formerly exhibited, and have now with me. I may here mention the fact that it consists of near 100 statues, 150 busts, above 100 bas-reliefs, 90 sarcophagi and cinerary urns, besides steles, and other miscellaneous antiquities.

(See the Beauties of England and Wales, vol. ix. Lancas-
tershire, pp. 308, 309; the Engravings and Etchings already quoted; and Dallaway's Anecdotes of the Arts, 1800.)

BLUNDERBUSS. [See Arms.]

BLYTH, or SOUTH BLYTH, or BLYTH NOOK, a town and parish, in the county of Northumberland, partly in the parish of Horton, but chiefly in that of Kerseldale, and in the east division of Castle ward, distant from Lon-
don 237 miles, N. W., and from Newcastle 12 miles N. by E. It derives its name from its situation on the south side of the mouth of the river Blyth, and on the north side of the North Sea, through which it extends. The Blyth estuary is about thirty miles long, and is so narrow that it is crossed by only one bridge. The town owes its origin and prosperity to its commodious and safe haven for small vessels. The naviga-
table 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 all the jurisdiction over the Blyth, 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 after it has passed Stamfordham. On forming its junction with the River Teams, 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 sea, after a total course of about thirty-seven miles. The Blyth estuary is about 3000 feet wide, and abounds with sea fish 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 affords abundance of mussels, 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, sta-
tionary 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 245 houses were included in the town. It then had about 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 con-
tinent, materially encouraged it, and the town, 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 chandlers, one warehouse, and several vessels, 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 dis-
sectors have a place of worship.

The township of South Blyth and Newsham 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 comprehends the village of South Blyth, which is a part of the parish of Bedlington, but, adding to the account that part in the township of Cowpen, parish of Horton, the actual population must ex-
ceed 3000.

(Hutchinson's "View of Northumberland; Historical and Descriptive View of Northumberland, 1871.)

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 a serpentine form with a long body, in which the serpents are described as not being capable of swallowing a horse, but which 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 about to describe. This description in-
deed of the fate of the first of the two victims may be found in my terrible anecdote of the murderous power and voracity of the Indian boa or pythons related in modern times, and recorded on canvas by Daubeny. [See Python.]

"(It the serpent swallowed up, says the illustrious scholar, "in thecourse of my courage, I had heard his loud cries and the efforts he made to extricate himself.

Of the same race probably were the monsters to which the following allusions are made by ancient writers.

D 2
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 overstepped one of the triremes. The two monstrous snakes (called the 'nymphs of the infant Hercules') in his cradle, described by Theoricitus in his 24th Idyll, exhibit some of the peculiarities of these reptiles. The way in which Theoricitus represents them to have rolled their folds around the boy, and relaxed them when dying, would indicate the presence of a constriction serpent. Virgil's Laocoon, and the unrivalled marble group, which the poet's description most probably called into existence, owe their origin undoubtedly to the stories current of constriciting serpents. Valerius Maximus (book i. c. 8, s. 19), quoting Livy, gives a relation of the murder of the infant Hercules by a constriction serpent.

The Bagradas, which is the same serpent nearly to the same effect. Pliny (viii. 14, De Serpentibus Maximis et Bois) says, that Megasthenes writes that serpents grow to such a size in India, that they swallow other serpents and build their nests; see also Bocchus, quoted by Arrian, Indic. 16.) He speaks too of the Bagradas 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 Emperor Augustus, and adds, that when he was in the east and Bocchus in Italy confirm this: for 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. Suetonius (in Octavi. 43) mentions the exhibition of a serpent, fifty fathoms in length, in front of the Caesar. But, without multiplying instances from Alien and others, we will now come to more modern accounts. Bonitus (v. 23) says, 'The Indian serpents are so magnificent, that my paper would fail me before I enumerated them all; nevertheless, I must say something about the great ones, which swallow serpents fifty fathoms long, and are of such a magnitude of the throat and stomach that they swallow entire boats.' He then speaks of the great power of disentanglement in the jaws, adding, 'To confirm this, there are those alive up to the present day, who have eaten the head, tail, and bowels of the whole hog, 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'Loud, in his interesting Voyage of H. E. S. Alcock, p. 315, gives the following instance:

'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 this British boa; but he does not say whether or not they were of the same species, though he has no doubt of their being the genus Boa. They killed their prey, however, precisely in a similar manner; and, from their superior bulk, were capable of swallowing animals as large as a man. Governor Abco, who had for thirty-seven years resided at Fort 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, as well as the smaller cattle, in his former expeditions. The flesh of the last is only expelled by the grandeur of design and execution displayed by Reynolds in his picture.'

The passage cited by Valerius from Livy must have been in the lost deca
coda (of Livy). The reader will find however the story recorded in the supplement to Livy (xviii. 15).

A negro herdsman belonging to Mr. Abson (who afterwards limped for many years about the fort) had been seized by one of these monsters by the thigh; but from his situation in a wood, the serpent threw him from under him, entangled with a tree; and the man, being thus preserved from a state of compres-
sion, which would instantly have rendered him quite powerless, had presence of mind enough to cut with a large knife, which he carried about with him, deep gashes on his neck and arms, that killed him, and disengaging himself from his frightful situation. He lived afterwards, however, recovered the use of that limb, which had sustained considerable injury from his fangs and the mere force of his jaws. All these gigantic serpents were, most probably, the Pythons of modern nomenclature.

According to Pliny, the name Boa was given to these serpents because they were said to be at first nourished by the milk of cows; and Jonston and others observe, that they derived the name not so much from their habit of swallowing oxen, as from a story current in old times of their following the herds and sucking their udders. Boa is also stated by some to be the Brazilian name for a serpent.

Among modern systematic writers, Linnaeus may be consid-
ered as the first establisher of the genus. Laurent, Boddaert, Du Chastelain, Scopoli, Latreille, and others adopted it, in many instances with alterations and corrections. At one time the genus comprehended all serpents, venomous or not, the under part of whose body and tail were furnished with scaly transverse bands, that became more or less distinct in the posterior spines or nucelle rattle at the end of the tail. After the venomous serpents were separated from them, they were found sufficiently numerous and were again subdivided.

The following is Cuvier's definition of a true Boa in modern nomenclature.

'The Boa more especially so called, have a spur on each side of the vent, the body compressed, largest in the middle, the tail prehensile, and small scales on the posterior part of the head. Among them are found the largest of serpents, their length sometimes exceeding six hundred feet, they become capable of swallowing dogs, deer, and even oxen, according to travellers, after having crushed them in their folds, lubricated them with their saliva, and enormously dilated their jaws and throat: this operation is a very long one. A remarkable part of their anatomy is, that their smaller lung is only one half shorter than the other.'

Before we enter upon the subdivision of this family, we will examine some of the most remarkable points in the structure and organization of the serpent, admirably adapted to his mode of existence.

On looking at this representation of the skeleton of a boa constrictor, drawn from the beautiful preparation in the British Museum, we first observe the strong close-set teeth, of which there is a double row on each side of the upper and lower jaws, which we shall now denote by the name of the first rib of its struggling victim, which is thus deprived of the power of withdrawing itself when once locked within the deadly jaws. Serpents do not masticate. The prey is swallowed whole; and to assist deglutition, their under jaw consists of two bones of an anatomic character, the symphysis, or point of junction, while the bone similar to the os quadratum in birds, by the intervention of which it is fitted to the cranial, further facultates the act. The upper jaw moreover has been so constructed as to admit of considerable motion. The movements of the snake are referred to as such mobility, and the multitude of ribs constructed as organs of rapid progression, when joined to the belly scales, or scut. with which the whole inferior surface of the body is clothed, to be used to be short. When the snake, writes Sir Everard Home, begins to protrude the head, then the ribs of the opposite sides are drawn apart from each other, and the small cartilages at the end of them are bent upon the upper surface of the abdominal scuta, on which the ends of the ribs rest; and, as the ribs move in pairs, the scutum under each pair is pressed forward along the surface of the posterior edge lays hold of the ground, and becomes a fixed point from whence to set out anew. This motion is beautiful seen when a snake is climbing over an angle of the ground. When the animal is moving, it alters its direction, and is sometimes seen to appear to be climbing from a flat surface. With the animal in motion, it appears to rise directly.
BOA

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 under 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. All 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 scuta, 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 Diadum.)

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 heads 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 Phoenopoda (Ophidians having the rudiments of a foot visible externally), adding the genera Python, Eryx, Tortrix. After adverting to what Merrem, Schneider, Rüedi, Lacépède, Daudin, Oppel, Cuvier, Olsen, and Blainville have said or figured relative to these hooks, or spurs, he proceeds to his own observations made on Boa Constrictor, Scytale, and Cenchris. 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 semi-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 connection 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 subjoined 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, abductor 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.

Dr. Hopkinson and Pancoast 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 lungs 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-eights of an inch in diameter, and passes down attached to the ventral face of the oesophagus. It consists of a great number of imperfect cartilagious 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 membranous also elastic, so that when the trachea is stretched likewise, it will easily regain its former condition. It passes behind the heart, and while thus cascaded divides into two bronchias, 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 expose 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 spleena,

which are on its left, it has a considerable concretion of its diameter. The smaller scale lies on the left side, and is 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 supplied with a more numerous and distant structure; the piares are thick, more numerous, and appear to be entirely attached to the inner surface. The upper portion of each lung is composed of a more spongy structure; the piares are much thicker, and present on their inner surface a loose reteculated texture, somewhat resembling a section of the corpus cavernosum penis, the corona of which is being much larger. A free passage is left through the lung by the diaphragm, which no doubt is obliged necessarily to pass through the cells, which seem to present 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 distinctly point out this error.

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 organisation to its habits, hereinafter given, and also to the fact which he states that 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 having been 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 Pocant, it will be sufficient to remark that they detected a peculiarity of structure in the lungs, which probably preserve 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 circuits 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 endeavoured to give the reader some insight into the mechanism of the organs of respiration, we shall next proceed to a description of the manner in which the animal imagine that organization is brought into action for the purpose of killing and swallowing its prey.

Mr. M'Leod, in his 'Voyage of H.M.S. Alceste,' gives the following painfully vivid account of the 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'Leod's expression, 'swallowed overboard and was drowned."

This is the opinion of Rybeck, says Mr. M'Leod, speaking of the survivor: 'he is said to 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, of the ordinary size, were sent with him on board, five being consigned to a special man to attend to them.'

"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 slaying part being opened, one of the goats was thrust in, and the second time the cage was shut. The instant awareness 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 towards the serpent, in self-defence.

"The other, which flinched scarcely to notice the poor animal, soon began to stir a little, and, turning his head in the direction of the goat, he at length fixed a deadly and malignant eye on the trembling victim, whose agony and terror seemed to increase; for, previous to the snake seizing his prey, it shook in every limb, but still continuing its unavailing 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 raging a little head; then suddenly seizing the goat by the fore-leg with his fangs, and drawing it down, in an instant in his horrid folds. So quick indeed and so peculiar 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 knot or a knot, one part of the body covering the other, as if to add weight to the muscular pressure, the 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. He then slowly and cautiously unfolded himself, till the head of the dead goat was in his mouth, and then at once retracted his fangs, and immediately raised himself, to prepare himself for swallowing it. Placing his mouth in front of the dead animal, he commenced by lubricating with his 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 these points were still to be perceived, so that the protrusion was rather a circumvent to protrude 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 utterly impossible in any other animal. As the efforts of the 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, all the working muscles being of the effect of a most remarkable power of suction, as it is erroneously called, unobstructed; 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 in an upright position, and the impossibility of the sense of breathing could be carried on while the mouth and throat were so completely stuffed and expanded by the body of the goat, and the lungs themselves (admitting the trachea to be ever so hard) compressed, as they must have been, by its passage downwards.

The whole operation of completely gorging the goat occupied about two hours and twenty minutes, at the end of which time the tumefaction was confined to the middle part of the body, or stomach, the superior parts, which had been much less expanded, being now almost completely filled with the rejected organs. He now coiled himself up again, and lay quietly in his usual torpid state for about three weeks or a month, when his last meal appearing to be completely digested and dissolved, he was presented with another goat, which he killed in the same manner; but as the size of the meal was more considerable, it appeared 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 faces. . . .

The observations made by the authors of the 'Journeys in China,' especially by the officers of the watch, who had better opportunities of noticing this phenomenon, were that the goats had always a great horror of the serpent, and evidently avoided that side of the deck on which his cage stood. P. 505.

Mr. Broderip, in the second volume of the 'Zeological Journal,' after referring to Mr. M'Leod'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 probable structure of the animal, and the other (lamenting the contraries) Mr. M'Leod to give the following account of the manner in which the serpent takes its prey in this country.

* This was most probably the root of the animal, which is often welded in impaled lumps, like modest plasters of Paris in appearance, and has been frequently taken for a root of the common parsley. I have not noticed, Transgressions as of a butyrous constitution, becoming hard like chalk by exposure to air, and as being a form of pure uric acid.

The serpent whose actions are described by Mr. Broderip, and that which furnished Mr. M'Leod's narrative, were Indian boa or pythons. These have been commonly exhibited under the popular name of 'Boa constictor,' and, though, as we have already stated, there are points of difference in the arrangement of the scuta below the vent, &c., the general structure of the true South
Mr. Cop's of the Lion Office in the Tower, writes Broderip, sent to inform me that one of these reptiles had just cast his 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 soon discovered the huge mass of mucus, half an inch thick, within a quilt case covered with red baize and filled with warm water, so as to produce a proper temperature. There was the snake, "positis novus exuvii," gracefully examining the height and extent of his prison as he raised, without any apparent effort, his towering head to the roof and upper parts of it, full of life, and brandishing his tongue.

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 glimmered in his eye, and the moment they turned his head, the rabbit appeared to take notice of him, but presently began to walk about the cage. The snake suddenly, but almost imperceptibly, turned his head according to the rabbit's movements, as if to keep the 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 the eye to trace, and the prey was utterly helpless; in the next be was one congers 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 expiration 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. Presently he made one desperate struggle, and appeared to make two or three convulsive efforts with his fore-legs; but the latter were immediately 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, finding that his victim motionless, he turned his head, and slowly sliding his head opposite to the fore-part of the rabbit, the boa generally, I have observed, begins with the head; but in this instance the serpent, baving begun with the fore-legs, was longer in gorging his prey than usual, and in consequence of the difficulty presented by the awkward position of the rabbit, the dilatation and secretion of lubricating mucus were excessive. The serpent first got the fore-legs into his mouth; he then coiled himself round the rabbit, and appeared to draw out the dead body through his folds; but the body of the rabbit was so firmly in a coil as a point of resistance, appeared to exercise at intervals the whole of his anterior muscles in protruding his stretched jaws and lubricated mouth and throat at first against, and soon after gradually upon, and over his prey. This motion in the serpent's body enables them to swallow bodies so disproportionately to their apparent bulk is too well known to need description; but it may be well to state that the symphysis of the under jaw was separated in this case, and in others which I have had an opportunity of observing. When the prey was completely ingulphed, the serpent lay for a few moments with its dislocated jaws still dropping with the mucus which had lubricated the parts, and at this time he looked quite sufficiently disgusting. He then stretched out his neck, and at the same time both his fore and hind legs, which had been pulled upwards, smoked. After a few efforts to replace the parts, the jaws appeared much the same as they did previous to the monstrous repast.

Now proceed to the first of the two points above alluded to, and have to state my opinion that the boa constrictor does respire "when his head and neck have no other appearance than that of a serpent's skin stuffed almost to bursting;" and I think that, upon a more close examination, the same phenomenon would have been observable in the serpent itself. It is in the operation of the respiratory valves of that serpent appears to have been confined to the stomach; at least nothing is said of any other part of the animal. I have never had an opportunity of dissecting the pulmonary system of a boa*, or of satisfying myself as to the structure of the extremely long trachea, which must be very firm to resist such an immense pressure; but I believe, from a near and accurate inspection, in company with others, that respiration goes on during the period of constriction, and although the process of swallowing their prey, they appear to be so entirely pervaded by the serpents which then governs them, that I am convinced they would suffer themselves to be cut in pieces before they would relinquish their victim. I have assisted in taking them up and removing them with their prey in their coils, without their appearing to be in the least disturbed by the motion, excepting that, if after the victim is no more and the constriction is somewhat relaxed, an artificial motion be given to the dead body, they begin to convulse themselves, and if the motion is continued they may be approached closely and with perfect security for the reason above stated, and I have uniformly found that the larynx is, during the operation of swallowing, protruded sometimes as much as a quarter of an inch beyond the edge of the distended lower jaw. I have seen, in company with others, the valves of the glottis open and shut, and the dead rabbit's fur immediately before the aperture stirred, apparently by the serpent's breath, when his jaws and throat were stuffed and stretched to excess. In the case of a fairly distilled snake, the ill-digested and the dilatation was consequently much greater than usual, I saw this wonderful adaptation of means to the exigencies of the animal much more clearly than I had ever seen before.

With regard to the next point, it is more difficult to account for the variance between the agony of antipathy shown by the goat as described by Mr. M'Leod, and the indifference which I have uniformly observed in the fall grown fowls and rabbits presented to these serpents for prey. As I have already mentioned, a boa first of all makes an attempt to swallow a rabbit, a second was introduced; but the serpent now exhibited a very different appearance. The left side of his lower jaw was hardly in its place, and he moved about the cage instead of lying in wait as on the former occasion. As he beheld our new fowl, he appeared to be afraid of it, and instead of seizing and swallowing it, he treated the snake with the utmost contempt, bitting it when in his way, and moving it aside with his head. The snake, not having his tackle in order for his jaw was not yet quite right, appeared anxious to avoid the rabbit, which at last stumbled upon the boa. 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 herself down upon the serpent for the night.

The difference between Mr. M'Leod'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 on board at Batavia for the serpent, which it appears was brought from Bencarou, were in all 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 large serpents, such as those which they lurk for their prey. In the case of the boa, the serpent which devours the goats is 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 stock 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

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* See ante, p. 21. ** Appendix.  
† See ante n. 92.
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BOA

footing), 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 he were a log of wood. 1

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, etc., 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 clung 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 grapple 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 dimpled (crédues de fossetes).

Example. Boa Constrictor of Linneus; Devil, or Emperor Boa, of Daudin.

This powerful species is distinguished by a large chain extending the whole length of the back, composed alter-
nately of great blackish stains or spots irregularly hexagonal, and of pale shades: attains or spots notched or jagged at either end, the whole forming a very handsome appearance. 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 any at present to be found, which the increased population and cultivation of most countries has caused to have 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. Daudin, indeed, believed that it was found in the antient continent, but without sufficient grounds for his opinion. 2 In all hint 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.

Linneus, quoting Dahlberg, says that the Boa Constrictor was worshiped by the ancient countries of America as a serpent-idol.

'Snake-worship,' says Dr. Southey, in his notes to Madame de Jovache, "was common in America. Berna Dios," p. 3. 7. 125. The idol described, v. p. 25, somewhat resembles what the Spaniards found at Campache, which is thus described by the oldest historian of the discovery. 'Our men were conducted to a broade crosse-way, standing on the side of the town. Here they shew them a square stage or pulpit fourre stepps high, partly of clammy bitumen, and partly of small stones, whereof the image of a man out in marble was toyed, with a shoe-footed creature, and gave a face upon him, which, like maddo dogges, seemed they would tear the marble man's gouts out of his belly. And by the image stood a serpent, besmeared all with goare blood, devouring a marble lion, which serpent, compacted of bitumen and small stones was wrought together with as many as. In feet in length, and as thicke as a great oxe. Next unto it there were three rafters or stakes fastened to the ground, which three others crossed under-propped with stones; in which place they punish malefactors condemned, for proof whereof they do not suffer any miserable hardness scatterd on the ground, and the bones of the dead cast into an inclosed courte nece unto it."—Pietro Martire.

Bullock, 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 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-idoles were fashioned from boas, there can, we think, be but little doubt. 3 Such were most probably the Tlilloate, Temacuecaluhuilia, 2 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, 4 and snatcheth men and bears and other animals of that kind, sometimes devouring the whole. This serpent he mentions indeed as a production of the island 'Cubu,' and as seen in the island Lutaya by the Spaniards when they were anxious to disburthen their ships. The Tlilloate and Temacuecaluhuilia appear to have been confounded; and of the serpent last named he gives such a formidable 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 Temacuecaluhuilia is, fighting with five men, and overpowers 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 tamed, and how they were provided with a cask strung with cords 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.

1 Berna (or Bernal, or Bernardo) Diaz del Castillo.
2 'On the idola of the Boa Constrictor,' descriptive of its beauty. Laurenti, according to Goulin, gives the following apppellations to the Boa constrictor. — Constrictor rex serpentum, Constrictor aspersor, Constrictor unicorne, Constrictor unicorne americanus. The last plainly indicate the appendage feeling with it which was regarded by the natives.
3 See p. 57.
(amplexous) of the terrible animal, or how, lying coiled up in folds and equalling a large wheel in size, they harmlessly received the food offered to them. In the description of the Temascalahuilla we have, allowing for some exaggeration, the predatory habits of an enormous boa; and in the relation of the manner of the tamed constricting serpents which follows it, we find an engine which might be, and no doubt was, turned to account by the ancient Mexican priests. Such a piece of priestcraft is well introduced by Southey, who in describing exactly lines brings before the eye of the reader the priest and his snake-god.

--- On came the mighty snake, And twined, in many a wreath, round Neolin, With bright iridescent, his shining neck. With searching eye, and lifted jaw and tongue Encircling, and over a large animal: Upon the summer woods. The Briones stood Anticipating the fearful reptile; and that strange sight. His girth was as of man, But easily could he have enveloped Gentle's broad head, or that huge king Of Huan, hugest of the Aztecs. Never was human strength, hence involved Within those dreadful coils! ... The multitude Fell prey and worshipped. 

**Mador, book vii.**

Without entering into the details of Captain Stedman's well-known description of his encounter with one of these serpents at Surinam,—of the power exerted by the reptile in crushing the branches of his naked and gory negro David, as, clinging to the yet writhing serpent which had been made fast to a strong forked bough, he stripped off its skin as he descended,—we may advert to the alleged length of the snake which, though it was probably not more than one hundred feet long, is stated by some to have measured twenty-two feet and some inches in length. The captain says that he obtained from this boa four gallons of fine clarified fat, or rather oil, though there was wasted perhaps as much more. The negroes cut the flesh to pieces for the purpose of dressing it. Captain Stedman however would not suffer them to eat it, although they declared that it was exceedingly good and wholesome.

The following extract from a letter dated *'City of Caracas,'* and written by Sir Robert Ker Porter, has been published. The letter accompanied a fine specimen of boa, nineteen feet and a half in length, presented by Sir Robert to the United Service Museum, where it is now (1835) preserved.

The specimen was exhibited and was probably presented under the name of boa constrictor. It is not well preserved, but it has more the appearance of a Bla Scytale than of the former species:— The name which this colossal reptile goes by in Venezuela is that of "La Culebra de Agua," or "Water Serpent;" and also that of "El Trago Venado," or "Deer Swallower." It is not venomous, nor known to injure man (at least not in this part of the New World); however the natives of the plains stand in great fear of it, never bathing in waters where it is known to exist. Its common haunt, or rather domicile, is invariably near lakes, swamps, and rivers; likewise close to wet ravines produced by inundations of the periodical rains; hence, from its aquatic habits, its first appellation. Fish and those animals which repair there to drink are the objects of its prey. The creature lurks watchfuly under cover of the water, and whilst the unsuspecting animal is drinking, suddenly makes a dash at its nose, and with a grip of its back-reclining double range of teeth, never fails to secure the terrified beast beyond the power of escape. In an instant the sluggish waters are in turbulence and foam, the whole form of the Culebras is in motion, its huge and rapid coils sometimes enwrapping its victims, in a short moment elapses ere every bono is broken in the body of the expiring prey. On its ceasing to exist the fleshy tongue of the reptile is protruded (taking a long and thickish form), passing over the whole of the lifeless beast, leaving on it a sort of strained saliva that greatly facilitates the act of deglutition, which it performs gradually by gulping it down through its extended jaws,—a power of extension of them it possesses to so frightful and extraordinary a degree as not to be believed when looking at the comparative smallness of the mouth and throat in its terrestrial state. After having completely devoured or rather hidden its prey in the way described, it becomes powerless as to motion, and remains in an almost torpid state for some days, or until nature silently digests the swallowed animal. The snake now sent was killed with lances, when just regaining its powers of action.

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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, vermillion tongues in the place of the small dark-coloured external organs with which nature has furnished them. We have frequently watched constricting 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 indicative 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. Lansdowne Building thus records the capacity 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 aquatica* of Prince Maximilian. This species referred to [Boa Scytale]...
by Linnaeus under two specific names, according to Cuvier, is the Boa aquatica of Prince Maximilian and the Anaconda according to the same authority. Mr. Bennett observes in 'The Tower Manager' 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 ocellated, the disks being white, surrounded by blackish 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 it about to dart upon an American mouse, which he says is its usual food. Such '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 cenchria. We think it very probable that this is the 'Culebra de Agua' of the Venezuelans mentioned above. The other provincial names, 'El Traga Venado,' or 'Deer Swallower,' indicates the prey of the serpent when of mature age. Linnaeus says of his Boa Seytale, 'Constringit et deglutit opossum, ursus,' &c. It constricts and swallows goats, sheep, &c. The Boa murina, then, was probably only a young Boa Scytale.

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Scoly 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 Tcamacuilebaubila (or Tamaquilla Huillia, 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 water, and patiently wait to seize upon the quadrupeds which come to drink.

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Plates upon the muzzle, and the sides of the jaw hollowed into a kind of slit under the eye, and beyond it.

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Example. Boa canina of Linnaeus, Xiphosoma araramba of Spix.

Greenish, with white irregular lughish spots somewhat annularly disposed. This is the Ibon virides of Boldhart, the Boa thalassina of Laurenti, the Bizobi of the Brazilians, the Tetrachouill Tleoa (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 Aipale is only a young Bojobi or Boa canina.

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

[See Cenchria, Eretton, Eryx, Pseudo-Boa, Scytale, Xiphosoma.]

* 'Tleoa,' according to Seba, means 'a fiery serpent.'
BOA'CEA, BOOICEA, BONDCEA, or BON-
DCEA (Booidea in D'Orbigny), lived in the middle
of the first century, and was the wife of Prasutagus, the
king of the Iceni, a tribe of Britons inhabiting Norfolk and
Suffolk. Prasutagus at his death bequeathed his wealth,
which was very great, to his two daughters and to the
Roman emperor, a device resorted to in those times with
the object of confining the emperor to a share of the
deceased's possessions, and would rescue the remainder
from his officers. Nero was at this time emperor; and
Suetonius Paulinus, a general of great skill and energy,
commanded in Britain. While Suetonius was occupied in
attacking the Isle of Wight, the insurgeney of the Iceni
was put down by the procurator or collector of the revenue,
was guilty of great rapacity among the Britons in the east. He caused
Boa-
dcea, on whom the government of her nation had devolved
by the death of her husband, to be scourged, and her
domestic affairs were taken care of by Catus. The procurator of this
case is not recorded. Probably it was the same which instigated
the cruelty once inflicted by the English on native princesses
in India: the government wanted money. The crime however brought its
punishment. The Iceni and their neighbours, the Trinobantes (who dwelt in what is now
Essex and Middlesex), flew to arms. They first attacked
and destroyed the Roman colony of Camulodunum
(Colchester), and defeated a Roman legion which was
coming to the relief of the place, under the command of
the procurator of the insurgents. At Verulamium, one
Roman at Verulamium (St. Alban's), a considerable
municipium [see MUNICIPUM], and at London, which was then
tested for its commerce. Catus fled to Gaul. Tacitus
says that the Romans and their allies were destroyed to
the number of 70,000, many of whom perished under
torture.
Suetonius hastened to the scene of this revolt; and aban-
donng London, which he had no means of defending, posted
himself with an army of about 10,000 men in a narrow
pass, his rear being guarded by a wood, &c. The Britons were
commanded by Boudicca, who, in a chariot with her two
dughters, went from one tribe to another exhorting them
to fight bravely. They seem however to have met the usual fate
of uncivilized armies. Without combination, encumbered
by their very multitude, impeded by their women who sur-
rounded them, and by their unwieldy chariots, they suffered
a universal carnage. Tacitus, a nearly contemporary his-
torian, estimates the destruction at 80,000 persons, an incre-
dible number, although he says that the Romans did not
spare even the women and the animals, who added to the
heaps of slain. Boudicca, he tells us, killed herself by poison.
Dion Cassius however (liv. i. 12), who lived about a century
after Tacitus, attributes her death to disease, if the passage
is not corrupt. See Ernest's note on Tacitus, xir. 37.
(Tacit. Annal. xiv. 91, &c.)

BOAR. [See Hog.]
BOARD, a word used to denote, in their collective capa-
city, certain persons to whom is intrusted the manage-
ment of some office or department, usually of a public or corporate
character. Thus, the lords of the treasury and admir-
alty, 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.

BOA'RMIA (Stephens, in entomology), a genus of moths
of the family Geometrida. All the species of this genus
are of an ashy colour, or white minutely dotted with brown,
and adorned with axillary fascia of a deeper colour; the
antennae of the males instead of being pectinated, a char-
acter common in the Geometridae, are pilose; palp short,
clad with short scales, three-jointed, the two basal joints
of equal length, the terminal joint concaved; antennae
situated in the females; thorax small, dry; 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 Entomo-
logy, 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.

BOAT. [See Life-Boat.]
BOAT-BILL (zoology), the English name for the genus
Cochlearius of Brisson, Cancrosa of Linnaeus, Les Sav-
cous of the French.
This genus of the family Ardisier (heron-like birds)
would appear quite closely, as Cuvier observes, to the
herons (genus Ardea, Cuv.), in regard to their bill and the
kind of food which it indicates, were it not for the extra-
ordinary form of that organ, which is nevertheless, when
closely observed, the bill of a heron or a bittern very much
flattened out. This bill is of an oval form, longer than the
head, very much depressed, and not unlike the bows of two
sloops placed one upon another, with the rims in contact.
The mandibles are strong, with sharp edges, and dilated
in 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 fatter 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, Cancrosa cochle-
aria of Linnaeus, Le Savourof of Buffon, the differences on
which Cancrosa canornapha (Linn., &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 Cancrosa vulgaris, but assigns no reason
for altering the specific name given by Linnaeus.

[Cancrosa cochlearia, males.]
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
are brown. From the head depends a long crest of black fea-
ters, 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, inhabiting Cay-
enne, Guiana, and Brazil, and chiefly frequents such parts
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as 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 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.

Harris, in his Ornithological Miscellany (1815), says that it inhabits Southern America, and feeds on fishes, vermes and crustacees, in quest of which it is continually traversing the borders of the sea.

Cuvier, in his Regne Animal (1829), says that it inhabits the north and more 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 inebiting the inundated savannas of South America, and being especially common in Guiana.

Leach, in his Zoological Miscellany, says that the bird is enjoined by His Excellency, the provost-marshal, and most of the ships on 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, cables, 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 canvass 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 frugality in the use of the stores intrusted 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 superintendence and control which he exercises over the men, with a view to their well-being. His principal business is to procure the necessary stores for the crew of the ship 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 that the men attend, and that they are instructed to properly perform their duties; and he is 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 off offending men and giving them the best advice. Sometimes a boatswain who has been appointed may be withdrawn 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, for every mate, half the rate of pay of a ship, from 47, to 24, per month, and he is allowed two servants in all ships the crew of which exceeds 100 men. The number of his mates varies from 4 to 1, according to the size of the vessel, and their pay similarly varies from 31,10s., to 24, per month. (Regulations and Instructions relating to His Majesty's 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 Schatzlitz, on the north slope of the hills and range of mountains which separates Bohemia from the borders of Bohemia. It traverses the plateau of Hirschberg, and during this course, as well as until it reaches Brnaunau, 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, whence it takes a general N.W. course to its junction with the Oder at Kroszen, or Crossen. Its waters are increased by several small rivers and streams, the most considerable of which are the Zucken, which issues from the Zuckenfall, one of the Bohemian Giant Mountains, about 2150 feet in height, and falls into the Bober near Haußberg; and the Queiss, which rises near Giehren, and empties itself into the Bober, on the left bank, at Machen above Sagan. The Bober is about 140 miles in length, and flows through the towns of Hirschberg and Bunzlau in Prussian Silesia, and through Boberbs and Kroszen in Brandenburg. It contains peals.

BOB-O-LINK, or BOB-LINK (Zoology), the usual name by which the 'rice-bird,' or 'reed-bird' — the 'skunk-bird' (Seeackck-pethesuev) of the Cree Indians, the 'rice-bunting' of Pennant and of Wilson, 'rice-troopial' of authors, Hortulanus Carolinensis of Catesby, Emberizus orizyvorus of Linnaeus, Icterus agricollis of Bonaparte, Dolichonyx orizyvorus of Swainson — is known in the United States.

Catesby, Wilson, Audubon, and Nuttall give the most complete accounts of this well-known bird:— 'The whole southern part of America,' says the latter, 'from Labrador to Mexico, and the great Antilles, are the occasional residence of this truly migratory species. About the middle of March, or beginning of April, the cheerful bob-o-link makes his appearance in the southern extremity of the United States, becoming gradually arrayed in its nuptial livery, and accompanied by troops of his companions, who often precede the arrival of their more tardy mates.' (Bartram's Travels, p. 295, edit. Lond.) 'Their wintering resort appears to be rather the West Indies than the tropical continent, as their migrations are observed to take place generally to the east of Louisiana, where their visits are rare and irregular.' (Audubon's Ornithological Biography, vol. i. p. 283.) At this season also they make their approaches chiefly by night, obeying, as it were, more distinctly the mandates of an over-ruuling instinct, which prompts them to seek out their natural regions; while in autumn their progress, by day only, is alone instigated by the natural quest of food. About the 1st of May the meadows of Massachusetts begin to re-echo their lively ditty. At this season in wet places, and by newly ploughed fields, they destroy many insects and their larvae, but, while on their way through the southern States, they cannot resist the temptation of feeding on the early wheat and tender barley. According to their success in this way, parties often delay their final northern movement as late as the middle of May, so that they appear to be in no haste to arrive at their destination for any fixed period. The principal business of their lives, however, the rearing of their young, does not take place until they have left the parallel of the 40th degree. In the savannahs of Ohio and Michigan, and the cool grassy meadows of New York, Canada, and New England, they fix their abode, and ob-
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 autumal and changed dress, hardly known now as the same species, they sometimes show their taste for plunder, and flock together to the fields and pastures where the barley had been recently sown.

The song of the male generally ceases about the first week in July, and about the same time his variegated dress, which, from a resemblance in its colours to that of the quadruped, obtained for it the name of 'skunk-bird' among the Cree Indians, is exchanged for the sombre hues of the plumage of the female.

The author quoted thus describes the autumnal migration:

'About the middle of August, in congregating numbers, divested already of all selective attachment, vast foraging parties of these birds, dressed in their winter garments, are observed to be 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 European ortolan, the red, or rice-birds, as they are then called in their sparrow dress, form a favourite sport for gunners of all descriptions, who turn out on the occasion, and commit prodigious havoc among the almost silent and greedy roosting throng. The markets are then filled with this delicious game, and the pursuivants, both for success and amusement, along the picturesque and ready shores of the Delaware and other rivers, is second to none but that of rain-shooting. As soon as the cool nights of October commence, and as the wild rice crops begin to fail, the reed-birds take their departure, leaving the bones and carcasses of their victims preservative of their further progress through the southern States they swarm in the rice-fields; and before the crop is gathered they have already made their appearance in the islands of Cuba and Jamaica, where they also feed on the seeds of the Cuban rice, which they distribute so far as to deserve the name of "hutter-birds," and are in high esteem for the table.'

Catesby, 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 companionable and great feeder is no small matter.

'In the beginning of September, while the grain of rice is yet soft and milky, innumerable flights of these birds arrive from some remote parts, to the great detriment of the inhabitants. In 1724 an inhabitant near Ashley river had forty acres of rice so devoured by them, that he was in doubt whether what they had left was worth the expense of gathering in. They are esteemed in Carolina the greatest delicacy of all other birds. When they first arrive they are lean, but in a few days become so excessive fat that they fly sluggish and沈重, and when they reach the fullness of the grains, are with the fall. They continue about three weeks, and retire by the time the rice first begins to harden. There is something so singular and extraordinary in this bird that I cannot pass it over without notice. In September, when they arrive, it is observed to be occasionally devoured by them, not being accompanied with any cock. Observing them to be all feathered alike, I imagined they were young of both sexes not perfected in their colours; but by opening some scores prepared for the split, I found them to be all females, and, that I might leave them room for doubt, repeated the search often on many of them, but could never find a cock at that time of the year. Early in the spring both cocks and hens make a transient visit together, at which time I made the like search as before, and both sexes were plainly seen. In September, when the deck of a sloop in a bay at Andros Island, I and the company with me heard three nights successively flights of these birds (their note being plainly distinguishable from others) passing over our heads northernly, which is their direct way from Cuba to Carolina, from which I conceive, after pursuing the earlier crop of rice at Cuba, they travel over sea to Carolina for the same intent, the rice there being at that time fit for them.'

It is evident that Catesby was not aware of the change of the pliagge male in 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 the case of the chaffinch with us? Of this I have no opinion. But it appears, from Bartram's account quoted by Nuttall, that the males frequently arrive in the spring before the females, and we know that there is a temporary separation of the sexes among other birds besides the chaffinch. 'This separation of the sexes,' says Selby, speaking of the last-mentioned bird, 'I am induced to believe, takes place in many other species, with respect to the males, appears to be mentioned 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 pass southward) consists chiefly of females, and, on examination of the 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 naked plumage, which was caught on the Saskatchewan in that month in the year 1837.

Swainson places it as a genus of his third sub-family, Aeglaevinae, in the third, or atherant group of his Strurrnidae.

Grassy meadows are the spots usually selected by the bird for its nest, which is made on the ground, generally in some slightly depressed spot, of withered grass, so carelessly bedded together as scarcely to be distinguishable from the neighbouring parts of the field. Here five or six eggs of purplish-white, blotched all over with purplish, and spotted with brown round the ends; the shell thin, glossy, and opaque.

The length of the bob-o-link is about seven inches and a half. 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 bluish-grey; a band of dusky whitish feathers, the barrows, is lined on the inside with black, and below there is a large patch of ochreous yellow on the nape and back of the neck; hill 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. 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 female in great measure.

BOBROV, SEMEN SERGEJEVITCH, a Russian poet of some distinction, who commenced his literary career about 1874. His most important, if not most extensive work is the 'Kherosinda,' a poem descriptive of the wild scenery, natural history, and antiquities of the Tauris. In this production, which first appeared in 1863, 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 Russian poetry, and received by the majority of the critics as an imitation of nature in the mountainous regions of the Taurian peninsula, there are many lyrical passages of great vigour, which, while they relieve the sameness of landscape description, breathe a powerful moral strain, and are replete with the beautiful and rare. The two epistolary parts are of a dramatic cast, being thrown into the form of dialogue, and along with these may be classed the narrative of the aged Shereef Omar, in the course of which he relates the history of the Tauris from the fabulous ages of Greece. One or two extracts from this poem are translated in the first volume of Bowring's 'Russian Anthology,' but being mere fragments, they convey no idea of the general subject or plan. By the author himself it is termed a 'lyric-epio' poem, which has misled Bowring and perhaps all others, who have quoted it, to an intimation that it bears a resemblance to 'Lalla Rookh,' whereas there exists not the slightest analogy between the two compositions,—except it be that the 'Kherosinda' has a certain Oriental colouring of style and expression.

Bowrov was gifted with poetic imagination and feeling, but in aiming at intense energy andloudness he was occasionally inflamed in his language. He was exceedingly well read in English poetry, to which he is perhaps in some measure indebted for the best characteristics of his own. He died at St. Petersburg in 1868.

BOCAGE, LE, a district in Normandy, between the rivers Vire and Orne, of which the town of Vie (population, in 1832, 7500 for the town, 8043 for the whole commune) was the capital; it now forms part of the department of Orne. The inhabitants are distinguished by the inferiority of their stature to that of the inhabitants of the plain of Caen, who are their neighbours, by the paleness of their
complexion and the vivness of their look, by their attachment to their native soil, and their willingness to labour. The women share with the men the toils of field labour; they are lean, but robust in their bodily frame, and fruitful in bearing children. Civilization makes little progress among the forests and swamps, and the little domestic luxuries which have been adopted by theforeignersexes has undergone little change for ages past. The animals, 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 forests of the neighboring district of the Vaal des D'Auger degenerate if transferred to the Bocca. The district yields little grain except oats, rye, and buck wheat, but there is some good pasture land. It contains wood; and some iron is wrought here. (Mallo-Brun, Expilly.)

The Francigena might have been reached for several centuries by the Italians either in the singular or in the plural 'bohooe,' to designate the mouths of rivers, as 'Bocca d'Arno,' the mouth of the Arno, or the narrow straits leading into a bay, as 'Bocche di Cattaro,' the entrance into the Bay of Cattaro in Albania. By an analogous figure, the narrow pass in the Apennines on the old road from Piedmont to Genoa is called 'la Bocchetta,' the little mouth. But the word Bocca is more frequently used with reference to sea than land. The Spaniards use the word 'Boca' with only one s, according to their impression by the entrance to new harbours or rivers or bays: 'Boca Chica,' i.e. the little mouth, is the entrance into the harbour of Carthagena in South America. 'Boca del Dragón,' the dragon's mouth, is the strait leading from the north into the gulf of Paria, between the two American tribesmen, the Caribs and the Mandan. Bocca Tigre is the name given by Europeans to the entrance of the river of Canton in China.

BOCCA/CIO, GIOVANNI, born in 1313, was the son of Boccaccio di Chellino, a merchant of Certaldo in the Val di Chiana. He was sent to Pisa by his father in 1330, to learn the French tongue, and to procure for himself a knowledge of the learning of the French law. He was a French woman whom his father had become acquainted with during a visit to Paris; but whether he was born at Paris or Florence is not ascertained. He studied at Florence under the grammarian Giovanni da Strada until he was about 25. He afterwards served as a merchant, with whom he went to Paris, where he spent six years. On his return to Florence, having expressed a dislike of mercantile pursuits, his father set him to study the canon law. After some years passed in this study, he was sent to Naples, where he became acquainted with several learned men about the court of King Robert, who was a patron of learning. Boccaccio says that the sight of Virgil's tomb near Naples determined his literary vocation for life, and that he then renounced all other pursuits.

In 1341, as a reigning service in the church of San Lorenzo, he was struck by the appearance of a beautiful young lady, with whom he fell deeply in love. His friend Petrarch fell in love with Laura in the same manner, by seeing her in the church of Santa Claire in August, 1331. Theseus was visiting Athens in the year 1327. (See Petrarch.) The object of Boccaccio's admiration proved to be Mary, of the family of Aquino, and a presumed daughter of King Robert of Naples. Boccaccio's attachment was returned; and to please his mistress he wrote 'Il Filocomo,' a romance in prose, beginning of which he relates the history of their love, and afterwards 'La Teside,' a poem in ottava rima on the fabulous adventures of Theseus. This was the first romantic and chivalrous poem in the Italian language. The metre of the ottava rima he professed to have adopted in translation from a work of Sallust, written before him. (See Crescimbeni, Commentarii, lib. iii.) Cau- cer borrowed from the 'Teside' his 'Knight's Tale,' afterwards remodelled by Dryden under the name of 'Palamon and Arcite.' Boccaccio dedicated the 'Teside' to his Flammets, the name which he gave to his mistress Mary. In 1342 Boccaccio was recalled home by his father, but in 1344 he returned to Naples, where he remained for several years. He there wrote the 'Amorosa Flammetta,' in which he describes the pangs of absence from a beloved object. This poem was turned into French by Jean de Meun, into Latin by Talbot, into German by Hartmann of Thienard, and into Swedish by Hans Sparre. It was translated into ottava rima, and 'L'Amorosa Visione,' a poem in terza rima, of which the initial letters of the first line of each terzina being placed in succession together by way of acrostic, compose two sonnets and a canzone in praise of his mistress, and this is the only way in which he has called her by her 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 desire, as it appears, he wrote his 'Decamereone,' 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 1348, had retired to the country and to the coast of the town. Most 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 these tales are taken from older works, but most of them are original. (See Manni, Storia del Decameron.)

While at Naples Boccaccio amused himself with writing in the Neapolitan dialect, in which there is extant a humorous letter addressed by him to Francesco de'Bardi, a Genoese merchant, who had visited him in that city. 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 1350 Boccaccio returned to Florence, where he married the sister of barons of his inheritance, which he spent in travelling and in purchasing 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 countrymen, he was elected an officer of the city, and rose to the office of imperial envoy, and afterwards to the office of ambassador, and at length to the office of chancellor. Petrarch was at the same time invited to come to Italy, and to be ambassador in his own country, and he declined the invitation.

In 1355 Boccaccio wrote 'Il Corbaccio, ossia il Labirinto di Amore,' a kind of satire against women, full of indelicate passages. It is said that he wrote it to revenge himself on a certain widow who had slighted him. Boccaccio's Flammets appears to have died at Naples some time before. In 1366, 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, who had been a secretary of the republic of Venice, and afterwards to Constantinople. On his return to Italy he was killed by lightning on board ship. Bocca- caccio learned Greek from Pilatus, who made for his pupil's use a Latin translation of Homer: a copy of this translation, made by Nicolo Nicoforo, is preserved 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 Hody, de Graecis Illustri- tris, London, 1845.) It seems however that there was an older Latin translation of part at least of Homer's poems previous to that of Pilatus.

In 1361 a great change took place in Boccaccio's moral conduct. His life had till then been irregular, and most of his writings licentious, but in that year Father Cian, a Car- thusian monk, came to him and stated that Father Petroni of Sicna of the same order, who had died shortly before in odour of sanctity, had commissioned him to exhort Bocca- caccio to forego his profane studies, reform his loose life, and become a monk. To prove his sincerity in this mis- sion, Cian 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 mysta-
rious circumstances of the monk’s communication, he ex-
icted his friend to listen to the warning, so far as to ad-
opt 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 suspicions of Boccaccio, and from that time he became an altered man. His studies took a more serious
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 apo-
logy for himself, he stated that it was a work of his youth,
and that he had not held his opinions in it in a settled con-
science, from the will of the powerful, majori coactus imperio,
alluding 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.

Boccaccio was summoned to Naples at the request of Ac-
ciajoulo, 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 (1363) for Venice,
with a library of books with which he fflushed his path.
On his return to Florence, he was sent by the republic to Pope
Urban V., then to 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-
curred to the animal instinct of his youth and to have
tried to profit by his own experience. He had, who also, on his
death-bed, left him by will fifty golden florins ‘to buy him a winter polisce 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 may be the source of that vonpousness, which was a very prominent feature of their character. About the year 1370 we find
Boccaccio again at Naples, and afterwards for a short
time in the convent of Santo Stefano in Calabria. In 1372
he went to Florence, and then left it for Naples. In 1373
he returned to Florence, where he was appointed to lecture
on Dante’s Commedia, and to explain and comment upon
the obscure passages of that poem. He wrote a commentary
on the Inferno which is much esteemed, and also a life of
Dante, which is not looked upon as very accurate. A dis-
cussion with a Dominican, who had accused him of obli-
ging him to give up his lecturership in the following year,
when he retired to his paternal house at Certaldo, where
he made his will, leaving his little property to his two
nephews, except his library, which he bequeathed to his
cousin, the Marchioness of Stiga. He was buried in the same
convent, 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 composed by himself was placed over his tomb.
In the style, which was not what it was in his best
memory against the side wall of the church. This cen-
to took still exists, but his grave was opened in 1783, and
his skull taken out, not through fanaticism as Byron has
assumed (Childe Harold, canto iv.), but through a mis-inter-
pretation 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
Certaldo has been repaired by the present owner.

Boccaccio may be considered the father of Italian
prose, and the author of one of the most remarkable works
in the history of literature, La 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 Sistico sul Testo dei
Decameron, Roma, 1818, No. x., E. Unicelli, History of 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
classes, and in giving an impulse to the study of them.
Boccaccio wrote several works in Latin: De Genealogia
Deorum; De Montium, Sylvarum, Lacuem, Fluviorum,
Stagnumor et Marium Nominibus, Liber; De Casibus Virum
rum et Faninurnarum illustrium; De Claris Muliebris, and 16
vols. of Poems, dealing with the love affairs of the gods, and
events of his time. He gave the key to the real names of the
persons and places to his confessor, Frà Martino da Signa,
and Manni gives an abstract of this key in his Storia del
Decameron. Boccaccio’s Italian works have been published
together, carefully corrected from the best existing MSS,
in 17 vols. 8vo, Florence, 1827-34. With regard to the De-
ameron, 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
later editions. There are also a拉丁 and a French transla-
tion by Boccaccio, and a Latin translation by Fra Mino,
Florence, 1806; and Mazzuchelli, Scrittori d’Italia.

BOCCAGE, MARIE ANNE LEPAGE, married to
Fiquet du Boccage, was a French poetess of the last century,
so highly esteemed by her contemporaries, that she was re-
cipient of a number of the most distinguished men, including
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 first few years of her life, but, in her more advanced
years, her productions began to attract universal admiration, influenced probably by the habits
of French women of rank and fashion of that epoch, who
devoted their youth to coquetry, the period of middle life
to cleverness or its reputation, and their old age to devotion.

The occasion of her second marriage was the death of her husband,
Marquis du Boccage, an author, and her poetical
work, 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 subjugated by all
the suitors of the first rank of the French nobility, and
himself, 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 Minerva were assign’d
her as a motto. But although so highly extolled, her productions
during the last period of her life, were very poor, and
her lack of interest in poetry was certainly a symptom of
adorption of sterility. Their chief merit seems to be easy and
correct versification. Her poetical works consist of an imitation of
‘Paradise Lost,’’ another of Gesner’s
‘Death of Abel,’ ‘Les Amazones,’’ a tragedy (which
was acted eleven times), ‘La Crotale, and
several small pieces. The ‘Colombiade,’ as her most am-
bitious attempt, was that upon which her fame chiefly
rested, though now it is probably never read. Her works
run through four editions between the years 1749
and 1827 and two of the most esteemed, and are valued
by her contemporaries and by her successors in
Italian. Her prose letters, written during her travels
through England, Holland, and Italy, which were little
thought of at the time, will probably be valued long
after her poetry is forgotten. Madame du Boccage survived
her husband, and continued to write letters, but is not of
considerable reputation. She died at the age of ninety-two,
in the year 1862. (Allgemeine Deutsche Real Encyclopädie; Biographie Universelle; Chalmers Biographical Dictionary; Bouterweck, Geschichte der Neuen Poetische und Beredsamkeit.)

BOCCALINI, TRAIANO, was born at Loreto in 1568,
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.
sent him as governor to Benevento. He was well ac-
tuated, held a deputyship in the city, and was frequently
in the city, and wrote satirical comments upon them, in
which he was particularly vehement against the Court of Spain,
in that age the preponderating power in Europe. Like
Balzac, he depicts in strong colours the ambitious dark
dark policy of that cabinet, and its oppressive sway over Naples,
Sicily, and Lombardy. (See BALZAC.)

His principal work is I Ragguagli di Purnaso, in which Apollo is supposed
to sit in judgment and hear the charges and complaints
of princes, warriors, and authors. This work made him many
enemies, as it was frequently repeated, and he was finally
in the hands of a friend. In this work, which is a kind of
continuation of the other, he especially attacks Spanish despotism. It was published after his
death in 1592, and translated into English by Henry Earl
of Monmouth, with the title Politick Touchstone, London, 1665.

Boccalini also wrote commentaries upon Tacitus, Observa-
sioni sugli Annali di Cornelio Tacito, in which he deve-
B O C

GAMMA,
which signifies 
fortis, audaces (strong, bold),
and that these 
Gammadins were, according to Pliny, a war
nation of the ancient Romans, living on the
flank of Troy. Camerón being asked his opinion, observed, that 
The Pygmae, in Ez. xxvii. 11. were warriors or combatants, who 
derived their name from πυγμαχός, πυγμή, one who fights 
with his πυγμή, fist; which word is related to the Latin 
pygma. Thereafter, in the Latin manuscript military, and the Greek Πυγμαχο
the French 
homme de main and the English armstrong.
The king was pleased with Camerón's explanation, who 
was about to confirm his observations still more, when the 
Spanish ambassador, feeling foolish, gave the name of 
Armstrong to Camerón's feet, thanking him for having proved the antiquity of the 
name of Armstrong by the holy authority of the pope.
About this time Bochart visited Oxford, where he 
resided, in Latin, one of the dignitaries to show him a 
comfortable seat from which he might behold the taking of 
degrees. The doctor, who understood only the English pr
unciation of Latin, replied, that the university was then 
rather poor, and that he could not offer much money, but he 
would help him with a little statuette, which Bochart of 
course declined. After a short stay in England, Bochart 
went, towards the close of the year 1621, to Leyden, where 
he studied Hebrew and Arabic under Thomas Erasmus, and 
divinity under A. Rivetus, who had married a sister 
P. Du Moulin, and who dedicated his Catholicus Ortho
doxus to Bochart. It is said that Bochart learned the 
Ethiopic from J ohn Ludolf.
Having finished his studies at Leyden, Bochart returned 
home. His father was then dead, but his mother still sur
vived. He was recommended by the President at Caen to 
accept among them the office of pastor, and he became a 
revered and popular preacher, admired even by Roman Catholics. During the siege of Rouen, a number of

BOCHART, SAMUEL, of the family of Bochart 
Champigny, de la branche de Menillet, became by his 
great learning the most distinguished member of his illustrious 
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 Blot, and had among other children Marc, Président 
Enquêtes de Paris, who died childless 
and René, minister of the reformed religion at Rouen, who 
married Esther du Moulin, sister of the famous Petrus Mo
lineus, or Pierre du Moulin, by whom he had 
Samuel, the 
subject of this notice, who was born in the year 1593.
The elder Samuel Bochart was the author of a very 
compounded forty-four Greek verses, which Thomas Dempster, or 
Demsterus, 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, 
Gregorio Boccaini, at Lucca, where the of 
the only Italian state that kept itself comparatively independent of 
Spanish influence. He did not live there much more 
than a year, and died on the 18th November, 1613. It 
was said that he was murdered in his lodgings and in his own 
house, by several hired assassins, who threw him 
with dead bodies filled with sand. This however is disbelieved 
by Mazzuchelli, Zeno, Tiraboschi, and other Italian critics, 
who give several reasons for their dissent from this story. In 
the registers of the parish of Santa Maria Perno, in 
in which Bocaini died, it is stated that he died of the colic 
accompanied by fever. This statement in the registers 
however is but weak evidence against the alleged crime.
BOCCAINI, SIMONE, the first doge of Genoa, 
was elected in 1339. They were elected by the 
time the republic had been governed by two capitanie chosen 
from among the patrician families, between whom frequent 
disputes occurred, they being divided into the factions of 
Giuliala and Guinclines. These disputes often terminated 
in bloodshed, and confusion of property. The 
citizens of Genoa, tired of this, appointed a doge, or elective 
supreme magistrate, after the example of Venice. It was 
resolved at the same time that the doge should be chosen 
among the private citizens, and not from any of the 
patriarch families. The doges of Genoa were almost 
always the heads of the city, but they were often driven from office by civil commotions.
Bocaini himself was driven away in 1344, but returned 
some years after, and was reinstated. His son Battista 
was elected doge in 1406, but soon after beheaded. The 
institution of the doges was abolished in 1594. [See Death 
with dogs filled with sand.]

BOCCHERINI, LUIGI, a name too familiar in modern 
musical history to be omitted here; yet, well as he was 
known, and highly and deservedly as he was valued, during 
the latter part of the last century and the commencement of the 
present, the condition of the stringed instruments, 
were such, that, in the neglect, and it is not unlikely that in a few years they will 
be entirely forgotten. He was born at Lucca, in 1740. 
His first instructions in music were from the Abbé van 
Nuccio, and he subsequently studied composition generally, 
and the theory of music and counterpoint at the 
conservatorio di musica at Lucca. As a performer on the contrabasso, he sent to finish his 
professional education. Some time afterwards, Charles IV. 
of Spain, a great connoisseur in music, engaged Boccherini 
as court composer, and during many years he lived in the 
surmount of royal favour; but individually wounding the 
vanity of the royal dilettante, he was dismissed from his 
envied situation. About the same time Lucien Bonaparte, 
then ambassador at Madrid, took him under his protection, 
and settled on him a pension of a thousand crowns, on condition that he paid at the same time six hundred 
francs to a known 
seasonable appointment was willingly accepted, and the 
composer continued to reside in the Spanish capital till 
his death, which took place in 1806.
Boccherini produced little else besides quintets for two 
violins, and two violoncello, which are remarkable for 
sweetness, not boldness, of harmony, and gracefulness of 
melody; and, what renders them unlike all other com
positions of the kind, he most commonly assigns the principal 
part to the first violoncello. Of these he composed no less 
than forty, all of which were published under the 
TITLE of Janet and Cotelle. But the more elaborate, and 
oddly the superior works of the same class, by 
Haydn, Mozart, and Beethoven, have completely super
seeded those of Boccherini, which are now rarely, if ever, 
heard.

No. 276.

[THE PENNY CYCLOPEDIA.]
Popish controversialists went about in order to dispute with Protestant ministers, and to entrap them by unguarded ex-
pressions. Bochart, on the contrary, 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 "homunculorum" and "aspergillorum" under the Latin term con-
tantibus istis, whilst they were making masses. By this text Verin supported the apostolical origin of the mass. On the fourth day of September, 1622, he urged Bochart to a public disputition, which took place in the castle in the presence of a large audience of nobility and gentility, and lasted from the 22nd of September to the 3rd of October. Sometimes the Duke of Longueville, vicoy of Normandy, himself attended. In nine sessions Bochart and Veron debated on the accuracy of the French version, the faults of the Vulgate, the true meaning of the text, the matters of good works, mass, presbyters, 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, abstinence, justification, purgatory, limbus, prayers for the dead, number of sacraments, eucharist, equivoca, &c. It was agreed that the minutes of this disputition 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; they were to be 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 disputition. Bochart enriched his Actes de la conference theologique, with the following: "Bochartus, Ioannes Baillehache, ac Francisco Verin, et Isaac le Comte." Saum. 1630, 2 vols. 8vo., with several additions from the fathers, which prove that he was well versed in this branch of learning.

Having begun to expound Genesis to his congregation, he was invited to a group of friends, where he preached a sermons, which, after his death, came into the possession of his grandson, le Sieur de Colveille, senator in the parliament of Rouen, who was the son of his only daughter. These popular expositions, which terminate with Gen. 11. 18, in the latter part of Joseph's life, are entitled: "Hieronymus," "Geographia Saera," "Phileg. et Canaan;" "Hierozoicon, on the animals mentioned in the Bible." He wrote also some dissertations on the plants and gems mentioned in the Bible, but of these merely fragments remain. The "Phileg." and the "Canaan." were published a D. 1646. The famous printer, Joannes Janninus, of Sedan, was invited to Caen to superintend the printing; nevertheless many errors were committed. The approbation with which "Phileg." and "Canaan." were received by the learned in
dustry, the accuracy of their contents, 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 pacify the minds of the English about the time of the convention of Breda. This Letter to Morley, dated March, 1650, is reprinted in Bochart's work under the title "Epistola qua respondetur ad tres questions: I. De Presbyteratu et Episcopatu; II. De provocazione judicis ecclesiasticis; III. De jure et potestate Regum." The letter was followed by an autograph letter of Christina, Queen of Sweden, to come to Stockholm, where she had surrounded herself with learned men. Bochart was accompanied by Huetius, or Huet. They visited on their journey through Holland the learned and poetic days of the famous Anna Maria van Schurmann, then at Utrecht. They passed through Hamburg and Copenhagen to Stockholm, where they were well received by the queen, but Bochart was much annoyed by the levity of the courtiers. He had been invited on the re
commendation of the queen, not only as a learned physician whose real name was Michon, but who called himself after a learned uncle Bordelot, had succeeded in persuading Christina that learning was injurious to health, and not ladylike. Bordelot had been recommended to the queen by his physician, as he had felt uncomfortable at court, and endeavoured to supplant Vossius, Bochart, and the other learned men who had as
gaged at Stockholm.

Bochart returned in 1653 to Caen, where he was welcomed by the members of the academy, which had been founded during his absence, and of which he became one of the most distinguished members. In the Royal Library at Stock
tholm he had found many Oriental sources of information for his Hierozoicon; and he had occasion to employ his leisure in editing the Commentaries of Origen, from a codex in the royal library at Stockholm. After Bochart's return he had a lively debate with his "Orientalist," and was successful in getting him to publish his young confes
sion: he had always overlooked it.

In 1651, having come to an agreement with a London bookseller of the name of Huet, which is the best of his works, he obtained the assistance of Stephanus Morinus in his ministerial functions, in order that he might devote his time to the completion of it. Morinus was afterwards the biographer, and it is from his treatise, De clarissimo Bocharti Hierozoicon, that he gained his young con
formation. Bochart died suddenly of apoplexy on the 16th of May, 1661, whilst speaking in an assembly of the acade
micians at Caen. To this death the elegant epitaph by M. de Brieux alludes:

"Hoc ego recens ut data sunt suffragia, talis" Untimida forma surrexit pollicere sæcula. Musearum in gremio bavaricæ quæ vixit ac annos 86, Fraternitatis in gremio desquitatae se adeo post mortem inveni."

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 persecution of those days than many other distinguished Pro
testants, but he did not escape entirely. He left a large private fortune, the proceeds of which remain in his family, and to which the Huguenot annuity was added. The estates of Marnes, Leusden, and Petrus de Villemanny, "Oréps omnia, hoc est, Phileg. Chansan, et Hierozoicon, quibus accesserunt Dissertationes Varis. &c. Priddmittit Yurta Actioris a Stephano Morino scripta, editio quinta, 1718." This edition is the best of the complete works; but the "Hierozoicon" has been published by F. C. Rosenmüller, Lips. 1792-96, 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 Ge
neral Huetius states that "at the bankruptcy of the He" zignoria at Halieux, as a subject for a prize essay for the present year, 1835, an eulogium "De vita et meritis Bocharti." By this prize, it is the object of Gesenius to induce the students to peruse diligently Bochart's volumes, which are full of learning.

(See the Dictionnaires de Moreri and Bayle; also the Vita by Morinus; Pet. Dan. Huetii Episcopi Abricennsis Commentarii de rebus, &c.)

**BOCHART, MATHIEU**, Protestant minister at Altenburg in the sixteenth century, published a Traité contre les Réligies, 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 Protestant ministers. He published also, Dialogue sur les difficultés que les Ministres, d'Alsace, font de France. This dialogue on the tolerance 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 property and interests in the composition of a Protestant prince at Frankfurt. Upon hearing this, Mathieu Bochart published his Dial
daciorie i.e. a conciliatory treatise, 1662, which he dedi
cated to the Elector Palatine. It contains the plan of this projected union. Matthew has been sometimes confounded with his more learned cousin Samuel, of whom we have just spoken.

**BOCHNIA**, a province or circle in the north-western part of the Austrian kingdom of Galicia; bounded on the north by Poland, and on the north-west by the territory of the republic of Bohemia. It has possessed a town; it is situated in an area of about 1040 square miles, which will make it nearly equal to that of Chileure. It lies between 49° 46' and 50° 14' N. lat., and 19° 50' and 20° 59' E. long.

The greater part of Bohnia has an undulating surface; but in the south-eastern portion it is more mountainous. The country is a mountainous character. In this direc
tion are those extensive forests and rich mineral resources which make the regions about the towns of Bochinia and Wielwarka so valuable to the Austrian crown. This province has the advantage of being skirted by 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. A very large number of alienated lands are held. 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 Olgin-thians, and manufactured in the country; and a few lines of trade are made. Bochnia also enjoys the benefit of some transit trade. It contains five towns, nine market-towns, and nearly 400 villages. In 1817 its population was 176,760 souls: it is a county.

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 furlongs (about 117 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 6600 inhabitants, according to Professor lands 3° 7' N., lat. 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, Wisnicz, with a suburb set apart for the manufacture of flint-stones; Woynez, a small town near the banks of the Dunajec; and Podgorze, or Podborze, a royal freetown on the Vistula, opposite Cracow, and of modern construction: it contains about 540 houses and 2500 inhabitants, and has some linen manufactures, an iron-mill, an iron foundry, a manufactory of arms, machine-work, a manufactory of soap, and in the neighbourhood.

BOCHOLT-AHAUS, a principality in the circle of Münster, in the Prussian province of Westphalia, which, together with the sovereignty of Ahalt, a domain in the same quarter, belongs to the prince of Salm-Salm, and contains an area of about 620 square miles, and about 57,000 inhabitants. [See Salm-Salm.] Bocholt, on the As, in the above-mentioned circle, is the residence of the prince, and is a lake town. It is said to have been founded by the poor, for a silk manufacture employing 450 looms, a brandy distillery, cotton and soap manufactories, &c. Much grain is cultivated round it, and there is an iron-factory in its neighbourhood. The town contains two Roman Catholic churches, and a church of the orthodox persuasion; it is situated in 51° 9' N., lat. 8° 3' E. long.

BOCGLAND, land held by book or charter. The two great distinctions of lands in the Anglo-Saxon times were those of boce-land and folc-land. The former means land which had been severed from heathland, and converted into an estate of perpetual inheritance. Folc-land, on the other hand, was the property of the community. Sir Henry Spelman describes folc-land as 'terra popularis, quae jure communis possidetur—sine scripto. (Glossor. v. 'Folcan.') In a later period, he says, 'Fredis Saxonies duplro titulo possideant: vel scripti authoritate, quod Bocland vocant—vel populi testimonio, quo Foeland dixerit.'

The author of a Dissertation on the Folclands and Boce-lands of the Saxons, 4to., Lond. 1777, p. 12, says, 'the Boce-lands and Folc-lands are first discovered 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 jurisdiction of the Earl, who was annually elected by the freemen. These two portions were again subdivided into small demesnes or Gercen, and in latter times Greve, or Reve; he it was that conveyed the Folcnote, which was composed of the possessors of Folc-lands, and together with the bishop administered the oath of allegiance to the freemen, over whom he was entitled to exercise the spiritual and temporal capacity, and whose decrees it 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 Boce-land 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 power of alienation in the possessor. It was often granted for a single life or for a limited term. It might be held in perpetuity to the church. It was forfeited for various delinquencies to the state. Boce-land, moreover, was released from all services to the public, except those which were common to all classes, or which might be incumbent upon the disposition of the landlord; such as military expeditions, and to the reparation of castles and bridges. Boce-land might also be held by freemen of all ranks and degrees. A ceorl might possess boce-land and hold it in perpetuity for his services to the church. If he had five hides of boce-land with the other requisites demanded by law, he was entitled to the privileges of a Thenheim. (See Wilkins's Leg. Anglo-Sax. pp. 70, 71.) Gesilus (companion or partners) might receive grants of boce-land. (Hickes, Gramm. Anglo-Sax. p. 139. Beda, Hist. Ecc. c. 1. v. p. 786.) Themons might also possess boce-land. If the estate of a thenheim in boce-land must not be confounded with the thenheim lands which he held, by a beneficary tenure from the king or from a private lord, for military service. Themons held the land of the king or state are repeatedly mentioned in Documents; and the Saxen laws carefully distinguish the boce-land possessed by a thenheim, from the land given him by his bishop (or lord). (See Leg. Can. p. 75.) It is probable that thenheim-lands were originally granted for life, as beneficary tenure. It is stated that the free alienation of the Saxen period, the possessions given to a man by his bishop descended in certain cases to his children. (Ibid.) The estates of the higher nobility consisted chiefly of boce-land. Bishops and abbots might have boce-land of their own, and the bishop of Worcester held an estate in right of the church. The Anglo-Saxon kings had private estates of boce-land; and these estates did not merge in the crown, but were devisaible by will, alienable by gift, or sale, and transmissible by inheritance in the same manner as boce-land held by a subject.

Ofa, king of the Mercians, had a hundred and ten casestates of land in Kent converted into boce-land for himself and his heirs, with remainder to the church. Those lands did not descend, after the death of his son Ecgherth, to Cynwulf, his successor in the Mercian throne, but to Cynodrida, abbess of Cotham. Other lands, of which he had possessed himself without a legal title, went also to Cynodrida and not to his successors in Mercia. (Wilkins, Concil., vol. i. p. 153.)

When boce-land 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 Gesta Regnum, pp. 88, 89.) In the exercise of that power he might transfer it by grant or alienation, in the same manner as folc-land. But he was subject 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 boce-land. (See Heming's Chartul. pp. 129, 140, 141. 160. 182. 192. 206. Smith's Heming, pp. 769, 771.) When once severed from the folc-land, or property of the community, an estate retained the name of boce-land, whatever were the burthen and services imposed on it, provided it was alienated by deed. When transferred in a different manner, the land was held as the burden or the service, and not the land. The word which has thus been mentioned is often used in the singular after the name of the person to whom it was granted, and have been called Ianland. This appears from a transaction recorded in the Chartulary of Worcester. (Heming, p. 158, see also ibid., pp. 204, 205.) We are there told that archbishop Oswald granted to Hlifsige a tenement in Worcester, with the croft attached to it, to hold in sinesin, and subject to the usual service of boce-land. It appears in the form of boce-land as it had been held before in the form of Ianland. Ianland might be an estate for life, or held by a tenant at will; and if the possessor was convicted of felony, it reverted to the donor. (Compare Hickes, Diss. Epist. p. 25, v. 245; Smith, Hist. Heming, p. 782.) It might be subjected to payments in kind or in money. (Hickes, ut suppr. pp. 10, 55, Gramm. Anglo-Sax. pp. 149, 150.)
If Lye, or Magdalen, is added, or Smith's might is, their claim is an indefiniteness, with no reservation of services whatever. (Madox, "Formulare," cxxv; Hicke's Gramm, p. 141; Smith's Bedes, p. 773.)

Tenants of hofland might be persons of the same description as those of the ordinary folcland. The only difference between these seems to have been, that the tenants of folcland held their lands directly from the public authorities of the state, while the others held their land of some proprietor, to whom it had been previously granted. The latter tenant of late 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 offences, and when forfeited, it escheated to the king as the representative of the state. (Leges Athelredi Regis, 2; Leg. Cnut., 12, 75; Text. Roff., pp. 44, 136; Hicke, Dist. 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. Wilt., p. 63.) When hofland was granted as a castle or manor, it was a grant of the charter, declaring that whatever offence the tenant might commit, his land should revert without forfeiture to the grantor. (Hemming, pp. 96, 126, 128, 131, 146, 181, 184, &c.; Monasticon Angl. new edit. vol. iii. p. 37.)

The distinction between folcland and hofland, it follows that the folcland, or land of the community, like the face of the continental nations, was the fund out of which the boclands, allotlitical possessions or estates of inheritance, were carved. At what time, or under whose authority, the land was converted into hofland 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 advantages arising from it. Certain it is, that in one of the earliest charters giving land to the church, it is implied, though not expressly asserted, that the land contained in the donation had been previously the private property of the donor. (Between A.D. 666 and 694, see Smith's Bedes, p. 748.) But though commenced at an early period, the conversion of folcland into hofland seems to have been very gradually advanced, so that creating hofland is a proof that the land had formerly been folcland. A charter of Archbishop Wilfred, who died about 830, asserts in direct terms, that the land which he gives away, had been given by his predecessor. (See Allen, General Introd., to Bocland, vol. i. p. 230, note.) Mr. Allen, Inquiry, &c., p. 154, observes that numerous entries in Domesday distinguish lands which in Saxonic times must have been hofland into folly lands and lands in seigny. (See Domesday tom. i. fol. 72 A, col. 80; A. 184, col. 2, &c.)

Exclusive of the works already quoted, the reader may refer for less definite opinions to Dalrymple's Essay towards a general History of Feudal Property in Great Britain, 8vo. Lond. 1759, and to a Discourse on the Bocland Property, of the Saxons, in restitution of Dalrymple, 8vo. Cambr. 1775.

BODENSEE. [See Constance, Lake Of.]

BODLEY, SIR THOMAS, from whom the Bodleian or public library of Oxford bears his name. He was born Dec. 3, 1693, at Exeter, son of Mr. John Bodley of Exeter, by Joan, daughter and heiress of Robert Home, Esq., of Ottery St. Mary. By his father's side he was descended from the ancient family of the Bodleys or Boleighs of Duncomb near Creden. He was born at Exeter March 13, 1693. He was about twelve years of age when his father, belonging to be obliged to leave England on account of religion, settled with his family at Geneva, where he lived a voluntary exile during the reign of Queen Mary. In that university, then newly erected, young Mr. Bodley attained a high eminence in the study of the learned languages and divinity under the most celebrated professors. He frequented the public lectures of Chevalierius on the Hebrew tongue, of Berauldus on the Greek, and of Calvin and Beza on divinity, and had also domestic teachers in the same sciences. When he was 14, he was elected fellow of Magdalen College, Oxford, with whom he boarded, where Robert Constantine, author of the Greek Lexicon, read Homer to him. Upon the accession of Queen Elizabeth, in 1558, he returned to England with his father and family, who settled in London, and was soon after made M.A. of Trinity College, where he was placed under the tuition of Dr. Humphrey, afterwards president of that society. In 1563 he took the degree of B.A., was chosen proctor of Merton College the same year, and the year following was admitted fellow. In 1566 he took the degree of M.A., and in the same year...
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. Hibberto Mr. Bodley had applied himself to the study of classical authors, without any inclination to publish 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 this, he was employed by the Bodleians in a service 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, and to go into Brittany to assist himself in a commission that 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 was to write no letters except of vital importance, or 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 it is I should conceal; but it tended greatly to the advantage of all the Protestants. I had to give my sovereign a certain number of books, which I threw, 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 queen and the States, he was admitted one of the Council of State, and there given his vote in every proposition made to that assembly. In this station he behaved greatly to the satisfaction of his royal mistress and the advancement of the public service. A more particular account of his negociations with the States is given in ‘The Life of Queen Elizabeth,’ under the year 1595, and in a short paper written by Mr. Bodley himself, and published by Hearne in his notes upon that passage of Camden entitled ‘An Account of the Agreement between Queen Elizabeth and the United Provinces, wherein she supported them, and they stood not to their Agreement.’ After nearly five years’ residence in Holland, Mr. Bodley obtained leave to return into England to look after his private affairs, but was shortly afterwards recalled to the Hague, where he remained, and came into England again, to communicate some private discoveries to the queen, and presently returned to the States for the execution of those counsels which he had secretly proposed. At length, having succeeded in all his negociations with the States, he went back to London, and finding his advancement at court obstructed by the jealousies and intrigues of the great men, he retired from it and from all public business, and never could be prevailed with to return, or to accept any new employment. In the account of his own life he has minutely detailed the particulars of the rivalry between the Earl of Essex and the Cecils, which caused his disappointment. In the same year be set about the noble work of restoring or rather founding anew the public library at Oxford, which was completed in 1599. After having received the thanks of the body of the Bodleians, Mr. Bodley received the honour of knighthood. He died the 28th of January, 1612, and was buried with great solemnity at the upper end of Merton College choir. Sir Thomas Bodley wrote his own life to the year 1609, which, together with the life of his cousin, Anthony, and a collection of his letters, were published from the originals in the Bodleian by Thomas Hearne under the title of ‘Reliquiae Bodleianae, or some genuine Remains of Sir Thomas Bodley,’ 4to. Lond. 1763. The Life above had been previously published by John Capgrave, and the first account of the library, and contributions were sent in, by his example and persuasions, from various noblemen, clergymen, and others, to such an amount, that the old building was no longer sufficient to contain them. He then proposed to enlarge the library; and the first stone of the new building was laid with great solemnity, July 17, 1610, and so simply 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

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

In 1597, an endowment was established in what was then called Durban (since Trinity) College, by Richard de Bury, or Aungerville, 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, with a request that they should be preserved, to which the dean and chapter, until the time that Thomas de Hatfield, his successor in the see of Durham, presented a library at 1370. Chalmer's, in his History of the Colleges, Halls, and Public Buildings of Oxford, vol. ii. p. 458, says, it is not very clear whether this was a public library, or a library given to the students of the college, restricted to the use of the monks of Durham College only.

The next we read of was called Cotham's Library, which would have been the first, if Thomas Cobham, bishop of Winchester, had lived to have executed his own purpose. The year 1577 was the time of the usual meeting of the council, for 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 at pleasure. A few years afterwards the foundation stone was laid for a library over the old Congregation-House, in the North Church-yard of St. Mary's, remarkable for being the first attempt at a public library.

Bodleian Library

The first library established was in 1597. Sir Thomas Bodley, in that year, retired from public life, and set about establishing a library for the students of the university. He was succeeded in the see of Durham by Sir Thomas Bodley, in the very year in which he retired altogether from public employment. In 1602, an endowment was established in what was then called Durban (since Trinity) College, by Richard de Bury, or Aungerville, 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, with a request that they should be preserved, until the time that Thomas de Hatfield, his successor in the see of Durham, presented a library at 1370. Chalmer's, in his History of the Colleges, Halls, and Public Buildings of Oxford, vol. ii. p. 458, says, it is not very clear whether this was a public library, or a library given to the students of the college, restricted to the use of the monks of Durham College only.

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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 far beyond his expectation, he drew up a body of statutes, whereof the copies 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 been since altered; the librarian is allowed to have a residence in the library, and to be paid for his services.

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, with 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 4to. in 1605, by Dr. Thomas James, Sir Thomas Bodley’s first librarian. It was dedicated to Henry Prince of Wales; and the books were classified in four faculties, divinity, medicine, jurisprudence, and arts, completed by an index of authors’ names. A more extensive catalogue, in an alphabetical form, was published by Dr. James in 4to, Oxford, 1626; 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 1635.

A Nomenclator of such Tracts and Sermons as have been printed or translated into English in any place under the title of Holy Scripture; now to be had in the most famous Library of Sir Thomas Bodley in Oxford,” was also printed in 18mo. in 1642, by John Veneul.

In 1674 a new catalogue of the printed books of the Bodleian was published in folio by John Vennel, 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 4to, in 1728, the first of 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 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 printed books; but the information was not yet even informed that the publication had 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, which was included in the 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 quaedam librorum Hebr. et Lat. vel primarum, vel Sec. xi. impressarum vel Aldinian, in Bibliotheca Bodleiana adsevranturn, was published in 1795; another catalogue, entitled COLLICUS MANUSCRIPTU IMPRESS, cum Notis Manuscriptis, olim D’Orvilliani, qui in Bibliotheca Bodleiana adsevranturn, was printed by Mr. Gaisford, since death of Sir Thomas Christ Church, in 4to, 1806; and the first part of another catalogue, of the manuscripts of the collected in the East by Dr. E. D. Clarke, and purchased from him for the Bodleian, was published also by Mr. Gaisford in 4to, 1812; followed by a second volume in 1815, containing the Oriental MSS., edited by Mr. Nicol.

In 1814, a catalogue of the books relating to British (including Welsh, Scottish, and Irish) topography, and Saxon and northern literature, hecaused by Richard Gough, Esq., was printed at the Clarendon press by Dr. Bandinel. The curators of the Bodleian have for many years been desirous of printing an alphabetical catalogue of its acquisitions in the department of printed books, for the information of the university.

An annual paper 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 are delivered at the visitation-day of the library, body month of November, 18th of

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 its ample contents in every branch of science and learning. Among such benefactors are 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 Care Lord Hunsdon, William Hamilton, Earl of Stair, Philip Browne Viscount Montacute, John Lord Lumley, Philip Seddamore of London, Esq., and Lawrence Bodley, younger brother to the founder. The contributions of all these persons were made before the year 1650.

In 1691 collection of books and manuscripts were presented by Thomas Allen, some time fellow of Trinity College, Thomas James, the first librarian, Herbert Westphalburg bishop of Hereford, Sir John Fortescue, knight, Alexander Novell dean of St. Paul’s, John Coke recorder of London and chief-justice of the Common Pleas, and Nicholas Bond, D.D., president of Magdalen 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, the Earl of Arundel, and others. The library was added to by 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 added by the bequest of Edmond Malone, Esq., in 1812, and of Francis Douce, Esq. in 1834.

The Bodleian Library was first opened to the public on November 6th, 1602, and by the charter of mortmain obtained of King James, Sir Thomas, then lately knighted by him, was declared keeper; and, in 1605, Lord Buckhurst earl of Dorset and chancellor of the university, placed the bust of Sir Thomas in the library. Since the year 1780 a fund of more than 400l. a year has been established for the purpose of printing catalogues. This annual sum, added to the matriculation fees, and a moderate contribution annually from such members of the university as are admitted to the use of the library, or on their taking their first degrees, to which is to be added the privilege claimed as a matter of right by the students, of a copy of every book printed in Great Britain and Ireland.

The principal librarians since the foundation by Sir Thomas Bodley have been, 1. Thomas James, fellow of New College, 1598; 2. John Rouse, fellow of Oriel, 1620; 3. Thomas Barlow, fellow, afterwards provost of Queen’s, bishop of Lincoln, 1653; 4. Thomas Lockley, student and afterwards canon of Christ Church, 1660; 5. Thomas Hyde, of Queen’s College, afterwards Laudian professor of Arabic, regius professor of Hebrew, and canon of Christchurch, 1675; 6. John Hudson, of Queen’s, afterwards principal of St. Mary Hall, 1701; 7. Joseph Bowles, fellow of Oriel, 1719; 8. Robert Fyshier, fellow of Oriel, 1729; 9. Humphrey Owen, fellow and afterwards principal of Jesus College, 1747; 10. John Price, B.D., of Jesus College, afterwards of Trinity, 1763; 11. Bulkeley Bodley, D.D. late fellow of New College, 1813, the present librarian.

All members of the university who have taken a degree are admitted to study in the library: no books have ever been suffered to be taken from it. Literary persons, either of the university, or elsewhere, are 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 a principal librarian, two under-librarians, the degree of one bachelor 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 Sun-
days and state holidays; from Christmas-eve to the 31st of
January inclusively; on the feast of the Epiphany; from
Good Friday to Easter Tuesday inclusively; on the days of
Encens and commencement of Lent, six days immediately fol-
lowing 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 Refe-
rence Bodleiana, evo. London, 1763; Wood's Account of
Bodley the Bishop, and he translated Dugdale's
of the
Weiss, &c., the style and manner of which were heavy
imitations of the French. Bodmer and his friend Breitinger
began publishing a series of critical articles on the subject,
which were violently opposed by Gottsched, the Aristarchus
of Germany in those days, and the two were subsequently
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
German literature. Several young and gifted writers em-
braced Bodmer's views, chief among them was the com-
posed, which produced Klepstock, Lessing, Schiller,
and a host of others.
Bodmer was deeply read in the Greek and Latin, as well as
in the modern languages. He translated Bishop Arnold of
Milton into German. He published in 1735 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 Minnesinger-Gesammeln von der Schmähl, Zürich,
Göttingen, 1810. Bodmer published the 'Hel-
vetische Bibliothek,' Zürich, 1735-41, which is a collection of
tracts relative to the history of Switzerland. He also
wrote a poem in twelve cantos on the Deluge, which was
published in 1767 at the Collyer, London. 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 following year his remains, accompanied by the two
MS. of a collection of German literature, and he took a delight in directing
and encouraging young men in their studies. His books and MSS. he bequeathed to the National Library of Zürich.
His correspondence was published, together with that of his
countryman Matthias Gellert, in 1806. He was the first to
add the word 'Gothic' to the English language.
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 itself 2410. The
borders are surveyed once a year, and a record of the
partitions of the
Bodmin or Bodnam, in Cornish Bovenna or Bouenna,
Houses on the Hill,' and in some of the ancient charters
of Cornwall, 'Boventun Monks,' owes its origin to the circumstance of St. Petroc's
having taken up his abode in the valley now occupied by the
present town, about the year 520. That saint, to whom St. Guron (a solitary reclusie) had resigned his hermitage,
greatly enlarged it for the residence of himself and three
other devout monks, who accompanied him with the intention of
leading a monastic life according to the rules of St.
Benedict. St. Petroc, who died about the middle of the
sixth century, was buried here, and according to William of
Malmsbury, St. Guron's successor, the first abbot of
Edith, was buried at Bremen, and his ashes placed in a
small chapel to the east of Bodmin church. Leland in
speaking of it says, 'The shrine and tomb of St. Petrock
yet standeth in that part of the churche.' The hermitage
was inhabited by Benedictine monks till 936, when King Athelstan
founded a monastery, which formed part of the old hermitage. 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 Warlewast,
bishop of Exeter, refounded the monastery in 1172, and
it was filled 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
270£. 0s. 11d., and according to Speed to 289£. 11s. 6d.
The last prior was Thomas Vivian, alias Wannyworth: an
 eminent man, who continued in it till the
considerable benefit from the tin workings in the neighbourhood. Among other privileges the prior held a market and a fair,
and possessed a pilory, gallows, &c., from the latter of
which we may fairly presume that he had the power of in-
stituting capital punishment. The whole of its property, with its large demesnes and dependencies, was granted to
Thomas Sterndel, one of the first translators of the Psalms
of David into English metre, and was subsequently pur-
chased by some of the Rashleigh family. Dr. Boi-
lase, D. D., and many of the world, 1383 parcels of the
legend which went round. (Dugdale's Monastes.)
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 burgesses petitioned
the king to have another privilege granted to them. They
petitioned was granted to them. They
were unsuccessful in their application, and their petition was
discharged. Some centuries ago Bodmin must have been a
considerable town, for in the year 1482, there were
less than 1500 persons died of the pestilence. William of
Worcester, who visited Cornwall in the reign of Edward IV.,
spoke of this as recorded in the register of the friars, and
at the same time he adds that, during that same year, there
were 1339 persons in the order of friars. Bodmin was 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 Flammoce, a lawyer, and Michael Joseph, a farrier,
of this town, were chosen leaders. These two men joined
their forces to those of Lord Audley at Call in Somerset-
shire, and marched with this nobleman as far as Editham
in Kent, where there was then a royal palace; but the insur-
gents were defeated by the king's troops at the battle of
Blackheath, and their leaders, Lord Audley, Flammoce, and
Joseph, were all beheaded.

In 1540, in the reign of Edward VI., the Cornish rebels
supersititiously attributing the depression of trade and agri-
culture to the Reformation, assembled to the number of
16,000, and placing themselves under the command of
Philippe Attlee, burned St. Michael's Mount, the castle
encamped at Castle Kytnoc 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 wars 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 Corporations Act, 5 and 6 Will. IV. cap. 76.

The election of the 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, the corporation was enlarged to 80 members, of whom 30 were capital burgesses, and 222 occupiers. The first charter seems to have been that of Edward III., granted in 1362. Subsequent charters were granted by Richard II. in the third year of his reign, by Elizabeth in 1554, and again in 1654, and by George III. in 1795, in the thirty-eight 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 in the personal actions under 36d., and pleas of lai within the borough. There is also a court of piepowder; but both these courts have fallen into disuse. By the charter of George III., law-days and views of frankplodge were also given to the corporation, to hold within one mile of the town, on 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 life of the subjects. Assizes are also 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, over which has been laid 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 Bruce, who published his Geographical Dictionary in 1759, for he mentions it as celebrated for the longevity of its inhabitants. Cook's Travels, in his estimation, and those by other authors, to Bodmin, 'it ought to be called Bodham, for of all towns in Cornwall I hold none more healthily situated than Saltash, and none more tranquilly than this.'

The living is a discharged vicarage in the archdeaconry of Bodmin, in the diocese of Exeter, and is valued at 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 larger than the conventual church, of which there are now remaining but two towers, one of which has a spire, and the other, which is called 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 font is also very remarkable, and all consists of part of the ancient refectory of the convent of Gray Friars. The corn-market is held in the area; and above is an assembly-room. The county-gaal and Guildhall, a spacious building, stands about half a mile north-west of the town; and a lunatic asylum has lately been near it.

Bodmin is of much importance as a market 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 on which has been laid at the expense of the corporation. 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 'by far the most commodious.' And it seems that in the reign of William I., when 'Domesday Book' was taken, there a woolen-clout manufactury; 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 hundred persons of both sexes engaged in the hew- ing and boring mines. One hundred and forty-three families are employed in agriculture, and 295 in trade, manufactures, &c.

There are places of worship for Bryanites and Wesleyan Methodists, and a chapel belonging to the trustees of the late Countess of Huntington. There was a chapel called Bery 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 chapel still remain. The grammar-school in the churchyard of the town was founded by Queen Elizabeth, in 1558, in the thirty-third year of her reign, in a street called Domesday, by a yearly payment of 5s. 6d., and 295L. a year, payable out of the exchequer, to which the corporation have added 99L. 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. About a mile and a half from the town is the town of Torrington, 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 Ponteley, for the education of poor children,' and to elect one master, and one other. King George granted them the 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, and one on the feast of St. Michael. The revenues 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 been two other hospitals at Bodmin, St. Anthony's chapel, founded by 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 within it the town of Saltash, Dunmere, St. Lawrence, Nantallan, and Castle Knyck.

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 man from another town is selected, before whom is a dunce, person charged with wearing one spur, or going untrussed, or wanting a girdle, or some such like felony, and after he hath been arraigned and tried with all requisite circumstances, judgment is given in formal terms, and executed in the street, so that he is worse than hurt of the party condemned. Hence is sprung the proverb, when we see a man slowly dressed, 'He shall be presented in Halagaver Court.' It is said that Charles II. once rode to Halagaver Court. A large body of the people, say 'the pack,' parades on the common, and goes as in common 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 Stare's Club, 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 ranne flocking thither in huge numbers from all quarters; but in the eighth year, one of these finding the abuse, and looking into the consequences, forbad 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 heavier than any other spring-water. It will continue the best part of a year without running down, only then see it represent many colours like the rainbow, 'which (in my conceit), saith Carew, 'argue a running thore some mineral water, and thither a possessing of some virtue.' (See Lysons's Magna Britannia; Carew's Survey of Cornwall; and Biskri's General History of Devon and Cornwall, in the year 1840.)

BODNORCUN, JOHN BAPTIST, one of the most eminent of the eighteenth century, was born at Saltwood in the Sardinian states, Feb. 16, 1740, of a respectable but humble family. He learned the rudiments of his art in the office of his father. In his earlier days he showed a
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 reside for a time at the university. At some distance from his uncle, the brother of a Roman priest, they both resided in the house of their neighbour, but their money failed. Bodoni, by selling some of his engravings on wood to printers, procured sufficient to enable them to go to Rome. But, upon their arrival there, Costa's uncle told them he could do nothing for them, and advised them to go back. Bodoni, discouraged 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 attracted the notice of the Abbé Ruggieri, the superintendant of the Propaganda. He was followed by two words, so extolled, and admired by Bodoni that he 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 introduced with the printing of the 'Arab-Copt Misba,' and the 'Alphabetum Tibetanum,' edited by Père Giorgi, he acquired himself, that Ruggieri put his name at the head of that work. He wrote also a valuable Catechismus in Latin for more than three thousand children, at the school of the Collegio di S. Giudicadbeat Johannes Baptista Bodonius Saliutensis, MDCCCL.' Ruggieri'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 acquired a sufficient competence to leave Rome, and go to Parma to see his father, he fell ill; and the Marquis de Felino, in the interval, offering to place him at the head of the press intended to be established at Parma, upon the model of that of the Louvre, Bodoni broke through his engagement to Costa, and went to Parma in 1768.

In 1771 he published specimens of his art in 'Saggio Tipografico di figure e masonicole,' in 8vo.; followed in 1774 by 'Iserzioni esotiche,' composed by J. B. de Rossi; and, in 1775, on occasion of the marriage of the Prince of Piedmont, he published in 8vo., with the same description, entitled 'Epithalamium exotico linguam reditum,' exhibiting the alphabets of twenty-five languages. Between 1773 and 1788, although his fame became universal, his press was not over-actively employed.

In 1788 the Chevalier d'Azara, 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 profane, engaged him, and ordered him to furnish him with four specimens, 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 issued from it: more especially a Horace in folio, in a single volume, in 1791; Virgilius, in nine, in 1792; Statius, in four, and Propertius, in 1794; and Tacitus's Annals, in three volumes, folio, 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 'Georgy in Latin and English, in folio.

His most sumptuous work of all was his Homer, in three volumes in folio, printed in 1808, with a prefacey dedication to the Emperor Napoleon in Italian, French, and Latin. When the French armies entered Italy, in the early months of 1809, the imperial pride of Napoleon 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 3000 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 superinten-dence of the press at Milan, and Murat that at Naples; but Bodoni, unwilling to accept, on account of the state of things at Parma. 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 execution of his project by a folio 'Telemachus' in 1812. '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.

In 1816 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 più insigni Piture Parmensi indiciati agli Amatori delle Belle Arti,' accompanied by engravings of the different pictures, which Bodoni had employed himself in executing for 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 classical works 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.

When, a few years ago, 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 'Biografiie Universelle,' by Harman C. Lewis, the reader may chiefly indebted for the present account. The reader may likewise refer to 'Memorie Anedottici per servire un giorno alla vita di G. B. Bodoni, par M. P. Passerotti, 8vo., and to the Biographie des trois illustres Piemontais, Lagrangen, Zizina, et Passerotti, 8vo., 1790. Dibdin, in his 'Liber 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 BOETIUS, HECTOR, the Scottish historian, was of the family of Boccze of Balbridie, or Panbrie, in the shire of Angus (now Forfar), a property which an immediate ancestor of his acquired by marriage with the heiress. He was born about the year 1463-5 in the town of Dundee; whence he had the appellation of Deodonatus, as he is styled in the dedication of his works, of which his father was 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, with whom he kept up a long and intimate correspondence, as a mark of his regard, dedicated to him a catalogue of his works. He calls Boccze 'vir singularis ingenii, felicitatia, et facundia oris,' and says of him that 'he knew not to lie.'

In the beginning of the sixteenth century, Boccze was in- vited home to the court of Francis I. of France, to become 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 Boccze; but he was unwilling to forgo the respect and esteem which his office 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 of the cathedral. The magistrates and council of the city, having acquired right to the patronage of the chapter 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 of course was his appointment to the office of principal of these colleges.

The learned author of the life of Melville (M'Crie's Mel-ville, vol. i. pp. 210, 211) tells us that prior to the fifteenth century no university existed in Scotland, and that the earliest of such seminaries there was the University of St. Andrews. Both propositions are certainly erroneous. Boccze expressly says that a university was founded at Aberdeen
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 Elphinstone. It was paid by the town of Aberdeen, of Abbot Bellenden, 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 traced it. Its composition seems to be defective. It is in the *Abertay* Series, *Tiches*, vol. i. p. 59. We find also that Bishop Alexander de Kynanmond, who ruled the see of Aberdeen from 1357 to 1381, did, agreeing to what seems to have been the common practice of the place, teach the civil and canon laws on his residence.

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 probably were in the cathedral, convenes, or private dwellings of the city, as in 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 laws. 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 14th of January, 1256, established 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, 22rd May, 1497, empowered Bishop Elphinstone to erect a college within the university, in order to enable the students to secure 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 king.

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 professorial colleges possessed a man of learned 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 1513, Bishop Elphinstone died.

In the beginning of 1522 Boece published at Paris his *Vita Episcoporum Martuliensis et Abderdonensis*, 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 dedication, which is to Bishop Dunbar, is dated from the College of Aberdeen, prid. Cal. Sept. 1521. The same year his printer, Radius Ascensius, gave to the world Major's *History of Scotland*, composed by Mair (principal) regent of Glasgow College, and afterwards principal of St. Andrews College, St. Andrews) when he was in residence there. The *Description of Montague College*, as it may be called, was also published in Paris some years previous. Several other histories of Scotland existed at this time, particularly Prior Wynston's metrical *Cronykl*, and Fordun's *Scotichronicon*, long the great fountain of Scotch 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 Bishop Dunbar to raise the higher abilities and knowledge of Boece by Boece.  

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 of our day, its literary character alone could save it from contempt. It was a work of the month 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 which he was afterwards raised to 100L. yearly, on the same account. Two years afterwards this pension was directed to be paid by the moderators of Aberdeen until the king should promote Boece to a benefice of 100 marks of Scots yearly value. By a subsequent regulation the pension was paid partly by the provosts and city of Edinburgh, partly by the corporation of the city of Stirling, and partly by the corporation of the city of Fyvie, to which latter Boece owed the town of Fyvie.

The translation of Boece's *History* was published at Edinburgh. This translation was made at the command of King James V., whose limited education precluded him from perusing the Latin original. While it proceeded, Boece, as we see from the treasurer's accounts, had a yearly allowance in the course of 30L. Scots. In the same accounts, June, 1533 (Pitcairn's *Crim. Trials*), we find a sum of 32L. Scots entered to Bellenden 'for one new Cronikle given to the Kingis grace;' but whether this 'new Cronikle' 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 Boece's *Annals of Aberdeen* was completed in 1534, but has been almost entirely lost. It was evidently 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. (A. Holinshed's *Chron.*, vol. i.)

In 1527, Boece'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 direction of the *History of Scotland*, in which application 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. 537.) The year following, a *Novus Eloquent* 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 about the year 1538, and was buried in the chapel of college (as is said) in the burial-place of Bishop Elphinstone. In the front of the chapel is the inscription: a squire and chief. H. B. ob. 1536. (Kennedy's *Annals*.)  

BOCOTIA was the ancient name of that part of the district of Livadia which was bounded on the west by Phocis, to the north and east by the Opuntian Locrians and the Euboic sea, and to the south by the Euboean 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 Parmes and Chitheron; the small basin of the Lake Hyble may perhaps be considered as belonging to this division, which contained the towns Thebes, Tanagra, Thepsis, Platran, and Ascrea. The northern division was not completely surrounded by natural boundaries, inasmuch as Thapsus, the important station by which the roads passed to the Phocians. It included the lake Copais, and the towns Orchomenus, Chaeronae, Corona, Lebadea, and Haliaeus. 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 Ephepioths, so those who inhabited the marshy land near the Asopus were called Parapori; perhaps also Parapotamies, as we would infer from a passage in Euripides (Baccho, 557); and there was also another country called the Parnes at the source of 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 Oribolion for a time they both held the municipal right; and in the southern Cephissus they had the right of burgesses, and paid them over to the great chamberlain of Scinde. Both were in the common practice to direct pensions to be paid in the way stated in the text.
long time took the lead, and the city on the Istermus, 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 Antheodon and Aulis; and a few miles from them, towards the north, was the town of the mountain of the same name, which was the unfortunate Mycealus.

According to the recent survey of Captain Copeland, a mountain wall lines the whole continental coast of the Eupirus, from the valley of the Asopus to the flats at the outlet of the Sperchius. From Cape Grados, which is immediately opposite Cape Aulis, in the bay of the same name, the mountains run westward and form the boundary between the basin of the Cephissus and the Sperchius, known in former times as the range of Oeta. This high mountain-barrier from the outlet of the Asopus, nearly as far north as the town of odous, may be divided into three pieces, the middle one 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:

<table>
<thead>
<tr>
<th>River</th>
<th>Length (feet)</th>
<th>Source points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asopus</td>
<td>1760</td>
<td>Thessaly</td>
</tr>
<tr>
<td>Eupirus</td>
<td>2404</td>
<td>Thessaly</td>
</tr>
<tr>
<td>Sperchius</td>
<td>270</td>
<td>Thessaly</td>
</tr>
</tbody>
</table>

The coast of Euboea opposite to Satalama 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 Euboean coasts, and the river mouths are wide mouths which, taken along the coast to where the high lands of the range of Paroikia in Thessaly are reached, form a long and deep channel. 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 by those of Attica, on the north by those of Phocis; on the west Cithera exhibits a narrow plain, and on the east there is a small plain about a little above the Crisanus gulf, where it joins the mountains of Attica and Megaris, and then turning into the plain country subsidies in the territory of Thebes. The basin of the lake Copais must not 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 Cephissus, which rises in the high central mountains of this part in an ancient channel, in a general south-east course into the lake Copais, which receives also the waters of the small streams of the Melas and Laphystis. The lake is separated from the sea by the range of Mount Poon, about four or five miles across. Between the eastern end of the lake and the sea there are subterra-

neous channels, but the wells or shafts which communicate with them are now chocked up. (See Thiersch, État actuel de la Grèce, 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 chocked up from neglect, Cretes of Chalke, 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 Elycus were discovered. When Strabo says that the Cephissus discharges itself into the sea near Larymna, he docs not mean an ancient watercourse still flowing there. He says in another passage (p. 406) that "a channel having opened close upon the lake near Coppe, made an underground passage for the stream thirty stadia long, which received the river. The Cephissus emerged at Larymna of Locris, the outlet of which is still used, and then disappears into 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 olive, and it is connected with the lake by an embayment.

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. Hell. ii. 399); but we do not consider either of these estimates as resting on any solid basis. 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.
the supposed Phoenician, 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 trade was, in fact, stigmatised, should have been founded by the Phoenicians. General writers generally 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, as there are many reasons for supposing, that the Cadmean group of the Phoenicians, who settled in and about Boeotia, were generally known by the name of the Boeotian or Boeotian colony. (Strabo, iv. 29, e.)

We have only fragmentary information with respect to the early history of the people, 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 Thermes that the Boeotians were members of the Amphictyonic assembly, and we are informed by various authors that the Boeotian town soon became members of a league which Thebes was afterwards a member of. If the constitutions of the independent states met in plain before Coroneia, at the temple of Athena of Iton; and this meeting took place at the festival of the Pambazia. Every one of the confederate states was, as such, free, but several of them had smaller towns dependent upon them. It is very difficult to determine the number of the independent states; but as we are told that at the ancient festival of the Daidal, which was celebrated every sixty years at Plataea, fourteen wooden images were carried in procession to the summit of Acrocorinthus, as well as to the temple of Athena at Plataea, we may infer that fourteen was originally the number of the members of the confederacy, just as we find in other states that holy numbers are made the basis of political divisions. (Miller's Orchiom. p. 222; Niebuhr's Homer, vol. ii. p. 84, English translation.)

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 13th Olympiad, Philostratus, a Corinthian merchant, retired to Thebes, and there undertook the business of legislation, which, with the view to the preservation of those instabilities which were constantly taking place, and threatening to destroy the equilibrium of the ancient aristocracies. This object he seems to have been effected by the introduction of σύμπτωσις, or adoptive laws, by which property the Boeotians were deprived of all property, and succeeded upon the eases 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 obtained. (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 archaeoieconomic state of Attica; and accordingly we find them about the year 507 B.C. joining the Peloponesians and Chalcidians in an attack upon the Athenians. The Athenians were repulsed, v. 242, Aristot. Pol. Thessalians to them, 427 B.C. about the year 455 B.C. the decisive battle of Oinophyta subjected all Boeotia to the Athenians, and Thebes became democratic; but a few years after (447 B.C.) in consequence of some abuse of power on the part of the Thebans, the archon 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 former yoke. The Thebans were active partisans of Sparta in the Peloponnesian war, and contributed mainly to the downfall of Athens; but in the year 395 B.C., they became members of the confederacy against Lacedaemon, which was broken up in the course of the
following year by the victory which Aegialus gained over them at Coronea. The peace of Antiochus (2c. B.C.), and five years after the treacherous seizure of the Cadmea or citadel of Thebes, by Phoebidas the Lacedaemonian and its subsequent recovery by Pelopidas, brought about another war between Boeotia and Lacedaemon, in which the greater part of Boeotia was conquered by the Thebans. Pelopidas, 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 Choisseria in 346 B.C. Thebes was now in a constant state of rebellion, and its capital 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, and remained only a small town, of which it was the war with Persians, but it dwindled away to become 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 Ascra, Corinth at Tanagra, Pindar at Cynoscophes, and Plutarch at Chersones. We refer those who wish to investigate fully the difficult subject of the early history and government of the Boeotians towns to C. O. Müller's work, 'Orchomenos und die Minyer,' Berlin, 1852, which has been often quoted; to G. A. Klitz, 'Die Eroberungen, Berlin, 1821; and to Wachsmuth's 'Hellen. Alterthumsk. J. i. p. 178.'

Boerhaave, Hermann, was born on the 31st of December, 1668, at Voorhout, a village two miles from Leyden, of which his father, James Boerhaave, was the minister. His father, being a very diligent and a learned man, taught his son the Latin and Greek 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 perhaps first turned his thoughts to the profession which he became so brilliant an ornament. In the sixteenth year of his age a malignant ulcer broke out upon his left thigh, which not only set all the resources of medicine at defiance, but exposed him to such painful applications, that it was hard to say whether the remedies were not more tormenting than the ulcer itself. 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. Party 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. But on the 12th of November, 1682, his father died; leaving him with the means of freeing himself from debt, and nine children. Treglandius (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 generous and constant 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 delivered an oration before Gronovius, the professor of Greek at Leyden, on the 'Antiquitates Ciceronis, et consulatuum esse, sententiam Epicuri de summo bono.' Lugduni Bat. 1689.) In 1689 he took the degree of doctor of philosophy, the subject of his inaugural thesis being the distinction between the soul and the body. ('De anima, &c., edita in institutum de distincione mentis & corporis, Lugduni Bat. 1689.) In this, as in his former discourse, he refuted the atheistical doctrines of Epicurus and Spinoza, and obtained a great reputation for piety and learning.

About this time, having exhausted his scanty resources, he removed to Amsterdan, where he continued his studies. Without giving up his intention of entering the ministry, he now began the study of physic as a diligent perusal of Vesalius, Bartholinus, and Fallopio; he was a constant attendant at Nuck's anatomical demonstrations; and in the sixteenth year of his age he had collected much material which seemed calculated to make him a physician. 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, with more profit, than Sydenham, whose system he has left the statement, 'that he perused him frequently and each time with greater engrossness.' He prosecuted chemistry and botany with equal ardour, and, in conjunction with this, he examined all at these inquiries, still pursuing his theological studies. He took the degree of doctor of the name Boerhaave; 1688, and 1689, having held a public disputation 'De utilitate explorandorum excrementorum in agris, ut signorum.' (Harde- wick, 1689; Lugduni Bat. 1743.) He now returned to moral philosophy, having the design of undertaking the ministry, but was diverted from this purpose by a call to a private practice. 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, tended to the utter overthrow of religion. At last one of them began to suspect the correctness of a strain, that Boerhaave, wearied with his angry invectives, asked if he had ever read the author against whom he was declaiming. The speaker was checked in the midst of his invectives; this was observed by a stranger, who inquired the name of the young man whose question had put an end 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 Spinoza. Had Boerhaave been at this time firmly rooted in his design of entering the church, it is difficult to conceive how the proposition that the human mind had 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 as the slightest weight will turn a loaded but well-balanced beam, so even 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, investigating every part of medicine with the utmost tenacity, and reading all that was written, 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. He was elected on the 18th of May, and his inaugural dis- course was on the subject of the blood, his class having recently mendando studio Hippocratico, Lugduni Bat. 1701.) His lectures were received with great applause, and he was soon prevailed upon by his audience to enlarge his original design, and instruct them in chemistry. 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 raticinii mechanici in medicina,' and also began, in theory at least, to leave the Hippocratic method of simple observation, and to adopt Ramicus as the basis of his system, and to read the Scriptures. In 1708 he published an inaugural dissertation, 'De haedron longitudine & diametro, &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 neutralise. This part of his doctrine, the hu- man body being divided into the different organs of secretion, as the blood, was always kept its hold on popular belief, and bids fair to revive again. Late investigations into ani- mal chemistry have shown that certain deviations from the healthy composition of the blood accompany, if they do not cause, the various morbid phenomena, as is equally certain that 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. But the most remarkable of all these statements respecting the blood is, that the parts of it which are prominent in the infant 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 98; in another but 48.7. (Jennings on

Boerhaave now began to bear some proportion to his merits, 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 with much success, and had printed five works in 1704, 1705, 1706. In 1707 he obtained the chair of medicine and botany vacant by the death of Hotton. His inaugural discourse was on simplicity in the practice of physic, "Oratio qua repurgatum medicinae facultatis assensu simplicissima," Lugdun. Bat. 1709. At this time also, he published the "Institutiones medicinae," Lugdun. Bat. 1720, 1713, 1720, 1727, 1734, 1746; and "Lutetium, 1792, 1737, 1747; and the "Aphorismes de cognoscendis et curandis morbis, in usum doctrinæ medicinae," Lugdun. Bat. 1769, 1715, 1716, 1720, 1726, 1731, 1734.

On these two great works the reputation of Boerhaave 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. 1mo.

Boerhaave here 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 signs of disease, the characteristic symptoms, and the 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 basis and most comprehensive case of all the great modern systems; it was a model of erudition and method, embellished rather than encumbered by his opinions on the anatomy of the fluids, and his mechanical and hydraulic theories. In his "Aphorisms" Boerhaave gives a classification of diseases, and an outline of the ordinary methods of treatment; their management, with a short but accurate summary of the whole of ancient and modern medicine. This, like the former work, is a masterpiece of learning, order, and correctness of style.

Boerhaave shed almost equal lustre upon the chair of botany, which he held with that of medicine, by the publication of his "Index Plantarum que in horto academia Lugduno-Batavo reperiuntur," Lugduni, Bat. 1710, 1718. 8vo. An enlarged edition of this work, with plates, appeared under the title of "Index alter plantarum que in horto academia Lugduno-Batavo reperiuntur," Lugduni, Bat. 1720, 4to., 1727, 2 vols. 4to. Boerhaave greatly increased the number of specimens in the botanical garden; he figured new plants, established new genera, and was one of the first who introduced the stamina and the sexual differences among their characteristic distinctions.

In 1715 Boerhaave 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. Boerhaave was a very irregular physician, 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 the first practitioner of his age. On laying down his office at the most modest prediction of what had yet been his attainments, "Oratio de comparando certo in physicis," Lugduni Bat. 1715, 4to.

He already held the chairs of theoretical medicine, practical medicine, and botany, and on the death of Lemont in 1716, the chair of anatomy was added to his to 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 chemica sua errores expurgante," Lugduni Bat. 1716, 4to. This was the first published view of that enlightened and intelligent; 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 on experiments 590, and another 877 times. He was skilled in organic chemistry, and showed how the animal fluids might be composed into the vegetable, and how they had distinguished the plant 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 editions:

- "Elementa Chimie quo anniannario laboro decuit in publica gymnasii Lugduni, 1719, 8 vols. 1mo."

The high degree of weighing Boerhaave's merits as a chemist must not consider the editions printed before 1732, as they were published merely from his pupil's notes. Boerhaave, of course, was not pleased with the indiscreet zeal of his pupils, who often published works which in his opinion were not yet ripe for the press: he complains of it in the Leyden Gazette for 1726.

So many offices discharged with unparalleled success obtained for Boerhaave a reputation which was almost without a precedent, and which scarcely knew any other limits than that of the boundaries of the civilized 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 might have been answered by a mandarin of the same rank and stamp. 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 on so many occasions were written in his stead by another hand, Boerhaave received with every mark of respect the address 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 correspondent of the Academy of Sciences at Paris in 1729, and was presented with a gift of 1000 ducats, and he was selected 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 Philosophical Transactions and in the Memoirs of the Academy of Sciences for 1744.

In 1722 his course both of lectures and practice was interrupted by the gout, which brought upon himself, he says, by an imprudent confidence in the strength of his constitution, and by transgressing those rules which he had been accustomed to enforce in his 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 lay five months in bed without daring to move, because of an effort renewed his torments, which were so excessive 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 by a lecture entitled "Oratio quam habuit cum botanica et chemicam professionem profecta," published at the Hague, 1733, 4to.

In 1730 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 medici servitut, Lugduni Bat. 1731, 4to. About the middle of the year, he was bereaved of his only son, and wrote a letter to a friend in London, dated September 6th, 1736, 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, with its ordinary concomitants of oppression of the heart, emaciation, and a distressing sense of suffocation. He expired on the 23rd of September, 1736, in his seventieth year.

Boerhaave was the most remarkable physician of his age, perhaps the greatest of modern times: a man who, when we contemplate his genius, his erudition, the
sensual variety of his talents, his unsignified 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 near to that of the noble families at whose gates "a robust and athletic constitution of body," says Hutchinson, "so hardened by early severity and wholesome fatigue, that he was insensible of any sharpness of air or inclemency of weather. He was tall, and remarkable for extraordinary strength. There was in him a 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 promoting the happiness of others. He never suffered from the accident of being a little bit of a humorist, 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 Dronenveaux, the only daughter of a burgomaster of Leyden, by whom he had four children, of whom one alone, Joanna Maria, survived him; the other died in their infancy.

In addition to that which has already been mentioned, he published the following:—Oratio de Vitæ et Obitu Clarissimi Bernardi Alibii, Lugduni Bat. 1721, 4to. — Epistolæ ad Rufhusiam Clarissimum pro Sententiat Malphigiani de Globulis, Amstelodami, 1722.—Atrocis nec desiderio, nec obsequio moribus, ut motibus Leges conscripta, Lugduni Bat. 1751, 8vo.—Atrocis Rasissimique Morbi Historia Altera, Lugduni Bat. 1728, 8vo.

The following works have been attributed to him, but are not recognised as genuine in his own catalogue; many of them were in fact correspondence letters of his hotel, of which some did not appear till after his death:—

Tractatus de Poste.——Consultationes Medicæ, sive Synagoge Epistolæ harum Responsi, the first edition was published at the Hague in 1743, but it has been frequently reprinted.

—Atrogis nec desiderio, nec obsequio, but his consular letters to the Bishop of Lübeck, appeared in Boerhaave in 1709; Göttingen, 1746; frequently reprinted; the best edition is Haller's, printed at Venice in 1748.

— Introductio in Praxim Clinicanim, sive Regulo Generales in Praxi Clinicae observandia, Lugduni Bat. 1746, 8vo.—Praxis Medica, Londini, 1716, 4to.—De Viribus Medicamentorum, taken from the notes of his lectures in 1711 and 1712; Paris, 1733, and many other editions.—Experientia et Institutiones Chemica, Lutetiae, 1718, 8vo, taken from his lectures from 1718 to 1724.——Methodus divisi Medicinae in Sex Tomos distinguitur, enlarged by Haller, who published it in two volumes, 4to., in 1731, under the title of Hermanni Boerhaave, Viri Summi, siue Praecipiter, Methodus Studi Medici e endata et Accessionibus lucupilata, Amstelodami; reprinted at the Hague in 1754, by the same editor.——Methodus divisi Medicinae in Quindecim Tomos distinguitur et verborum, by Cornelius Pereboem, which it is well to annex to it.—Historia Plantarum que in Horto Academico Lugduni Batavorum crescente, 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 'Lectures on Diseases of the Heart,' 1722, 4to.

The works which he edited are—the works of Delden-court; the observations of Piso; the anatomical and surgical works of Vesalius, edited in conjunction with Alibius; the 'Tractatus Medicus de Læ Venerabil, praecox Aphrodio- sico;' the smaller anatomical works of Enstatius; Bellini 'On the Urine and Pulse;' Prosper Alpinus 'On the Prognosis of Life and Death;' and the celebrated edition of Aretaeus.

Three works came out under the auspices of Boerhaave, which were destined to a distinguished future; but of his friendly aid these are—'The Physical History of the Sea,' by Count Marsigli, Amsterdam, 1725, fol.; the 'Botanicon Parisiense,' by Le Vaillant, who, when dying sent him the MS. Leyden, 1737, 4to.; and Swammerdam's 'History of Insects,' printed at Amsterdam in 1737 in two volumes, folio, with plates, and a preface by Boerhaave.

Biographia Universella; Hutchinson's Biographia Medica.)

BOETHIUS, ANNIUS MANLIUS TORQUATUS SEVERINUS, the most learned and almost the only Latin philosopher of his time, descended from an ancient family of Roman birth, born at Rome in 480, sixty years after the taking of that city by Alaric. Harris, his 'Hermes,' observes that with Boethius the Latin tongue and the last remains of Roman dignity may be said to have sunk in the western world; and Gibbon, that he was the last of the Romans, the last of the Catullus. He was acknowledged for a countryman. His father was put to death by Valentinian III, to whom he had been prefect of the palace, in the very year in which his son was born. Though deprived of his father, his other relations gave Boethius a good education, and encouraged him in an early taste for philosophy and letters. They sent him to Athens to pursue these studies still flourished, and where he remained for eighteen years, studying every branch of literature, but more especially philosophy and mathematics. Plato, Aristotle, Euclid, and Ptolemy were his favourite authors.

Upon his return to Rome he soon attracted public attention, and the most eminent persons of the city sought his friendship, foreseeing that his merit would advance him in the state. His alliance, too, was consequently courted, and his son, first fixed on Elpis, a lady of literary attainments, descended from the most considerable families of Messina, who bore him two sons.

Boethius, as was expected, soon obtained the highest honour his country could bestow; he was made consul in the year 487, at the age of thirty-two, under Odoacer, king of the Goths, whom he met at the battle of Tolbiac. Ten years after the advancement of Boethius to this dignity, Theodoric, king of the Goths, invaded the country, put Odoacer to death, and fixed the seat of his government at Ravenna. The Romans, and the inhabitants of Italy in general, were the real reason for the elevation; it happened under Theodoric, who ruled them by the same laws to which they had been accustomed under the emperors; and Boethius had the singular felicity, in the eighth year of Theodoric's reign, to see his two sons, Patriicus and Hypsitus, raised to high offices. During this period, when he was about fifty, Theodoric came to Rome. He was received by the senate and people with the greatest joy, and Boethius pronounced an elegant panegyric before him in the senate. Theodoric answered in obliging terms, and promised never to encroach upon the privileges of the Senate. The day of his death was the fourth of June, 524; and the year of Theodoric Boethius was advanced a second time to the dignity of consul. The care of public affairs did not, however, engross his whole attention. This year, as he himself informs us, he wrote his 'Commentary upon the Predicaments, on the method of Cicero's own translation,' to which, however, he added a translation of Cicero, and Brutus, he devoted the whole of his time to the service of the Commonwealth, and the cultivation of the sciences. He published a variety of writings, in which he treated upon almost every branch of literature. Besides the works already mentioned, he translated the 'Aphorisms of Galen, lxxxvii.; on the system of the planets;' he wrote a treatise on the 'Commentary of the Optics'; on the 'Institution of that philosopher's Topics,' in eight books; another, of his Sophisms, in two books; and commentaries upon many other parts of his writings. He translated the whole of Plato's works; he wrote a commentary, in six books, upon 'Cicero's five orations,' the one upon Sophocles' writings; he published a discourse on Rhetoric, in one book; a treatise on Arithmetic, in two books; and another, in five books, upon Music; he wrote three books upon Geometry, the last of which is lost; he translated Euclid, and wrote a commentary on it; and lastly, he published a number of other books, neither of which performances is now extant; he published also translations of the works of Ptolemy of Alexandria; and of the writings of the celebrated Archimedes; and several treatises upon theological and metaphysical subjects, which are extant.

The scutent and profound erudition displayed in such a diversity of works, upon all subjects, acquired Boethius a great reputation, not only among his countrymen, but with foreigners. Odonobald, king of the Burgundians, who had been sent to Rome to consult the arts, made the acquaintance of Boethius in the very year of his birth, went to see him at his father-in-law, and thence went to Rome, not only with a view to see the beauties of the city, but that he might have the pleasure of conversing with Boethius. The philosopher showed him several curious mechanical works of his own invention, particularly two time-keepers, one of which pointed out the sun's diurnal and annual motion in
of 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. Gondelward and his followers, having been ordered with these edicts to persuade the people to subscribe to them, he then returned home and 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 Gondelward's resolution, and requesting his 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 whom, in the year 520, he was with that prince elected consul. This was during the consulship that he fell under the displeasure of Theodoric.

Theodoric was an Arian; and Boethius, who was a Catholic, published about this time a book upon the unity of the Trinity, in opposition to the Arians, Nestorians, and Eutychians. This treatise, which was a theological work, 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 Gothic. 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 exercise of his office of consul. Boethius persisted resolutely in his own conduct, and was re-elected consul. The sincerity, and steadfastness only hastened his fall. Theodoric, corrupted probably by a long series of good fortune, began now to throw off the mask. This prince, though an Arian, had hitherto expressed sentiments of moderation toward the Catholics; and having raised an army for the purpose of overthrowing 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 more beloved by him than any other person; but neither the remembrance of former affection, nor the absolute certainty which the king had of his innocence, prevented him prosecuting the philosopher, upon the evidence of three persons of infamous reputation. The offences laid to his charge as we are informed in the first book of the Consolation, were these: "That he wished to persuade the Senate and its authority: that he hindered an informer from producing proofs which would have convicted that assembly of treason; and that he formed a scheme for the restoration of the Roman liberty." In proof of the last article this book alleged the conspiracy which he 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 condemned to death. Theodoric, conscious that his sentence was unjust, did not fear the sentence fully into execution, but contented himself with confiscating his effects, banishing him to Pavia, and then confining him to prison.

Soon after this, 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 principal senators of Rome (among whom was Symmachus, the fuels of the imperial court), to go to Constantinople, 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 revoke his edict, that, in compliance with the tenor of it, he reconciled many of the Arian churches to the Catholic faith. Theodoric became so incensed at the conduct of Pope John and the senators of Rome, that he marched upon the banks of the Po, and put all into prison at Ravenna. Boethius, though innocent of what was done at Constantinople, was at the same time ordered into strict confinement at Pavia, the king having probably come to the resolution of proceeding to extremities against him.

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, when, Pope Urban II, accused Theodoric and Symmachus and the other senators to put, 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, near the Arian baptistery, which exists 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.

Boethius (De Consolatione Philosophy, xxi.) says the tower of Boethius subsisted at Pavia till the year 1584.

The most celebrated production of Boethius, 'De Consolatione Philosophiae,' has always been admired both for the stylo and sentiments. It is an imaginary conversation between the author and Philosophy personified, who endeavours 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 source 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 Asser, bishop of St. David's. Two manuscripts of an English version of this work are preserved, one translated by John of Osney (commonly called John of Osney) in 1410 are preserved among the Harleian manuscripts in the British Museum. Chaucer and Queen Elizabeth were also translators of Boethius' treatise 'De Consolatione.' George Carew, Lord Colwel, Richard (Ggomery) Viscount W. Causton, the Rev. Philip Ridpath, and R. Dunvan of Edinburgh. King Alfred's translation into Saxon was published at Oxford in 8vo., 1698, by Mr. Christopher Rawlinson, and again with an English version from it by J. S. Gardale, 1694. 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 number of editions in almost all languages. The first edition of Sir Robert Burroughs' English translation was printed at London in 1746, in folio. The best edition of Boethius' whole works is that 'eun commentaries, enlargementibus, et notis Jo. Murmeli, Rodolpho Aglicrino, Gibbli Porrette, Henrici Lorti Gareani, et Martiani Rotro,' printed in 2 vols. 8vo., at Rouen, 1575, by O. P. In 1575, a Latin translation of the Treatise De Consolatione, 8vo., Lond. 1785; Chalmers' Biogr. Dict., vol. v. p. 509-514; Fabric. Bibl. Lat. 4to. Ven. 1793, tom. ii. p. 146-165; Bruckeri Historia Philos. et Biblioth. Vet. Saec. vol. vii. 1755, in which work 'Saint Boece' is included, (13 Octobre.)

BOG. The name of bog has been given indiscriminately to very different kinds of substances. In all cases the expression signifies an earthly 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, where springs of water, or the drainage from an extensive area, are pent up near the surface of the soil, and beneath which the water seeps, and which from the 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 dyeing and being reproduced on the surface, assumes the state of a spongy mass of sufficient consistence to bear a considerable weight. Bogs of this description are numerous 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 comports for manures. Where these are raised, the water is impeded in its course, and have 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 exist. Thus those on the high 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 ditch, it will spread to any distance. In a clay soil, with an impervious subsoil, it will be found, 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 surface becomes more undulating, and the supply of 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 elementary particles. 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 man of science has often been profitably directed. This subject is treated in the article on Drainage.

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 a line were drawn from 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 these lines, which would occupy about one-fourth part of the entire superficial extent of Ireland, would consist of the bogs of the whole of the north-west, part of the great mountain-bogs, and of the parts of Ireland over which the average depth of the water is more than 800 English acres. This district resembles in form a broad belt drawn from east to west across the centre of Ireland, having its narrowest end nearest to Dublin, and gradually widening as it proceeds towards the coast of 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 bog in the eastern division, so that if we suppose the whole of the bogs of Ireland (exclusive of mere mountain-bogs, and of bogs of less extent than 800 acres) to be divided into twenty parts, twelve of these will be found in the western division, and five in the eastern division of the peninsula. Of the remaining three parts, two are to the south and one to the north of that district.

The smaller bogs, excluded from the foregoing computation, are very numerous in some parts. In the single county of Meath, the number of these small bogs, which do not exceed 800 English acres, but which collectively contain about 11,000 Irish, or 17,000 English acres, without taking into the account many bogs, the extent of which is from five to twenty acres each, is very considerable.

The larger bogs which lie to the eastward of the Shannon, and which occupy a considerable portion of the King's County and the county of Kildare, are generally known by the name of the Bog of Allen. It must not however be supposed that this name is applied to any one great mass; 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.

This surface is filled up very quickly from the Bog of Allen. It is 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 moss is found to be composed of rounded limestone, varying in size from about an inch and a half to a yard in length; 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 the lightest grey to a dark grey, the coloration of many light smoky grey, rarely bluish black: when it is bluish black, the fracture is large conchoidal; that of the grey is uneven, approaching to earthy. The Lydian stone, when unattached to the limestone, has usually a tendency to a phosphatic form, sometimes calcified; the edges are more or less rounded; the longitudinal fracture is even, the cross fracture is conchoidal.

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, the water was taken to one of the circumstances 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, extending to Co. Waterford on the north to that belt 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 organic débris, and are covered by a layer of average thickness of twenty-five feet, no where less than ten. This was found to exceed forty-two—this substance varies materially in its appearances and properties in proportion to the depth at which it lies: the upper surface is covered with mosses or bogs, containing 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 more compact; thus it becomes more stonelike, 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 succintial friction, and forming a compact and firm deposit, shining lustre, and susceptible of receiving a considerable polish.

The surface of Irish bogs is not in general level; indeed it is most commonly uneven, sometimes swelling into hills and divided by valleys, thus affording great facilities for drainage. None of the bogs of Ireland, however, are low enough to be considered a natural river or lake, the water being conducted in a state of drainage to some stream or to the sea. The surface is generally a broad moor covered with trees. The grass in the bogs is generally a mere patchy growth, and in many places is very meagre. The bogs afford fine meadows and pastures, and the ground is normally suitable for tillage. The peat formation is of great extent, and has been formed by millions of years of vegetation and accumulation. The peat is generally of a dark brown or blackish colour, and is divided into two or three distinct classes, the uppermost being black, the middle being grey, and the lower being yellowish or brown, according to the depth of the bog. The peat is divided into two main classes, the uppermost being black, the middle being grey, and the lower being yellowish or brown, according to the depth of the bog. The peat is divided into two main classes, the uppermost being black, the middle being grey, and the lower being yellowish or brown, according to the depth of the bog. The peat is divided into two main classes, the uppermost being black, the middle being grey, and the lower being yellowish or brown, according to the depth of the bog. The peat is divided into two main classes, the uppermost being black, the middle being grey, and the lower being yellowish or brown, according to the depth of the bog.
When bogs become consolidated or compressed, they are called peat-mosses. The consolidation here mentioned must be carried on slowly, so as not to break the soil, and requires the fact of sustaining such 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 Introduction, gradually crushed and ground underfoot, but left 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 vastness of space over which they spread, the 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 timber, and the two together continued to press 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 upper one. In such an instance, using Mr. Griffiths' 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 tract of Chatmoss (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 Chatmoss is about six miles, its greatest breadth about three miles, and its area estimated at twenty thousand acres. It consists of 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 more solid and coarse, and the marsh, as it 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 Chatmoss. 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 inches. This is the ordinary formation of Chatmoss. 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; in others its depth has not been ascertained; below the marl is a bed of sandstone gravel of unknown thickness. That is the bed of gravel which extends beyond the edge of the bog, and prevents the direct discharge of the waters from it. The depth of Chatmoss varies from fifteen to thirty feet. (See also Camden's remarks on this moss, vol. ii. p. 566, Gibson's edition.)

About 1797 the late Mr. Rowsome of Liverpool began to improve Trafford moss, a tract of 200 acres, by draining it; a mile and a half to the east of Chatmoss, which operation was so successful as to encourage him to proceed with the improvement of Chatmoss, the most extensive lowland bog in England, including 7000 acres. After first constructing sufficient drains, the moss was ploughed up flat, and it is a piece of work practicable; a thin sod was then ploughed with a very sharp horse-plough, burnt 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 drains covered; the newly-made sods were cut to give not more than a yard to the acre, and watered heavily. This was repeated several years, and at length the moss was entirely decorticated, and the land brought to the state of a rich meadow.
crop, which must be put in with the plough, or with the horse-scuffle or scairier, may be either a green crop, as potatoes, turnips, &c., or any kind of grain. After making a green crop over an impervious soil, Mr. Roscoe gave it his decided opinion, 'that the best method of improving moss land is that just stated, of the application of a calcareous substance, in sufficient quantity to convert the moss into a soil, and by the aid of an impervious and porous material, such as the course of cultivation and the manure of the crops may be found to require.' The cost of marling was stated by Mr. Roscoe at 104, per acre, at which cheap rate it would not have been possible to have performed the work but for the assistance of animal or human labour, where the cost of ploughing is great, and moveable at pleasure. Along such a road the marl was conveyed in wagons with small iron wheels; each wagon, carrying about 15 cwt., was drawn by a man, and this quantity was as much as, without the employment of the railway, could have been conveyed over the moss by a cart with a driver and two horse.

In June, 1833, an ancient wooden house was discovered in Drumkelin Bog, in the parish of Invernair, 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 circumstance connected 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 in the following words. 'The house is 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 surface when it fell into the bog. 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; one of the doors of the house was entirely open, and a thick layer of sand spread on the roof, which continues to the depth of fifteen feet below the foundation of the house. Captain Mudge supposes that a stone chimney, which was found on the floor of the house, had been used for making the greater part of its masonry. The timbers, as the chisel corresponded exactly to the cuts and boles. 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 bottom of which was discovered a hearthstone made of flat freezing slabs. The hearthstone was covered with ashes, and near it were several boshels of half-burnt charcoal, with nut-shells, some broken and others charred, besides some blocks of wood partly burned. On the same layer, yet not in the hearth, were found charcoal and bones, in almost a perfect state. The bones were found standing, just such as had supplied the timber of the house; and beneath all this, as already observed, there were still fifteen feet of peat. It is the opinion of Captain Mudge that this house must have been suddenly overwhelmed 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'Neil's estate, on the Ballymenagh road, in the town, parish, and barony of Magheramboy. On the 19th September an individual near the ground was surprised by hearing a rumbling noise as if under the earth, and immediately after a portion of the bog moved forward a few perches, when it exhibited a broken, ragged appearance, with a gap between the mass 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-ricks, &c. The noise made by its burst was so loud as to alarm the inhabitants adjoining, who, on perceiving the whole mass running, directed its course towards the river. Mainey 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 river was considerably raised, and the bed of the bog, lying 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 silicious sand and a considerable portion of vegetable fibre in a half decomposed state, such as is often found accumulated over a considerable area of ground, when the soil has been denuded or replenished with earth, and the same has been well tilled and moved over, 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 natural state, it is easily imitated artificially, by mixing the fibres of pondweeds, urine, straw, and other fibrous vegetable matter, with a quantity of broken freestone or rock, so as to make the mixture light, in pits, with leaves, woods, 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 to make the mixture impervious in the soil.

BOG or BUG [VISTULA].

BOG (the Hyphasis of the Greek and Roman writers), a considerable tributary of the Dnieper, rises to the south of Proskuroff, south-east of Arnomol in Podolia, in the elevated plateau which extends from the lake Kapa, on Mounts to Kief, and receives the waters of the Ingul, Balta, Tshertal, and Salonichia before it quits the territory of Podolia. Thence it flows in a south-easterly direction towards Nikolaieffsk, bounded on its right bank by the high land. It descends by the succession of important river valleys, and eventually discharges into a country 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, which stretch along the north-western part of the town of Ozokoff. It is between 470 and 480 miles in length, and 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 Senitha falls into the Black Sea, but the encroachments made by the Muscovite upon the Ottoman in more recent times have brought the whole course of the Bog within the Russian territory. Its current is extremely gentle, and its waters, in its lower course, are of a saline taste. (Herod. iv, 32.) The principal towns upon the Bog are Bratzlaff, Mowitop, Bobopol, Oltrpol, Vossensens, and Nikolaieffsk. [Dnieper.]

BOGDANOVITCH, HIPPOLYTUS THEODOROVITCH, was born December 3rd, 1743, in the town of Pererolotschan in Little Russia, where his father practised as a country doctor. When he was twenty-five years old, he was sent to Moscow to be educated in the College of Justice, where he at length 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 Kherasakov, the author of the Russiania, and at that time the director of the Moscow theatre. Regarding this application as a boyish freak, Kherasakov represented to him the impropriety of the step he was anxious to take, but at the same time he encouraged him with a view to become a newspaper writer, and by his advice and assistance he published in the Muscovite newspapers several articles of some merit. He afterwards went to St. Petersburg, and was employed in the service of the Czar, and there he acquired, through the commission of the court, a knowledge of the arts, and the acquaintance of many of the best authors. His own industry was rewarded by the judicious advice and good taste of Kherasakov, with whom he had now taken up his abode; and he began to try his pen in some pieces which were published in the University Journal entitled Poltence Rocconom (Profitable Recreation).

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 Bieltolesky as secretary of legation to Denmark, in which capacity he resided in that city that he wrote, at least commenced, his delightful poem entitled 'Dushenhk,' for it was not published till long afterwards—1775. It is upon these three cantos that his reputation rests, and they earned for him celebrity and favour on their first appearance. The Emperor Catherine II.
was charmed with a production, so unlike any thing that had preceded it in the language; and it almost immediately produced a mania in the court and the public: this rather 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 many poems, his style and manner produced anything that was calculated to win a second wreath for the author of ‘Dushkena.’ Even that poem itself is more distinguished by tenuity of execution than by originality of subject or materials, its false being the mythological, rather than the geographical, that has been advantageously used by different writers from the time of Apuleius to the present day, but by none perhaps has it 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 a lengthy prose, but was divided into very short and easy verses, by the lofty eloquence of poetry, did not, until then, contain any finished model of playfulness of language and a tone of refined vivacity. It is not to be wondered at, therefore, that it should have obtained as many admirers as readers, and that persons were capable of perusing it. It was a phenomenon in their literature, of which the Russians were proud, and they have accordingly rather overrated than undervalued it. This partiality displays itself sufficiently in Korazin’s remarks on the poem; yet a severe critic, who had gone to the Rhine instead of Belgium, 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 what Moore’s poetry is in the English; for it propagates all the graces of the exquisite 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. Hence the description of the friend of Fieshke, 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 pathos requisite to give firmness and weight to 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 Dushkena.’ Except many short poetical productions and other contributions to various journals, these are the greater part of his remaining publications consisting of translations.

In 1792 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 Ramghur near Friesland, and, in 1807, at the age of 66, with the title of Count Bogerman, he was invested with the dignity of President of the Archives at the Hague.

BOGGERMAN, who signed himself Johann Boggerma-

nu, was born at Amsterdam in 1751, and died in 1807. His publications consist of translations.

Bogerman Presses, was born a.d. 1576, in the village of Oplewirt in 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 orthogenarian Bera. When Bogerman became a minister at Sneeck, he showed his own intolerance by endeavouring to compel the Mennonites there to a recantation. In 1694 he was made minister at Leeuwarden. In the polemics of his age he joined Gomarus against Arminius. The latter essayed, by some curious mode of argument, to prove the capital punishment of heretics. He also wrote a ‘Mirror of the Jesus,’ in Dutch, Leeuw. 1609, 4to.; a polemical work against Grotius, about or before 1614; and other polemical works which are now forgotten. In 1617 he effected 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 considerable credit, tally of his zeal against the Remonstrants. Count William Louis of Nassau, the great enemy to the Remonstrants, recommended Bogerman to the stadtholder Maurice, who, for political reasons, opposed the Remonstrants. Bogerman is said to have published an essay in which he endeavoured to vindicate the capital punishment of heretics; but we suppose this to be the above-mentioned translation of Beca’s tract, to which Bogerman and Geldorp wrote a preface. Bogerman the president, and four other members of the synod of Dort, were commissioned to translate the Bible for the government. This translation, called Van Dam, is chiefly Bogerman’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 Bogerman declined some lucrative invitations to the Hague and Leeuwarden, to receive anything but the wages which his humble translation of the Bible. But the esteem in which he was held was not uniform among the members of the synod. The foreign members complained that he and his followers formed a separate synod among themselves, which had its separate meetings, in which they agreed upon measures which they wished to carry. Davenant proposed that the debates of the synod should be published, but Bogerman opposed this motion successfully. The synod gave to Bogerman six assistants for drawing up the decrees, one of whom was De Leeuw. The synod of Dort had bad taken off the head of Barnevald.

When Bogerman 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 ex- ceeded his instructions, and the greater part of his remaining publications consist of translations.


BOGLIPORE (BHAGELPUR), a district in the province of Bahar, formerly known as the c Circar of Moghir, and the Moghul province of Rajamahal, which forms a part of the Moghul province of Bengal. Bogliapore is bounded on the north by the Burboot and Purneak, on the east by Purnea and Moorabedab, on the south by Birbhum and Ramgurh, and on the west by Burboot. It lies between the two parallels of latitude between 24° and 26° N. lat. and 86° and 88° E. long., and occupies the south-eastern corner of the province of Bahar. Its greatest length in the N.N.W. direction is about 133 miles, and its greatest breadth is about 80 miles; its total area is about 6400 English square miles; it is laid down by Major Rennell; but the boundaries as it 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.

The climate is very healthy, and the district is a great producer of hills, which form part of the Vindhya mountains. The two principal groups are situated respectively near the north-east and north-west limits of the district. The former, which are near Rajamahal, are tolerably well cultivated, but the hills to the west are forested mountains, and in many places almost impenetrable, the natives baving in former times allowed the trees and underwood to grow as a protection to their strongholds.

A considerable part of the surface of the level land is occupied by mere rocks, and is almost 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 declivity would admit of the use of the plough, these rocks render such a mode of cultivation impracticable. It has been estimated that the level ground in this condition
as upwards of 1700 square miles, and that the hills which are un cultivateable 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, opium, hemp, and tobacco are cultivated, and in those parts where the washermen of the vicinity collect carbonate of soda, which they call *aurica macti*. 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 Bogilpore from Monghir (where it forms the boundary between this district and Tirhoot) to the north-eastern corner of the Rajmahal territory. The district is besides watered by many small streams which fall into the Ganges on each side. The largest of these streams are the Keng, the Maura, the Ulayi, the Nagini, the Augjana, the Nacti, the Baghdar, the Gherghat, the Mohana, the Baruys, the Bilasi, the Deobeo, and the Morejghana. None of these streams are navigable except during the flooding of the Ganges, 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 jeels or stagnant pools, apparently the old channels of rivers which have been dried up. The highest point in the district is also found throughout the year. One of them, called Domjala, situated towards 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.

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 are the most violent, and are often extremely dry and parching. In most parts of the district, more cold than in the adjoining district of Purnea, and the summer season is frequently most oppressively hot.

Besides Bogilpore, the capital, the district contains the towns of Rajmahal, Champagong, Rajgarh, Bogilpore, Monghir, Bogwangola, and Oudiana. The population consists of rather more than two millions, of whom 460,000 are Mohammadans, and the remainder Hindus. The inhabitants are very unequally distributed, some pergunnas being overpopulated with people, while other parts, as already stated, are almost deserted. The mountaineers residing to the south and west of Rajmahal in this district are described as an uncivilised race, differing in manners, customs, and religion from the inhabitants of the surrounding plains, never submitting to the native jurisdiction by plundering and despoiling 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 1759 the privilege was granted to them of having criminal justice administered by an assembly of their chiefs, under the superintendence of a European magistrate, and subject, in certain cases, to confirmation of the governor-general in council. This latter description of courts was called Tribunals, that is to say, the hill chiefs' courts.

By a regulation passed in the year just mentioned, the resident magistrate was directed to convene the hill chiefs twice in each year for the purpose of forming a court for the trial of criminal offenders. At the same time the courts of criminal trials had been followed by these people of giving to the next of kin of a murdered person the right of pardoning the murderer, or of demanding pecuniary compensation, was abolished, and murderers were in all cases brought under the jurisdiction of the court of criminal offenders. Of the two persons who had exceeded fourteen years' imprisonment, were referred for confirmation to the Supreme Court of Nizamat Adalaut in Calcutta. A further alteration in regard to the distribution of justice among these people was made in 1827, when, by a regulation, they were also ordered to provide a code of laws, which received the sanction of the Governor-General. These laws were declared amenable to the general regulations of the province, with this modification however, that in criminal trials *a committee of not less than three hill-chiefs, called Manjees, 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 Manjees were to be summoned to the number of not less than twelve whenever a criminal trial was conducted by them. The hill 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.

The great volume of land sold by the British Government, the Emperor, and the Government of India, has been distributed to almost every plain inhabitant. The Metropolitan district, with its suburbs, consists of 57 square miles, of which 18 are under cultivation. In 1830 the number of persons in the city, with the suburbs, was 115,000. The population of the suburbs alone is 34,000. The city proper, with the suburbs, is divided into seventeen wards, each with its magistracy, and with the following population: 1830. City proper, with suburbs, 115,000; suburbs alone, 34,000.

The population of the suburbs alone is 34,000. The city proper, with the suburbs, is divided into seventeen wards, each with its magistracy, and with the following population: 1830. City proper, with suburbs, 115,000; suburbs alone, 34,000. The growth of cotton is not sufficient for supplying the needs of 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. There is another species of these animals, called by the natives hard-hears, which subsist on fros and white ants, with other reptiles and insects. A species of baboon, the Huminaus, exists in considerable numbers, and commits great depredations without impunity, being held sacred by the natives, that it is considered as a crime, sure to be followed by ill luck. The Ratuys, 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 commit depredations with impunity.

PENNANT'S *History of India*; *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 Affairs of the East India Company (1832).

BOGILPORE, 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 greater part of whom are Mohammadans. A Mohammedan festival of great festivity, during which the Mohammedan religious laws are observed, and the spiritual charge of a Romish priest, a native of Milan, is held by the society *De Propagandista Fide*, which likewise numbers among its flock a small society of Roman Catholics in the adjoining district of Purnea.

A Mohammadan 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 the children of poor hill tribes, and the training up of the hill chiefs' children. By its formation, the success of this school was doubtful, and at one time it was proposed to discontinue it; other counsels prevailed however, and the plan first adopted was enlarged in 1826, so as to admit the children of persons not attached to the army. In 1830 the school contained 124 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 this military college, it is to be hoped 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 hansomely built, and the Mohammadan mosques also ornamented by European artists, but with these exceptions the dwellings are of a mean character, and are generally scattered 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 more than 1,000,000. Bogotá is 110 miles north-west from Moquehiedad. (Report of Committee of the House of Commons in 1832 on the Affairs of the East India Company, Public Section, Appendix.)

Bogotá, 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 Cundinamarca, afterwards of the republic of Columbia, and since its dissolution in 1831, the metropolis of the new republic. The city is situated between 4° 17' and 7° 4' 10" W. long. Bogotá was founded by Quesada in 1538.

This town is situated at the foot of two lofty and rocky mountains, Monserrato and Guadalupe, which belong to the high range which, running nearly from N. to S., separates 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 forty-five miles from south to north, and nearly half 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 covered with shrubs, or by marshes, or by swamps; only that part which immediately joins the town is partly cultivated and partly formed into Posseos, or places for grazing cattle. The river Bogotá, or Funa, from which the town has received its name, winds through the centre of the town, at a 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 only to 45° or 48°. As the town is only a few degrees south of the equator, and the San Juan has a fall of about 1000 feet, it is evident that Bogotá can 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 from the beginning of September to 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 which are only a few degrees south of the equator, and the sea have generally a very dry climate, and rather suffer from the scarcity 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 contains many of the finest public buildings in the city, but the climate is 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 sun or rain by the projecting eaves of the houses. A continual 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 a market is held, in which are exhibited, on a market day, the produce of the kingdom, the goods of the palace, the other side by the custom-house, the cathedral, and its offices. The other squares are also 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 the streets.

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 bunches of bananas; at another bunches of cayenas and bananas; betweensacks 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 external effect of them is not pleasing. The Indians have introduced the mode of building houses which they inherited from the Arabs of Northern 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 a few 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 building was a private house, and a small dome or tower 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 antient straw mats of the Indians however are no longer used by fashionable people, and have been superceded 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, and the air habitual, the beds are never used; wooden mattresses are substituted for them.

The cathedral of Bogotá, which was a noble building, was ruined by an earthquake in 1827. It contained an image of the Virgin, which was covered with diamonds and other precious stones. The other churches, to the number 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 Augustinians are the most remarkable; the former is a building of great antiquity, and of such magnitude as to be considered as the temple 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 a university, and is distinguished 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-breed Indians however are numerous, being alone employed in the service of the government. They are very rare. The whole number of inhabitants is estimated at 30,000 or 40,000. The inhabitants of Bogotá are mild, polite, and cheerful.

The alameda, or 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 the usual promenade on Sundays and holidays for all classes of society. The other amusements consist of balls, cock and bull fights, and occasional theatrical performances; but the theatre is chiefly a place of amusement of the lower classes.

Bogotá owes its importance chiefly 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
BOH

country to the north and east. In three days the town of
Honda 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, sometimes fifty or sixty days. To remedy this inconvenience
the establishment of a steam-vessel 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 that river. (Humboldt ; MoUien's Letters from Cohtmbia.)

BOGWANGOLA (BHAOAVAN

GOLA), a considerable town in the district of Boglipore, on the right bank
of the Ganges, in 24° 21' N. lat., and 88°29'E. long. : about
eight miles N.E. from Moorshedabad.
It is a place of considerable trade, and forms an important grain market, from
which the inhabitants of the town of Boglipore are principally supplied.
To Europeans Bogwangola would hardly
present the appearance of a town, the dwellings being built
entirely of bamboos and mats.
This unsubstantial mode of
building has been used, because, owing to the encroachments of the Ganges, it has been more than once necessary
to change the site.
The water of the Ganges is here of
sufficient depth to admit of trade being carried on at all
times.

BOHEMIA
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antient records, derives its name from the Boii,
once occupied the parts about the sources of the

Elbe and Moldau. It now constitutes a kingdom forming
part of the empire of Austria, and comprising 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 Hubertsburg in 1 763. The margraviates
of Upper and Lower Lusatia also formed part of the Bohemian
dominions, until the treaty of Prague in 163$ 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 irregular quadrangle in the 8.E. of Germany, extending between 48° 33' and 51° 5' N. lat., and 12* and 16°46'E.
long.; it contains a superficies of about 20,010 square
miles, or 12,806,400 acres, which is more than two-thirds of
the area of Ireland or Bavaria. It is bounded on the northwest 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 kingdom of Bavaria. The whole circuit of Bohemia is estimated
at about 810 miles, of which 165 lie next to Prussia, 294
to Saxony, and 175 to Bavaria: so that 176 miles only of
this circuit are skirted by other parts of the Austrian dominions. Inclusive of the metropolitan district of Prague,
Bohemia is divided into seventeen provinces or circles,
which are subdivided into 1332 judiciary circles

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by gentle depressions. The Short slope is towards Bohemia,
and the longer one towards Saxony. The highest points of
this range are the Schwarzwald or Sonnenwirbel, near
Joachimsthal, 412S feet (or according to Hallaschka, 4003
only) ; the Lesser Fichtelberg, near Wiesenthal, 3999, or
according to some 3709 only ; the Kupferberg 2749, towards
the southern end of the range and the Schneeberg, near
Tetschen on the Elbe, 229 1 at the northern end of the range.
The western and south-western borders of Bohemia are defined by the Bohmerwald-gebirge (Bohemian Forest Mountains).
The Sudetsh chain, of which the principal range is
more peculiarly designated the Sudeten-gebirge (Sudetsh
mountains), extends from the right or eastern bank of the
Elbe as far to the eastern side of Bohemia as Grulich.
Certain portions of this range bear particular names ; such
as the north-western, called the Isergebirge (Mountains of
the Iser), and that small portion lying next to the Elbe,
which is called the Lausitzer Bergplatte (Mountain-plateau
of Lusatia).
Id the last-mentioned quarter the loftiest summit on
the side of Bohemia is the Tafel-fichte, which lies at the
extreme point of the Bohemian frontier next to Silesia
and Saxony, and, according to Gersdorf, has an elevation
of 3780 feet. Commencing from the eastern banks of the
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the frontier line between Bohemia and Silesia runs
along the crest of the remaining and principal arm of the
Sudetsh chain, termed the Riesengebirge (or Giant Mountains), a name frequently applied to designate that chain
in general. Seen from a certain distance, this range describes
a waving line, with a few elevated points, which present
the appearance of having been cut short off at their upper
extremities. The highest of these abrupt and naked summits is the Riesen or Schneekoppe (Giant or Snow-cap),
upon which a circular chapel dedicated to St. Lawrence has
been erected; its elevation according to some is 5400, but
according to others, not more than 5206 feet Next in
height are the double-capped Brunn or Barnberg, and the
Great Sturmhaube (Tempest-hood) ; the former of which is
5008, and the latter 4745 feet above the level of the sea.
The Sudetsh chain, which runs S.S.E. to the vicinity of
Grulich, is called the Glatz Mountains (Glatzischegebirge),
the waving outline of whose occasionally cap-crowned ridge
forms a pleasing object to the eye. Its highest point, though
it belongs rather to Moravia than Bohemia, is the Grulich
or Spieglitz Schneeberg ; but the most elevated on the Bohemian side are the Deschnay, Hohekoppe, or Grenzkoppe,
as it is also termed, which rises to the height of 3748 lect
above the sea, and the Marienberg near Grulich, to which
some assign an elevation of 4545 feet The highest ranges
of the Sudetsh mountains consist of primitive formations,
and are in some parts rich in ores : those of inferior height
an composed of clay-slate and limestone, intermixed with
beds of coal ; and the offsets of lower elevation are formed
in some parts of quartz and sandstone, and in others of
grauwacke and basalt
lower range runs along the south-eastern boundary of
Bohemia, termed the Bohemian-Moravian Mountains, and
forms a connecting link with the Glatz Mountains towards
the north, and with the Mannhart Mountains, in the archduchy of Austria, towards the south. This range, which is
of moderate elevation and gentle ascent, separates the basin
of the Elbe and Moldau from those of the Danube and the
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The range which forms the boundary line between Bohemia and Bavaria and part of Austria, is known by the
5500 name of the Bohmerwaldgebirge' (Bohemian forest moun1866
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8800 tains), which is wholly of primitive formation, and charac195.585 Pilwn
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terised by naked and precipitous features and deep ravines.
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Towards Bavaria its slope is extremely abrupt, but on the
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Bohemian side the descent is gradual and on this side the
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Pngue
loftiest heights are the Heidelberg, whose summit forms a
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spacious plateau, at an elevation of 4622 feet, the Kubani
Bohemia is inclosed on every side by lofty and in parts or Boubin, 44 96 feet high, the Rachel (which some however
On the west side, and from place in the Bavarian territory), 4394 feet, and the Dreiswild and dreary mountains.
a point close upon the Fichtelgebirge, issue two ranges, the sesselberg (mount of three seats), 4054 feet.
Bohemia is also intersected by several ranges of inferior
one taking a N.E., and the other a S.E. direction. The
elevation the northern, called the Northern Ball, or Trapp
first of these ranges, which separates Bohemia from Saxony,
and may be termed the left arm of the Sudetsh chain,' is Mountains, spreads in various directions; and the more
known under the name of the Erzgebirge (Ore-mountains). southerly, called the Midland Mountains, which are arms
of the Bohemian Forest chain, consist of the Beraun, MolIt runs to the left bank of the Elbe between Tetschen and
Schandau, and is neither precipitous nor of a wild cha- dau, Euler, &c, ranges.
The interior of Bohemia presents an undulating surface,
racter, but with few exceptions wooded nearly to its summit.
Its ridges form an undulating line, here and there broken very frequently studded with high and pointed eminences,
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but with a general slope towards the centre of the country. The most extensive plains are in the provinces of Königgrätz and Chrudim, from Neustadt to the Nussberg esci- vition. The not far is full of valleys and mountains, among which we may mention the delightful valleys of the Elbe and Boraun; but the deepest is the Riesengrund or Gnt's Glen among the Giant Mountains. From Zippe's Survey it would appear that the whole of the mountains which are of the reddish gneiss, and there are one million remarkable mass, the Steinwald, near Adersbach, 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 split into lofty columns, pyramids, cones, &c., forming irregular islands, which are particularly remarkable in the neighbourhood of Josephstadt and Königgrätz. It forms in many parts a rich silvium by the overflowing of its banks, and quits Bohemia after a course of about 190 miles at Herrenkretscham, near Schan- dorf, where it rises in the kingdom of Silesia. 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, called the Black Maiss and the Eger, which rises in the Bohemian Forest Mountains, close upon the confines of the Bavarian bailiwick of Wolfsstein; it first flows S.E., and when it has reached Rosenberg at the southernmost extremi- ty of the kingdom, takes a northerly direction through the Bavarian heights, and falls into the Elbe near Melnik, after a short bend to the east. The Moldau, termed the Wltva by the natives, runs for about 280 miles before its junction with the Elbe: it generally runs between steep rocks, and at its confluence with the Elbe is nearly as broad nearly as the Elbe. From this branch of the Moldau to Prague, its length is about 130 miles, and from Prague to Melnik about eighteen. Its breadth at Prague varies from 250 to 260 feet; and the height of its surface, which is 1511 feet at Krummau, declines at the bridge in Prougnitz, to 590 feet. The Elbe, called by 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. The Elbe, which traverses the kingdom of Silesia, from the Elbe or Adler, which rises near Königgrätz and skirts the prin- cipality of Glatz in Prussian Silesia for a short distance, the Metzau, which flows from the vicinity of Josephstadt, and the Iser, which descends from the S. slope of the Giant Mountains, not far from Brandenberg and the streams that join the Moldau are the Luschnitz, which flows from the neigh- bourhood of Moldauten, the Wottawa or Watawa, which flows from the Bohemian Forest Mountains, and for some distance first bears the name of the Widro, the Sazava or Cazava, which flows from the south of Moravia, and the Beinaun or Beranauks, which rises near Königslau. The whole drainage of Bohemia finds an outlet through the narrow pass of the Elbe at Herrenkretscham. As this outlet, independently of its confined width, bears evident marks of volcanic discordance, so the streams that join the Elbe are at times walled in with mountains, it has been conjectured that the whole of Bohemia must at one time have formed an im- mensely, which has been drained by a disruption taking place at the point where the Elbe ceases to be a Bohemian stream. Among the numerous falls of water in Bohemia the most interesting are those of the Elbe, of the Moldau across the Devil's Well, and those in the vicinity of Neuvall. Though full of small pieces of water, Bohemia has no lakes, but around the same there are some small lakes, particularly the Servina swamp (or Gezer), between Brüir and Postelberg, and the Slatina swamp near Doran on the Eger: a considerable portion of the first of these has how- ever been drained and converted into pasturage land. The Dittrich springs, which rise within the Bohemian soil, and are in great repute. A recent enumeration of such is 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 Giss- ald; at the next are the mineral springs of Carlsbad and the Teplitz, one at Marienbad, and others at Blin, Liebenevi, &c.; there are bitter waters at Sleditz, Säidschitz, and Pühla; sulphurous springs at Teplitz, Soberschau, &c.; andalusious and vitriolic springs at Stecknitz, Mocheln, and others. There are several large and small springs at Carlsbad; the others at Schian and in other places. The virtues of the waters 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 designation of the Pearl of the springs. It appears that the springs yield 1300 autums (22,500 gallons) per hour, of which the Springer alone yields 2475 gallons. The temperature of some of them at the moment of their first emission is not less than from 59° to 69° of Reaumur (about 131° to 157° Fahrenheit of Fahrenheit); that of the springs of Teplitz is 30° (90° Fahrenheit). Some springs are frequented only after 9° or 10° (54° Fahrenheit). The whole quantity of mineral water exported from the Bohemian springs in the year 1825 was 223,320 quarts. On the interior of Bohemia and its remote- ness from any coast, for it is nearly equidistant from the Baltic and Mediterranean, giv is a clear and salubrious atmosphere and general constancy of weather. The climate naturally becomes keener and bleaker as the chains of mountains which enclose Bohemia rise in height. The regions about Gottesgab (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, which extends to the Black Mountain, the snow descends to the bottom of the valley, and does not disappear until the middle of April, as well as in 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 to the year 1821, the mean of the temperatures from Prague to 47° 56′ Reaumur (47° 28′ Fahrenheit) whilst on the elevated side of Elbe- rberg it is not more than 41° 33′ (41° 15′ Fahrenheit). In the neigh- bourhood of Reichenberg, where the harvest is two or three weeks later than in the low country, the highest degree of cold is not 30° (85° Fahrenheit; 5° (41° Fahrenheit), and the severest degree of cold —5° (18° Fahrenheit). The most frequent winds blow from west to some points north, and from west to some points south. The winds from these quarters, ac- cording to Diak's observations, invariably bring dry weather with the heat of summer, but cool waters with the cold of winter. On the other hand, the winds from the sea, which are more southernly at their point of departure in summer, the fierce and strong. In winter it is precisely the reverse, they being usually ac- companied by rains and thaws. On the other hand, the farther is seen 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 along the line of springs between the Boraun, particularly from Kunieritzberge to Königgrätz, which are cut with drift sand, and in some of the districts where swamps abound. The rest of the low country is in general rich and produc- tive, particularly the province of Sázava. No soil in Bohemia is more productive than that of the middle of the country, formerly the site of large sheets of water, its deep black loam highly favourable to the growth of wheat, rice, and barley. Bohemia produces almost every description of grain and pod- seeds, but not much maize: the quantity of arable land is between 116,000,000 and 120,000,000 acres. The yearly crops of wheat are estimated at 5,086,000 Imperial bushels; of rye, at 25,430,000; of barley, at 11,020,000; and of oats, at 22,035,000; 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 in some few quarters; the raisins, of the
rarest quality, is obtained in none, excepting the vicinities of the Elbe and Moldau, 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 timber; and though the inhabitants generally rent those supplies no longer so abundant as in former
times. Mosses, particularly the Iceland sort, herbs, grasses, and medicinal plants, many of them of rare occurrence else-
where, are plentiful in the mountain regions.
Bohemia contains large masses of granite, and sandstone; precious stones, particularly the celebrated Bo-
hemian garnet or pyrope, rubies, sapphires, topazes, chry-
solites, amethysts, cornelians, chalcedonies, and agates; 
limestone, beautiful marbles, porcelain earth, slates, potter's 
clays, marl, topsoil, and loam; and among the rarest, par-
purpliy, &c. The mountain districts yield gold and silver, 
quicksilver, tin, lead, iron, bismuth, zinc, cobalt, arsenic, 
manganese, nickel, chrome, &c. Of salts Bohemia furnishes 
fat native alkali, nitrates, several kinds of vitriol, and almost 
every variety of the rock salt common in its 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 
worked. The mineral wealth of Bohemia is enormous.
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 loftier stature and finer limbs: the number is upwards of 
180,000, one-fifth of which are at home. The stock of oxen, 
about 244,000 oxen and 651,000 cattle, is not adequate to 
the home demand. The native race is in general small and 
of inferior shape; and, on account of the insufficient 
supply, large importations are made from Poland and 
Moravia. The cattle are mostly districted, and in the 
principal market towns, 400,000 heads, afford excellent 
stock. The goats and swine are abundant. Poultry, particu-
larly turkeys and geese, are reared everywhere; honey 
and wax are produced in all the provinces. The stock of 
game has fallen in all the principal quarters; the quantity 
of game, however, is still sufficient for the entertainment, 
but no where nearly as abundant as is marked in the "Giant-mountains;" it cannot however be termed scanty; and Bohemia still possesses stags, 
deer, hares, wild hogs, peacocks, and partridges in abun-
dance. The bees abound, and at Wroclaw, Plauen, and 
byxnes, 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 
supper of gypsies and other nomadic people. The rivers of 
Bohemia are divided between the streams which flow 
into the North Sea into the Moldau and Wottowa. 
The mountain-streams are full of trout; and eels and 
craw-fish are abundant in the lakes. The mineral waters, 
from which peaches are extracted, which are also obtained 
in the Wottowa and White Elster, near Steingrui, in the 
district of Eger.

We have already given a statement of the present 
population of Bohemia, which amounts to 3,900,875 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 
196 to every square mile. There has been a progressive 
improvement in the condition of the people since the 
1785 they amounted to 2,716,084; in 1795, to 2,792,793; 
in 1805, to 3,263,879; in 1815, to 3,149,450; in 1825, to 
3,529,192; and in 1831, to 3,889,286, of whom 1,848,530 
were males, and 2,040,298 were females. In the sixteen 
years between 1815 and 1831, therefore, the increase was 
746,378, or 46.64 per annum; in the six years between 
1825 and 1831 it was 359,536, or 59,939 per annum; and 
in the two years 1832 and 1833 it was 74,047, or 37,023 
per annum, a diminution which is ascribed to the destruc-
tive effect of the cholera, which prevailed during that year, 
in the year 1832. Of the present population about 
one-third live in towns, and the remainder form the rural 
population. The total number of houses in 1834 was 555,448, 
which gives an average of rather more than seven indivi-
duals 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 
cities of the first class. The total number of ecclesiastics is 4107, or about 1 to every 990 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. We find the population of several 
districts of the north and east of Bohemia. The least popul-
ous part is the province of Prachin.

Nearly two-thirds of the inhabitants of Bohemia, particu-
larly those in the central and eastern provinces, are of 
Slavonic or Magyar race, and call themselves the Czechs or 
Bohemians; they differ from every other class of Slavonians in the Aus-
trian dominions, according to Professor Schasbel, from 
the superior antiquity of their literature, and the greater sup-
plies and refinement of their dialect, both as it exists at 
present, and as it was in the ages of the migrations, the 
Slavs and their brethren in Moravia, are the descendants of the Lechi or north-western branch of the 
Slavonians, who were the first to cultivate and refine their 
native language. The Czechs are passionately fond of 
music and singing, and prove their intelligence 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-
obedrens, to Posen, Breslau, and the remnants of the 
Hanseatic, and Bidschow or Biszow, as far as that of König-
gratz. In mechanical and mercantile pursuits they are super-
tior to the Slavonian inhabitants; and their language has 
become that of the educated classes throughout the country, 
which is certainly a considerable source of national pride, 
and they generally rent the government post offices. At 
Prague there is a colony of Italians who settled there in 
earlier times, and are exclusively employed in trading. 
The climate of Bohemia being, on the whole, a healthy one, 
there is less consumption of medicines than in other parts, 
and they generally rent the government post offices. At 
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There are about 7000 Mennonites, Hussites, and followers of a sect closely resembling the 
Quakers. There was a time, indeed, when some maintain-
ning the most absurd opinions started up in Bohemia; but 
we shall only instance the credulous adherents of Grill, the 
enthusiast of Czermakov, a place about five miles from 
Königratz, who metamorphosed Josephstadt into the 
valley of Jerusalem, and Königratz into the city of 
Damascus. Others of his cast had long before him affirmed that 
Bohemia was nothing less than Judæa itself, the land of Sinai and 
Beethoven, Tabor and Emmaus, Horeb and Jerusalem; 
and in one corner of Bohemia a remnant of Admates 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 rarely built of stone, other materials being wood. The whole number of families in the year 1830 was 578,633.

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 hard times; they are remarkable for simplicity 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' interval between 1824 and 1829; this average is the lower, as there did not exceed 1 in every 1428 individuals. The number of illegitimate births amounted in 1829 to 16,509, of which 8,442 were males and 8067 females; every eighth birth coming under this description. The annual average number of births for the period of thirty years between 1788 and 1814 was 126,879; and for the fourteen subsequent years (1815 to 1829) it was 143,087. The average of deaths for the first-mentioned period was 100,399; and for the last-mentioned, 106,289. With respect to marriages, the Bohemians are not in consequence of the state of available land, 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, there is an insufficient number of oxen kept. The whole quantity of available land is estimated at about 11,109,090 acres (7,774,264 Vienna yochs); the remainder consists of rock, marshes, tracts of sand, roads, and paths. In some parts the produce the land is tolerably abundant; for instance, in the province of Saatz, the cultivation of available land is estimated at 8067 acres or eight fold, barley ninefold, and oats tenfold. Potatoes are universally cultivated, particularly in the mountainous parts of Bohemia. There are about 1,140,000 acres (796,721 yochs) of meadow land in Bohemia, and the yearly quantity of hay which they produce is estimated at 1,200,000 tons; nor does the supply, including crops from fallow land, average more than 1,500,000. The growth of clover has so much increased, that in some years the quantity of seed exported has amounted to 15,200 cwt. The cultivation of fruit is pursued to a considerable extent; the northern districts, 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 by the Patriotic-Economical and Po- mological Societies. The number of trees, wild and cultivated, of the greatest of fruit-trees, exist in the vicinity of Neustadt above the Mettau; whole woods of plum-trees are met with near Malchowke, Weltrus, and other spots. Bohemia is, in fact, a large exporting country for apples, quinces, dried plums, peaches, and other fruits. The mean extent of the dry land is cultivated is estimated at 121,560 acres (85,014 yochs). The production of flax, although it is grown in every province, is by no means sufficient for the internal consumption; and this remark applies equally to hemp; the im- portation of latter material, which is estimated at 10,000 tons annually. Among dyeing plants the chief is madder-root, which are raised in large quantities about Soditz and Libechov. Bohemia is celebrated for an excellent kind of hops, of which the produce is considerable; those grown in the province of Saats, and next to these, the hops cultivated in the provinces of Raczkowit, Buzlauer, and Pilzen, are in highest esteem. The quantity exported appears to vary between 32,000 and 33,000 cwt. annually. The vine, there is reason to believe, is not so extensively cultivated as 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, the produce in wine does not much exceed 392,000 gallons. The Burgundy grape was transplanted to the neighbourhood of Melrick 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 "Cernoseker," is made near Ausig; but the other descriptions of wine produced near Prague, Bechlin, Raudnitz, &c., are but of indifferent quality. The quantity of wines and roses exported in 1828 was 80,925 cwt., of which 84,753 cwt. was sent to Saxony, and the yearly produce is estimated at 1,932,000 quint-klafers, or square fathoms, of soft wood, and 237,000 of hard.

Few branches of industry are more valuable to Bohemia than in the working of its mines; and although the produce of the precious metals has less declined than should be the case, the supply of these mines, which is estimated at 215,000 cwt., has not fallen off in value. The quantity of gold and silver, principally got near Przibram, Joachimsthal, Bude, and Babina, is but small compared with what was obtained in the preceding times. The gold production of 1828 was 2,571,000 marks, and the silver, 1,090,300 marks, or about 9,917,300 ounces of silver, up to the year 1829 alone. Between the years 1765 and 1817, however, the produce of this metal sent into the public mint was not altogether more than 245,783 marks, or about 2,986,000 ounces; and in 1827 the annual production had sunk to 1202 marks. Quicksilver has hitherto been found only in the form of ornnabar; the copper mines have ceased to be productive, and are abandoned; those of tin (and it issey be here observed that Bohemia is the only part of the Austrian dominions where this mineral exists) are found near Treuchtenau, where between the years 1817 and 1828 their annual produce fell from 8144 cwt. to 679 cwt., and the working of them has been abandoned by the government to private individuals. The lead mines, principally situated about Przibram, Mies, and Bude and Babina, is still carried on, and has a tendency to yield abundantly; their produce in 1825 consisted of 14,168 cwt. of lead containing silver, 18,022 cwt. of pure lead, and 10,964 cwt. of litharge; making in all 43,094 cwt. Lastly, the iron mines, the richest of which lie in the districts of Harkowitz and Gineck, are not yet entirely abandoned. The iron now produced is the product of about eighty furnaces and 6000 hands; and has increased since the year 1825 from an annual produce of about 7000 tons to about 17,500; but the article is inferior to the Styrian and Carinthian iron. Quarries are worked in every province, of Bohemia, Przibram, Pragow, and the chief mines for white sandstone, in the vicinity of Nenstadt above the Mettau, sandstone in several places; the Przibl, Breitenstein, and other quarries, yield excellent mill-stones; large quantities of basalt are worked into form for building and paving at Parchen, Rodut, &c.; quartz and sandstone are obtained at Bömbisch-Aicha, Weisswasser, Gieshübel, and elsewhere. Among the precious stones found in Bohemia, the cele- brated garnet, which is equal to that of the East in brilliancy, as well as colour and hardness, is principally found in the vicinity of Schwetzow and Krummau. The oldest, or as it is called the Roman, mine is at Haida, near Krummau, in the province of Leitmeritz. The produce of the coal-mines has greatly increased of late years in consequence of the increasing price of wood, particularly in the northern provinces; between the years 1819 and 1828 alone the annual produce has increased from about 134,000 tons, or 30,000 cwt., in the southern provinces of the province of Kranitz, in particular, furnish a coal of very superior description. Graphite or black-lead is found in considerable layers near Krummau and Swjanow, and is extensively worked; but is far inferior to that of the English kind. About 4400 cwt. of sulphur are annually obtained, and vitriol and sulphuric acid are prepared from the residuum.

Bohemia is one of the most manufacturing countries in the Austrian territory; and the northern provinces, espe- cially the parts adjoining Saxony and Silesia, are, perhaps, more highly engaged in manufactures, than any other part, in the province of Trautenau, where the rawness of the climate, or an indif- ferent 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 di- urability ever since the thirteenth century; although its pro- duct has sensibly declined in modern times, it still employs nearly sixty works, and about 4000 hands, and keeps a capital of 800,000 L., and upwards profitably engaged. The best manufacturies of this article are at Neuvaud and Lichtenstein; others are at Pilsen, where the former glass is polished and cut glass. The best mirrors and enamelled wares are produced at Neuhürkenthal and Bürgstein. 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 continu-
factory of linen, in which thousands of humble cabins perpetually resound with the noise of the Jenny or loom; 500,000 hands at least (a considerable proportion at their leisure hours only) are employed in the manufacture of yard goods. These hands, which are divided into two classes, each individual depends 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 1,200,000L. 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 at and near Neumarkersdorf, Wernsdorf, Rothenhaus, Joachimsthal, and Schönbüde, etc., but the higher numbers are imported from England and the vicinity of Austria. The weaving of plain calicoes, of which the annual value is estimated at 300,000L., is principally carried on in the provinces of Leitmeritz, Bunzlau, Eibenberg, and Biebow; the finer descriptions, to the extent of about 250,000L., a year, are manufactured in the same quarters, as, in textiles and cotton-printing, which has greatly advanced of late years, is best done at Cosmasos, Reichstadt, Jung-Bunzlau, 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. Its cotton manufactures of all kinds employ about 20,000 hand-spinners, and between 9000 and 10,000 weavers; these however are independent of about 18,000 individuals who are employed in making homespun, the yearly value of which is estimated at 150,000L. sterling, and 20,000L. is the number of cottons which are exported. Of the cotton weavers, particularly that at Landkron in the province of Chrutilm, 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, 260,000 sheets of linens, and 100,000 sheets of cloth each year. The cotton manufactures are chiefly confined to the province of Biczow, and the most productive is the distillation of 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 north-east falls into the Eger and the Wald-zaab, which 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 opposite the town of Linn in Upper Austria, where the surface of the Danube is more than 50 feet lower than that of the Naab.

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 northern extremity, the southern slopes of Mount Heidelberg, from which it is separated, are hilly in the highest mountains in Scotland. Mount Heidelberg is the highest, and rises to 4622 feet; Mount Kubani to 4496, Mount Arber to 4492, Mount Rachei 4394, and Dreises to 4245. The boundary of Bavaria on the lower Rhine is on the boundaries 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 is the ridge called Bredy-Wald. The country here is the range where the high summits begin to rise, and which fills the country between the Wolinka and Beraunka rivers with high hills. This ridge is called Bredy-Wald. Further south is the Lissi-Wald, which afterwards descends more gently to the south. The southernmost branch, the Mollau, forms its upper course. [Elbe.]
of the steppes of its south-western descent, its narrow glenas, and its rugged valleys, which are sometimes covered by forests. It is only a few miles in width, and like most northern, it traverses the pass of Tirschreuth, runs through the depression at its northern extremity, and constitute the town of Eger with Ratibor. Further south is the road which connects Nürnberg with Plauen, and runs along the right bank of the Saale. From Ratibor to Plauen runs through the pass of Waldmünche. From Passau two roads lead to Bohemia; one terminating at Klett au passes the river, and the other leading to Strakonitz, the pass of Winterberg: lastly, the road between Linz and Buda goes by the pass of Friesa
tadt. 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 through the mountains are largely lessened by the German exodus 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 inclosing Boho
mian more easy of access. Even now the number of Ger
mans inhabiting the country which skirts the Bohemian side of these mountains is smaller than in other districts of Bohemia, the population being almost entirely composed of Croats.

The 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 deciduous have a short course, and fall into the Danube, which runs at no great distance from its mouth. Where the Moldau and Vltava meet is the Regen, which flows across the Elbe, and empties into the North Sea. 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 affluents, the Wottowa with the Wolinka and the Beranka. The Moldau and its affluents 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 Bredy, where it advances far into the interior of Bohemia. Mica-slate is also there, and the green-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 forests of lofty trees; but an ample number of the transport are greater, 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 glass-houses, where the sand is kept dry. The glass is used 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 Prüllau and Horuscibor, and the salt of Beroun and of Plauen, but in small quantity. Some rivers bring gold sand down, which is washed, especially the Moldau, the Sazawa, and the Wottowa. Silver is more abundant and worked with advantage in some places, especially at Prüllau, where it is extracted from lead-ore. A small quantity of cinnamon is got near Horzowicz. Tin is worked in a few places. Lead is very abundant at Mies, Prüllau, and Bleistalt. The iron mines are numerous, and are worked with great industry. Antimony, zinc, and copper are also worked.

Some precious stones also occur, especially opals, chalce
dones, and Jasper, but the famous Bohemian garnets are not found in this range. Coals are found in considerable quantity on the northern lateral ranges, though they are less important than in the 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.

The Moldau, 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 accompanied his father in his various expeditions to Greece and Illyria, against the emperor Alexis Comnenus. They took Corfu, and defeated the Greeks near Durazzo. His father returning to Italy, Bohemond remained in Illyria with his Normans and Apu
lian allies, and opposed the attack of the Sultan of Egypt, Thessaly, and besieged Larissa. At his father's death, in 1095, Roger, Robert's second son, took possession of Apu
lia and Calabria, and Bohemond on his return from Greece found himself deprived of all share of his paternal inheri
tance. Roger proceeded to Rome, and disputed with the pope the part of his nephew and namesake against Bohemond. A war ensued between the two brothers, which terminated by

BOHEMIANS. [Giraffe.)

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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 Alte-Seidenberg (Brucker writes Palm-Siebenbergum), 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 Jacob Böhme was 'the first product 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 1594 he took to wife Catharine the daughter of the butcher Johann Hunscheim, a citizen of Görlitz, by whom he had four sons. His sons he devoted to 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 crag called the Landskron, and, finding an aperture 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 finding the diamond and other precious stones, 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 sent him to the town to buy shoes. He, thinking to cheat a crowned 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, without delay, impudently, Jacob at last named a price which he certainly would keep 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, 'Thou wast not afraid, was it not better to have been frightened, amazed that the stranger should call him by his Christian name. The man with a severe but friendly countenance, fixing his eyes upon him, which were bright and sparkling, took him by his right hand and said to him:

'Jacob thou art little but shall be great, and become another man, such a one as the world shall wonder at; therefore be pious, fear God, and reverence his word. Read diligently the Holy Scriptures, wherein thou hast comfort and instruction. For thou must endure much misery and persecution, but be not afraid to suffer for God, nor be severe, for God loves and is gracious unto thee; and there with pressing his hand, with a bright sparkling eye fixed on his face, he departed.

This prediction made a deep impression upon Jacob's mind; and he began from that time to betake himself, and grow serious in his actions, keeping his thoughts stirring in consideration of the caution received. Thereforeforward he frequented public worship much more, and profited thereby to the outward reformation of his life. Considering Luke xi. 15 — My Father in Heaven will give his spirit to him that asks him, be desired that Comforter. He says that he was at last "surrounded with a divine light for seven days, and stood in the highest places at night; and by the day, he went about, in the joy of the Lord, and all things seemed as if he were with his master in the country among affairs of his vocation." He then grew still more attentive to his duties, read the Scriptures, and lived in all the observance of outward ministrations. Scornful and blasphemous words he would rebuke even in his own house, who, being not able to bear this, set him at liberty with full permission to seek his livelihood as he liked best. About the year 1600, in the twenty-fifth year of his age, Jacob was again surrounded by the divine light, and viewing the herbs and flowers in the fields near Görlitz in his in and light, he saw into their essences, use, and properties, which he so covered to him by their lineaments, figures, and signatures.

In like manner he held the whole creation, and from that fountain of revelation he wrote his book De Signatura Rerum. In unfolding these mysteries he had great joy, yet he looked carefully after his family, and lived in thought and silence, scarce intimating to any these wonderful things, till in the year 1610 he wrote his first book, called Aurora, or the Morning Redness.

This manuscript he did not choose to intrust to any man, till a gentleman of rank, an intimate friend of his, having got sight of it, prevailed upon him to indulge him with the perusal of it. This gentleman immediately took it to pieces, and with his own hand, assisted by other transcribers, copied it carefully down. Thenceforward, to the author's intention, it became public, and fell into the hands of Gregory Richter, superintendent of Görlitz, who, making use of his pulpit for speaking without a gain-sayer, to reveile what and whom he pleased, endeavoured to stir up a magistracy against their jurisdiction in rooting out this supposed church-wed.

The senate convened Jacob Böhme, seized his book, and admonished him to stick to his last, and leave off writing. The original manuscript of the Aurora, Böhme's own writing (being first written in 1600, and twenty years in the custody of the senate at Görlitz), on Nov. 26, 1641, presented by Dr. Paul Scipio, the then burgomaster or mayor there, to George Pflug, marshal to the court of the elector at Dresden. Pflug, who was well affected to Böhme, was then on a visit at Görlitz, and having dispatched this manuscript to Abraham Wilhem von Beverland, a citizen and merchant of Amsterdam.

Upon the command of the senate he abstained from writing for seven years, after which he was moved again to write. The senate sent him a new command. The book which he left unfinished are put in parentheses.


The public opinion concerning this book was so decided, that many learned men visit him, with whom much conversing, he got the use of those Greek and Latin words that are frequent in his works.

Among the learned that conversed with him was a phy.
phican, Balthasar Walter, from Silesia, who had travelled in search of antient magical learning through Egypt, Syria, Arabia, &c., where he found such small remannts of that, that he was led thither to his death, and who became inspector of the chemical laboratory at Dresden. Having become acquainted with Böhm, 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 appellation of Wittenberg, or the city's name, to Böhm, and introduced him into English society. He presented a copy to King Charles I., who a month after said, if Böhm were no scholar, the Holy Ghost was now in men; but if he were a scholar, he was one of the best.

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Yet still tired with the prelate's incessant clamour, they sent letters for him again, and entreated him in love to love the court, and seek habitation elsewhere; which if he would do should hold themselves obliged to him for it, as an acceptable service. In compliance with this friendly request of theirs he removed from thence. After this upon a citation, Jacob Böhm came to Dresden, and by the presence of the princes and professors where were assembled six doctors of divinity, Dr. Hoë, Dr. Meisner, Dr. Balduin, Dr. Gerhard, Dr. Leyser, and another doctor, and two professors of the mathematics. And these, in the presence of his highness the prince elector, declared that he must renounce the high mysteries therein; and many profound queries in divinity, philosophy, and the mathematics they proposed to him. To which he replied with such meekness of spirit, such depth of knowledge and fulness of matter, that none of those doctors and professors returned one word of dis-approval or contradiction. The prince his highness much admired him, and required to know the result of their judgments in what they had heard. But the doctors and examiners desired to be excused, and entreated his highness that he would not impose his request on a man of the man had more plainly declared itself, for in many particulars they could not understand him.

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Soon after Böhm's return to Götting died his adversary, the pastor priest, who with Richter and Böhm himself died three months and a half later.

On Sunday, Nov. 18, 1624, early in the morning, he asked his son Tobias if he heard the excellent music? The son replied "No." "Open," said he, "the door, that it may be better heard." And afterwards he asked what the clock had struck, and said, "Three hours hence is my time."

When it was near six he took leave of his wife and son, blessed them, and said, "Now go I hence into Paradise;" and bidding his son to turn him, he fetched a deep sigh and departed. The new principium refused to preach at his funeral, deigning to be unwell, and his colleague, Mag-

ister Elias Theodorus, being compelled by the magistracy to preach on his death, began by saying he would rather a prisoner at the stake than preside over the church, who was, after this, consecrated to his post, and became inspector of the chemical laboratory at Dresden. Having become acquainted with Böhm, 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 appellation of Wittenberg, or the city's name, to Böhm, and introduced him into English society. He presented a copy to King Charles I., who a month after said, if Böhm were no scholar, the Holy Ghost was now in men; but if he were a scholar, he was one of the best.

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One of the most zealous supporters of Böhme's theosophy was John Bunyan, and he has left us the name of that, which has produced not only political but also theological martyrs. See 'Ad Philosopham Teutoniam..." (pp. 1-6).

The following title will show that the disputes about Böhme became very warm. 'A true state of the case of Mr. Hothers. The propositions and reasons of his appeal to parliament against the sentence of those members of the committee for reformation of the universities, who on May 23 last resolved the writing and publishing of his book entitled "The Petition and Argument..." led the boy to idea of revoking his fellowship, and himself to be deprived of his liberty 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 Götting persecuted Böhme during his life, and refused to bury his corpse until they were compelled by the magistrates not to disgrace the earthly remains of a man who had led a harmless life and always been in the service of truth. The admires of Böhme were for the greater part not professional divines, but noblemen, country gentlemen, courtiers, physicians, chemists, merchants, and in general, men who were eager in the pursuit of truth, and who did not miscarry in the handling of foreign formalities.

The persecutions raised against him brought Böhme first into the notice of man of rank, who took delight in conversing with the poor shoemaker and his followers, while universities and ecclesiastical courts enacted laws against his opinions, and his persecuted disciples appealed even in 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 "Concepts to all that Doubt or deny the 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 demonstrate in every thing its necessity by tracing its origin to the attributes of God. Consequently some of Böhme's phrases sound like the doctrines of Manichaeism emanation, and have been regarded by other theosophists as 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 have 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 state of philosophy with the beginnings of former ages. Life often produces mattersondrous, but he occasionally 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 derivation of the word "qualities" (i. e. quality) from the German "Qual," i.e. pain, and quale, i.e. well, fountains, sources. 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, of which the following is a judicious instance: "Böhme, who tried to introduce theosophy into Germany, is remarkable for the multitude of his patrons and adversaries. He derived all his mystical and rapturous doctrine from Wood's "Athenae Oxonienses," vol. i. p. 610, et "Histor. et Aniq. Academiae Oxoniensis," lib. ii. p. 308. Wood was but a pedant, and Böhme's death."
While recourse is had to these external applications it is indispensable to correct the disorderous state of the tumor. This may be accomplished by any of the remedies of mild alterative 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 plainsest kind, and consisting of a moderate portion of plainly cooked animal food, without fermented liquors, without pastry, and without fruit.

BOILEAU, NICOLAS, SIEUR DESPREAUX, was born at Cresost, near Paris itself, in Nov. 1, 1636, and was the eldest child of Gilles Boileau, first Registrar (Grokker) 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 our notice. Among the marks of the memory of the physician, which 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 qualities.

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. Under the regime of the latter office he celebrated the most conspicuous successes. He contributed to the foundation of the French Academy; but his entrance to that body was much opposed by a literary coterie, with which he lived in almost perpetual warfare; and Pelisson, Ménage, and George Scudery are mentioned among his most powerful adversaries. He died in 1685, and his death was more painted than it was felt. He afterwards cancelled, for having obtained a pension from Colbert, through the interest of Chapeilaine: but he has allowed a full epigram to be transmitted to us, in which, perhaps ironically, he extols the literary and oratorical talents of his fraternal enemies. They were reconciled, however, before the death of Gilles Boileau, which occurred in 1659. In his lifetime Gilles published a translation of the Enchiridion of Epictetus and of the Tabulet of Cebos, and another of Diogenes Laertius; a Latin and French commentary on the works of Homer; a translation of the works of Aesop, a transposition of a Latin idyll into a sonnet, and two other Latin verse compositions. He died in 1671, 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 signed names, as Marcellus Ancyrurus, Claudius Fonteius, Jacques Barnabé, &c. A complete list of his works appears in the preface of his Anthology, and we shall here mention only the one which is now occasionally remembered, Historia Flagellantum, sive de rector et perverso Flagellorum usus apud Christianos, Paris, 1700, 12mo. The word recto was inserted before this volume was reprinted, and seems to be a correction of the original title, which with 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 reprinted in 1732 with many omissions, much softening, and an historical preface. It has also been rendered into English by De Laubardemoy. The preface of Jacques Boileau which we have observed, show 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 bishop of the place, who made it a point of duty and the brilliancy of their master's exploits, appears to have been regarded by both of them as a sincere, unless so far as they contributed some illustrations to a Medallic History. So well however were Boileau's habits and manners adapted to the court, that he never changed his house at the fall of the sun, or gave his body to the care of any other physician than the one who had been engaged in the cure of a few colds, which in summer were particularly alarming. In the autumn of 1684 Boileau had the misfortune of encountering the King the desideratum of his historiographical colleague; Louis, who had his watch in his hand at the time, paid him the highest compliment of saying, that notwithstanding his many engagements, an hour in every week should be reserved for the enjoyment of his society. It is said that he admitted a member of the Academy, Twelve 'Epistles,' 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,' with a few original remarks on that subject, was published in 1703, in which year also appeared four cantos of the 'Lutrin,' a mock-heroic, suggested by the President Lamolignon. In the preface to the first edition, Boileau thought it prudent to deny that the arguments had any foundation. He had been accused of having written his own review of the work, and the whole truth, the Parisian Censor simply wished to have the harmless laugh which had been raised against them. Nevertheless, there were critics who fastidiously decried the rich comic vein which they wanted taste to appreciate; and in the 'Journal des Sceurs,' we find a critic, who, in his sentiments on the State of the French Poets, those who had not written in a language of the ancients, and who, in his opinion, were not worthy of the name of poets, concludes with the following remarks:—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 Episopate Benediction, which is altogether burlesque, and a little too much in the taste of the genre libelle, and literary...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 his pen. The 'Ode on the Capture of Namur' by Le Breton, upon whom he has given the most just praise, is really a translation...The preface and comment upon the 'Satires,' which, in a critical manner, suggests a delicate and judicious reading of them, is a most interesting piece of work...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 long career with a perfectly 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 them...No one who wished to do justice to his poetical works...and the high moral standard of his writings may be best estimated by the innocence of the very expressions to which the eminence of Perrault objected. Boileau in his '10th Satire,' while denouncing the Opera, speaks of the 'Puces de coq luxurieuse, and of the morals triflies, etc., etc.' These terms were always applied to the poet's works, and to his modesty; and the silly charge awakened no less a champion than Arnaud, whose letter, together with a grateful acknowledgment which it received from Boileau, is printed in the 'Dictionnaire de l'Académie française.' The 'Arcadian Conversation' 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 these,' answered Boileau, 'who themselves write bad verses against works so mis-
Ode thus more Rape and single B during order. him and Tales In almost church, Dana apart best are d'une third Lycee,' allowed forced Capture I which vantage were but, bounty, received by the version of Homer there can be little doubt that he would have shrank in dismay.

Yet, after all the assertions of minute criticism, Boileau deserves a much higher station than he is allowed by Fontenelle. From the respectable labours rendered by the version of Homer there can be little doubt that he would have shrank in dismay.

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 great imitators of the ancients; both, in the second half of the eighteenth century, were great renovators of the French language, and in both cases the characteristic of the one is the imitative faculty of the other; and yet, more literally, he declares that it is his intention "happily to steer From grave to gay, from lively to severe," as Boileau had already determined. "d'une voix plus grave, du doux, du plaintif un siécle."

Memory or observation will supply innumerable other close parallels; and the "Essay on Criticism" especially, one of Pope's most striking pieces, is applicable to the "Art of Poetry." A remark however which has been made of 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 seems, according to a forcible phrase of Le Broyer, créer les pensées d'autrui."

One striking example of inferiority is adduced by Warton. Pope says (and he says it weakly and obscurely, notwithstanding the concluding line has become proverbial)—"No sacred temple is it, but the simple churchyard; Nor is Paul's church more safe than Paul's church-yard; Nor to be alzared, these 'twill talk you dead; For both rash in which angels fear to tread.'"

This satire is forced and unnatural, whereas the passage from which it is borrowed was suggested by a real incident:

Gardez-vous d'imiter ce fumeur furieux, Qui de ses vains discours lectrice haranguera, Amoureuse en regardant quiconque en salle, Et pourroit de ses vers les passions dans la sache. Il vos auroit ses pensées de songes exposé, Qui oilt contre as mus le lieu de s'éter."

"which verses," says Warton, "allude to the impertinence of a French poet, called Du Perier, who finding Boileau one day at church, insisted upon repeating to him an Ode, during the hours of the Holy Eucharist, and his opinion whether or not it was in the manner of Malherbe."

The "Moral Essays" are immeasurably superior to the "Satires," inasmuch as Pope looked abroad into the world and upon mankind, while the narrower view of Boileau was circumscribed to Paris and the court circle of the Grand Monarque. Each has fallen in literary poetry, and it seems as if the expasions of the heroic couplet were indispensable for the development of their full powers, for the exhibition, if we may so speak, of their faces: yet Pope, happily for conjecture, has made his best effort on the narrowest epigraph, 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 graceful and judicious allusions. Indeed, two cantos are added to the other two more cantos with the luring particularization of Poetry and Justice. Of the sentiments which inspired the greatest effort of the English hard, the ' Eloise to Abelard,' Boileau, as we have already hinted, was perhaps less original, but more sure of his aim; and the whole of the version by the version of Homer there can be little doubt that he would have shrank in dismay.

Boileau generally produced the last verse of his most elaborate couplets first in order. In his second "Satire" occurs the following line—

"Ecrivez

Jean de Malherbe, en pièces Malherbe;"

La Fontaine, Miolère, and other critical friends desired of an appropriate rhyme to Malherbe, when he emunctured—

"Et transiisant censé fidei et le te verbe;"

La Fontaine was unperturbed, and declared that he would willingly barter the most celebrated of his "Tales" for this single discovery. Whatever may be thought of this exagerrated flattery, the anecdote at least proves that La Fontaine was by no means jealous of the silence which Boileau imposed on his writings, and regarding which he declared: "that there is a silence which La Harpe conjectures might arise from the scandal occasioned by the 'Contes' during one of the pitous fits to which the latter years of Louis XIV. were subject. Marmontel denies the sensibilité of Boileau. Voltaire, in one place, says that "he is more rich than in other things," in another, giving him the languid praise of being the correct author of a few good pieces, he neutralizes even this measured applause, by adding that he was the Zoisius of Quinaut, the Gargantua of Louis; and finally, he contradicts himself by stating in another place that "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 such a degree as to be strongly agitated and produce much vapour, they are said to be boiling. In a bell-jar, for instance, if air be heated, all the air that is in the bell-jar will be driven out: and this is called "boiling." Under similar circumstances the temperature at which this occurs is always the same in the same fluid, and is called its boiling point, being the greatest heat which the fluid is capable of acquiring; when the vapour which rises from a 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 in the fluid state, and which may be made to boil: thus when certain fixed oils are heated, instead of being converted into a vapour condensable again into oil, they suffer decomposition and yield inflammable gas; and the greater number of the metals, when heated and re-
dered fluid, suffer no ebullition, because they are incapable of being vaporized.

The circumstances attendant upon the boiling of water will supply a 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 nearest 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 then ascend. 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 escape constituting steam, which, being transparent and colourless, is consequently formed in 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 current barometric pressure.

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 the boiling fluid is lowered, and 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, even in the same thermometer.

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 the atmosphere, and the following table contains a statement of his results:

<table>
<thead>
<tr>
<th>Barometer</th>
<th>Boiling point.</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 inches</td>
<td>204.91</td>
</tr>
<tr>
<td>25.5</td>
<td>205.79</td>
</tr>
<tr>
<td>27</td>
<td>206.57</td>
</tr>
<tr>
<td>27.5</td>
<td>207.55</td>
</tr>
<tr>
<td>28</td>
<td>208.43</td>
</tr>
<tr>
<td>26.25</td>
<td>209.31</td>
</tr>
<tr>
<td>29</td>
<td>210.19</td>
</tr>
<tr>
<td>30</td>
<td>211.00</td>
</tr>
<tr>
<td>30.5</td>
<td>212.08</td>
</tr>
<tr>
<td>31</td>
<td>213.76</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 it rises or falls alters the boiling point of water 0.176 of a degree of Fahrenheit's scale.

Dr. Thomson (Heat and Electricity, p. 207) states that since the year 1817 to 1819 (both inclusive) the barometer has never been higher in Glasgow than 30.6 inches, nor lower than 28.417 inches, so that the boiling point of water has varied during that period from 213.409° to 209.164°, or almost 4° 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, Saussure found water to boil at 178° Fahrenheit, or 59° 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 an air-pump, and quickly exhausting the latter. Another, and very simple method of producing the same effect is to boil some water in a Florence flask; cork 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. M. Warton (Phil. Trans. 1817), an elevation of 300 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 high boiling point which was observed there. Professor Robison states that fluids boil in vacuo at 149° lower than under atmospheric pressure; consequently water so circumstanced will boil at 72°. Dr. Thomson informs us that he has seen water boiling briskly at 90° in Mr. Barby's apparatus for distilling oil in.

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.

It was then observed that water 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 a 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 442°. A more convenient apparatus for this purpose is that of the late Dr. Marcl. In this the pressure is indicated by the height to which the steam raises a column of mercury, and the temperature is shown by a thermometer. (Dr. Henry's Chemistry, vol. i. p. 196.)

According to Southey's experiments, the following chemical substances produce the annexed pressures and temperatures:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Pressure (inches)</th>
<th>Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen</td>
<td>30</td>
<td>212</td>
</tr>
<tr>
<td>Oxygen</td>
<td>27</td>
<td>205.3</td>
</tr>
<tr>
<td>Carbon</td>
<td>25</td>
<td>209.4</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>23</td>
<td>213</td>
</tr>
<tr>
<td>Air</td>
<td>21</td>
<td>217</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 scalding like atmospheric steam, that it may be received upon the hand without its causing any unpleasant sensation. If water be 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 besides those already noticed, though 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 those surfaces in which evaporation takes place, and consequently depends on their conducting power and the polish.

Dr. Bostock also found (Annals of Philosophy, vol. xxv. p. 198) that the boiling point of water is materially influenced by the presence of red violets. In a solution of common salt was placed over a lamp, and gradually heated up to 226° when it boiled strongly; a test tube, containing water deprived of air by boiling, was plunged into the heated urine, and in a second or two it began to boil, the urine having then a temperature of 210°, and the brine soon ceased to boil, but the ebullition continued in the water for some time longer; it subsided at about 210° or 217°, but was constantly renewed by dropping in pieces of cedar wood. The brine was again placed over the lamp, and the tube again plunged into the boiling 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; and the fragments of wood were then dropped in, and a much very much increased the ebullition; and it was K 2.
the water, kept at this temperature, had its ebullition pro-

rompted or suspended, according to the presence or absence
of the extraneous bodies. Dr. Bostock concludes that in
water in the presence of boiling point occasioned by the cir-
cumstances described amounts to 4° or 5°, but in other oc-
casionally 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 every one increases and
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 point increase in °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphate of soda</td>
<td>5</td>
</tr>
<tr>
<td>Nitrate of barytes</td>
<td>26</td>
</tr>
<tr>
<td>Sulphate of potash</td>
<td>17</td>
</tr>
<tr>
<td>Sulphate of lead</td>
<td>20</td>
</tr>
<tr>
<td>Sulphate of potash and copper</td>
<td>40</td>
</tr>
<tr>
<td>Chlorate of potash</td>
<td>40</td>
</tr>
<tr>
<td>Alum</td>
<td>52</td>
</tr>
<tr>
<td>Sulphate of magnesia</td>
<td>57</td>
</tr>
<tr>
<td>Common salt</td>
<td>30</td>
</tr>
<tr>
<td>Tartrate of potash</td>
<td>68</td>
</tr>
<tr>
<td>Sulphate of nickel</td>
<td>65</td>
</tr>
<tr>
<td>Murite of ammonia</td>
<td>50</td>
</tr>
<tr>
<td>Nitrate of potash</td>
<td>74</td>
</tr>
<tr>
<td>Tartrate of potash and alum</td>
<td>90</td>
</tr>
<tr>
<td>Sulphate of soda</td>
<td>60</td>
</tr>
<tr>
<td>Acetate of soda</td>
<td>60</td>
</tr>
<tr>
<td>Acetate of soda</td>
<td>60</td>
</tr>
<tr>
<td>Sulphate of ammonia</td>
<td>52</td>
</tr>
<tr>
<td>Bisulphate of carbon</td>
<td>113</td>
</tr>
<tr>
<td>Acetic ether</td>
<td>160</td>
</tr>
<tr>
<td>Bi-carbonate of potash (1.5%)</td>
<td>212</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>

In these experiments it is stated that dry salt was used,
but as it is not mentioned whether the salts were or were not
air-dried, it is impossible to draw any very satisfactory in-
ferrances 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 murite of
ammonia raise it 24°; but if quantity alone produced the
effect, it should have required 60 parts of murite of am-
monia.

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>Muriatio ether</td>
<td>52</td>
</tr>
<tr>
<td>Sulphuric ether (sp. gr. 0.7355 at 48°)</td>
<td>113</td>
</tr>
<tr>
<td>Bisulphate of carbon</td>
<td>113</td>
</tr>
<tr>
<td>Acetic ether</td>
<td>160</td>
</tr>
<tr>
<td>Bi-carbonate of potash (1.5%)</td>
<td>212</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** 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 the
Napoleonic government was declared in 1810 to be united to
the French empire.

**Bois-le-Duc** is situated near the confluence of the rivers
Domnael and Aa, the waters of which after their junction
receive the name of the Dient or Dieze, and flowing to the
north-east, divide itself into numerous branches, forming
bridges. 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 principality of Bois-le-Duc, is a handsome building, resem-
bling the Stadt-huis 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 Romish, and two to the Reformed religion. St. John's
Church is one of the finest in the kingdom: its foundations
were laid in 1286, 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 handed since 1629, 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.

The town is situated on the left bank of the river, near a
statistical town, and is the seat of the Dutch government in
1829, the population of Bois-le-Duc in the
winter, 1814, amounted to 13,071 souls. During twenty-five
years, from 1790 to 1814, the number of births was 11,885,
and of deaths 11,932, showing a rate of mortality of 1 in 27,
the gradual diminution of the population of the town.

The town contains an academy of painting, sculpture, and
architecture, and a grammar-school, in which Erasmus and
Gravesande received instruction in 1704, and afterwards
probably be attributed to the marshy nature of the surrounding
district.

The town is situated on the west coast of Africa, 25° 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 extends from the westward of Cape Verde,
being flat, that one of the most distant points is known to what
distance. This ridge is called by the Moors
Jebel 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 can see a mile into being
water over the knees. Vessels consequently strike at a very
considerable distance from the beach. Besides, this low
cost 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 much more extensive. In the north, Cape Verde, Cape
di Cape Verde Islands, and his explanation is hardly admis-
sable in the latter instance. The danger caused by the
combination of such disadvantageous circumstances is still
increased by the currents along the whole coast from the
Straits of Gibraltar to Cape Blanco, 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 these islands from the continent, but are here
replaced by a constant wind from the land, and it will be evident that the dangers which here await
the unwary navigator are of no common description. It
sometimes happens that a vessel strikes on the sands of this
coast, which to the captain thinks he is about to make the
Great Canary or Tenerife; and Jackson says it has
been ascertained that so many vessels are wrecked on a coast which is not
visited for the purpose of trade, except by a few fishing
halfs from the Canaries. Jackson says that he knew of
thirty vessels, some 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 lose their lives ashore fall into the hands of the Moors, and have to undergo all 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 took the gil-nadores in the beginning of the fifteenth century employed eighteen years in discovering the coast between Cape Nin and Cape Bojador. Though the former had been built in 1415, it was not till 1432 or 1433 that Gávies succeeded in passing the gil-nador. The Portuguese name for the Portuguese verb boiar, which signifies to bond outwards, and make a convex projection, and hence it is applied to a part of a coast or a cape, which projects into the sea in a rounded form. (Barros, Dec. 1. liv. c. 2.; Rennell's Geographical Division of the Currents, and Jackson's Account of Morocco).

BOJARDO, MATTEO MARIÀ, Count of Scandiano, was born at Scandiano in 1434, of a noble and antient family. His ancestors were lords of Rubiera, a small town near Reggio, which in 1474 became his possession. Boyardo was a man of marked talents; he wrote in Greek and Latin, and was one of the nobles of the papal court, to which he was attached in 1471, when Pope Paul II gave Boro the investiture of the dukedom of Ferrara. After Boro's death, which occurred the same year, Bjorjado enjoyed the friendship of his successor, Duke Cesare. In 1472 Boro married Taddeo, daughter of the Count-Nevidella of the house of Gonzaga. In 1473 he went to meet and escort Ferrara Ercole's bride, Eleonora, daughter of King Ferdinand of Naples. In 1478 he was made governor of Reggio, and in 1487 he was made Duke of Reggio. He died at Reggio, 20th December, 1494, and was buried in the church of Scandiano. His administration is recorded to have been equitable and mild: he was averse to the Inquisition and especially to that of death. His attachment to the Duke Ercole appears to have been personal and sincere, as we are to judge from his writings. Boyardo was a wealthy noble who had a small court of his own at his castle of Scandiano, and the tone of his poetry bespeaks his independence and lofty bearing. He was a valuable specimen of the later generations of the feudal barons of Italy, before French invasion and Spanish conquest transformed them into servile courtiers.

Boyardo wrote a comedy, 'Il Timone, which is partly taken from Aristophanes, and was translated into Italian by the Golden Ass of Apuleius, and Lucian's dialogue of 'Juncus or the Ass.' He likewise translated Herodotus and Xenophon's 'Cyropedia,' which latter however has never been printed.

Boiardo wrote many lyrical pieces of considerable poetical merit, which were published after his death: 'Sonetti e Canzoni,' 4to. Reggio, 1499. He also wrote some Latin as well as Italian eclogues, which Venturi has lately published for the first time, together with a selection of his letters and the introduction to his Historia di Molto e di Berto di Boiardo, 8vo. Modena, 1820. But the work for which he is best known is the 'Orlando Innamorato,' a romantic poem in ottava rima, in sixty-nine cantos. Boyardo took for his subject the fabulous wars of Charlemagne against the Saracens; the theme of many an old legend and romance, but he placed the scene in France and under the walls of Paris, which he represents as besieged by two hosts of Infidels, one from Spain and another which had landed from Africa on the south of France. He adopted Orlando, the Roland of the French romancers, for his hero; but while others had re-presented him as the champion of Christendom, passionate and above all, Bjorjado makes him fall in love with Angelica, a consummate coquette, who had come all the way from Milan to the French court, but his love of the language of love and flattery in his poem. His lordly style is very different from the easy though nervous simplicity of his contemporary Pulci, who composed his 'Morgante' for the amusement of the domestic circle of Lorenzo de' Medici, a citizen of the city of Florence, and promised Ferrara, as well as in the other Italian principalities of the time, 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 Bjorjado, owing to his birth and rank, was well 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 Bjorjado 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 breaking off of the story. He introduced the story of the third book, when the author was perhaps hardly lived at the middle of his narrative. Bjorjado himself accounts for this interruption by alluding to the 'Gallic storm' which was then bursting upon Italy, and scared away his romantic muse.

Mentre ch'io canto (oimé Dio raddonora) Veggio 'l'Italia tutta à Samma e à foco Per peccato e non à questo lato Vengo per disiar nò e che loco; In questa la mia canzone amor Di Fiorentina ardire à poco a poco. Un alta fara, se mi la concerto, Raccontando il totio per terra. (Last stanza of the last canto of the 'Innamorato'.)

Boiardo was writing this towards the close of 1494, when Charles VIII., with a formidable army, had just invaded France and was marching to the conquest of Naples. He entered Florence in November, sparing no punishment everywhere before him. On the 20th of the following December Boiardo died at Reggio. The subject of his poem was afterwards resumed by Ariosto. [ARIOSTO.]

In the first volume of Scuderie containing sixty cantos of the 'Innamorato,' were printed at Venice in 1496, and considerably expanded and again joined together with the nine cantos of the third book, which were all Boiardo wrote, at Scandiano in 1495, under the direction of Count Camillo, his son. Several reprints were issued in the next two centuries at Ravenna, Verona, and at Milan, all more or less incorrect. Nicolò degli Augusti, in his edition of the 'Innamorato' in three books, which however is very inferior to the original. In 1542 Lodovico Domenichi published an edition of Boiardo's 'Innamorato' with many verbal and orthographical corrections. But before this, Berni had written his 'Rifacimento' to the 'Innamorato,' which was published in 1541-2, and obliterated the editions of the original poem of Boiardo, the copies of which became very scarce, and the very name of Boiardo was almost forgotten. For three centuries of unmerited neglect, a new and correct edition of Boiardo's text of the 'Innamorato' has been lately made by Panizzi, with notes and a life of Boiardo, London, 1831.

Boiardo wrote also a sort of chronicle of the dark ages of Charlemagne, or rather of his seven crusades, the wars of the Normans and Saracens in South Italy, Sicily, and the 'Istoria Imperiale di Riccobaldo Ferrarese tradotta dal Latin.' He called it a translation from Riccobaldi, a chronicler of the thirteenth century, but it is, in fact, a compilation, compiled from and after the work of Bourbon, sive Historia Universalis, and partly from other sources. Murer, in his 'Ital. Scriptores,' has published both Riccobaldi's 'Pomerium' and Boiardo's 'Istoria Imperiale.' The latter contains many strange historical blunders and anachronisms, which serve rather to magnify the ignorance of the age than to render the knowledge was in Boiardo's time, while they threw much light upon these popular and confused traditions which gave rise to the stories contained in the romantic poems of Italy, and especially in the 'Innamorato.'
The castle of Scandiano, which still exists, though in a dilapidated condition, is now used as a storehouse for corn. The town of Bojardo, on the south bank of the Ticino, has long been considered as a favorite place of residence for the ducal family, assisted by Venus and Cupid, with the legend "Amour vincit omnia." (Museum Mazucchelitum, tom. i. tab. 29.)

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This country, which by the Greeks and Romans was called Sogdiana or Transoxiana, and by the Persian and Arabian authors of the middle age was celebrated under the name of Mervanishahr, borders on the north on an extensive desert called Kizil Koom, and on the north-east is divided from the khanat of Khokand by the mountain-range of Akb. dagh. The small khanats of Ramid and Hiser separate it from Badakshan on the east; and on the south it is separated from the highlands of Afghanistan by the khanat of Koomeen and the desert of Khashan or Desh Khan, which extends farther north on both sides of the river Amoo (Amoo-Deria), joins the desert of Kizil Koom and separates Bokhara from Khiwa.

Bokhara forms the south-eastern corner of that remarkable depression which extends northwards to Saratow on the Volga in Southern Russia, and southwards to the Hindoo Koosh. The surface of this extensive depression, which occupies a parallel strip to the north-east of the Caspian Sea and those surrounding the Sea of Azof, on all sides to a great distance, is nearly a desert, the soil of which is commonly a stiff clay of great aridity, covered here and there by sandy hills of small elevation. Bokhara partakes of the disadvantages of such a soil. Being surrounded by high mountain-ranges at a short distance on the east and south, it enjoys a considerable supply of water, by means of which the industry of the inhabitants has changed considerable tracts into fertile fields and beautiful gardens.

Neither the great range of mountains which border the high table-land of the Chinese province of Thian Shan Nanlu on the west, and on our maps are called Bolor Tagh, but more properly Tartash Dag, nor the range of the Hindoo Koosh, has extended to the south of the same river about the same distance, if not farther, west. These ridges, and a few others of less magnitude, make at least one-fourth of Bokhara rather mountainous, and supply the remainder of it with the water of several rivers which descend from the surrounding mountains. One of these, on which small insulated hills rise to the height of from eight to twenty feet, sometimes extending only a few yards, and sometimes a hundred or even two hundred. These hills, as well as the hills on which they stand, are composed of clay, covered with moving sand which forms hills in some places, but these hills are of a different form and still lower.

This plain is also uncultivated, except along the banks of the Zendas, and the hilly fields on the Bokhara side extend sometimes to a distance of only half a mile, but sometimes to ten miles. The three principal rivers, along which perhaps nine-tenths of the cultivated lands are situated, run from east to west, and are the Zur-ulshan, the Kushan, and the Amoo-Deria.

The Zar-afshan, called also Kohik, and formerly Sogd, rises in the high mountains, where the Akh-Tagh and Kasa-Tagh branch off from them a great distance east of Samarac, and first traverses the valley formed by these two ranges. Near Samarac it enters the plain, and between that place and the town of Bokhara it fertilizes the Meeankal, the most populous, rich, and fertile district of the whole country. Before it reaches Bokhara it divides into two branches, of which the northern, called Vakend, after flowing about 240 miles through the desert, is at last exhausted and lost in the clayey sand. The southern branch passes the town of Bokhara to the north at the distance of six or seven miles, then declines to the south, and terminates at a distance of about twenty miles from the coast, where it forms a large lake, called Zar-afshan (the lake). This lake, which is about twenty-five miles in circumference, is surrounded on all sides by sand-hills. It is very deep and its water is salt, though its only feeder is a fresh river. It is connected with the river Amoo by some small canals of irrigation, which terminate in the river near Chard-joee.

The Kaska or Kurshee rises in the Kara-Tagh nearly in the meridian of Samarac, and passes through Shahr Suz and the town of Kurshee, below which it is exhausted and lost in the desert. The district of Shahr Suz yields rich crops of rice and cotton, and the neighbourhood of Kurshee is covered with gardens and orchards.

For a description of the river Amoo, we refer to the article Oxus. We shall here only observe that the fertile lands along the Oxus and in the district of Kherman and Kharism extend to Chard-joee, upwards of 200 miles, and those along the Kaska probably more than sixty: along the Amoo they are not continuous, but frequently interrupted by uncultivated lands. The most fertile district on the banks of the Oxus is in January, which then appears to be a great depression.

The climate is regular and constant. The summer commences at the beginning of March and lasts till October. In this season it does not rain: the thermometer rises in the cultivated grounds to about 90°, and in the deserts to 100°. The nights are cool. October is the first season of rain, which continues for two or three weeks. In November and December it begins to freeze a little, and sometimes a small quantity of snow falls; but even in the latter month some fruits, as melons, are left in the gardens. The coldest month is January, in which the temperature generally falls to twenty-seven degrees of Fahrenheit, and sometimes, though not frequently, to six. Occasionally the snow covers the ground for a fortnight. The rains begin again on the 7th or 15th February, and last to the end of this month. They are not heavy, and cannot produce a considerable degree of warmth, and in a few days vegetation has attained full vigour. The mildness of the climate shows that the surface cannot be at any considerable elevation; probably it is not more than 800 feet above the level of the Caspian, and that much of the land is in a state of natural summer violent storms blow more especially from the N.W., which raise a great quantity of fine sand, by which the atmosphere is so filled, that it assumes a grey hue like a fog, and distant objects become invisible. In the desert, travelers are not able to distinguish objects which are only a few steps distant. To these winds may be attributed the frequency of ophthalmia among the inhabitants: that this disease is very common is proved by an hospital for blind persons which exists in the town of Bokhara. In other respects the climate is healthy.

The industry of the natives is most conspicuous in the cultivation of their lands. The larger and the smaller canals, both of which are numerous, must have required a great deal of labour when they were first made, and they are still kept up at a considerable expense. Besides this the agricultural labour is rather more difficult than in Europe. The irrigation of the fields can only be effected in winter, from December to the middle of March, and in summer when the rivers are supplied with water by the melting of the snow on the surrounding mountains. The rice in the Zar-afshan is dry for three or four months in summer. Rice is only cultivated in the Meeankal and in Shahr Suz; the rice of Shahr Suz is more esteemed than that of the Meerakal. It is a more valued than that brought from India. Wheat is sown in autumn, and cut in July; and di-rectly afterwards the ground is prepared for peas, which give...
a crop the season. Burnes says that 'south of the
Oxus the wheat yields a crop for three successive
years. Where it is dug few inns 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 is reaped a third time. The
other grains which are cultivated are barley and jawaree (Holcus ciliarinarus). At
Quetta the quails are roasted to a red cox with the
jawaree 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 fibre; it serves only to produce
an inebriating drug, called in India bang, and from its
seed oil is pressed. The latter is also obtained from
the seed of cotton and the sesameum.

On the low hills near Kurshee and Balkh is a small yellow
druid, which is used as a dye, and produces
a yellow colour than the rind of the pomegranate.
The creeping roots of the vine yield a colour that is dark-red, and
in some used as madder, which is also raised. Indigo
is imported from India. Sugar is not grown, but a sac-
charine gum exudes from the shrub called the camel's
thorn, which is collected and used as sugar very extensively.
Tobacco is cultivated in many places that of Kurshee
is the best.

The vegetables raised are turnips, carrots, onions, rad-
ishes, and a variety of greens; the best roots are cultivated
in extensive fields.

Bokhara is celebrated for its fruits, but more for quantity
than quality. The orchards contain the peach, plum, apricot,
cherry, apple, pear, quince, walnut, fig, pomegranate, mul-
berry, and several others; but these are inferior to that of Persia, only excepting the apricots of Balkh. There are several sorts of grapes, and some of a very
fine flavour. The raisins prepared here are inferior to any in the world; but the wines of Bokhara have few flavour.

This wine is accounted for by the unusual quantity of
making of them; for some persons who have paid more at-
tention to their preparation have obtained wines similar to port and hermitage. Mulberries are dried like raisins, and
a syrup is extracted from them as well as from grapes.
The grape, the great fruit of the country, with mulberries, apricots, and cucumbers are raised. Of melons there are two different species, and some of them grow to such a size, that they measure four feet in circumference: in taste they surpass the celebrated fruit of Isfahan. A kind of molasses is ex-
tracted from melons; Bokhara appears to be the native
country of this fruit.

The mountainous portion of the country yields timber,
which is floated down the Zar-afshan as far as Bokhara and
Kara-kool in rafts. In the plain only willows and poplar are
raised, and the quantities that are brought to the centre
are insufficient.

Sheep and goats constitute one of the principal riches
of Bokhara. The sheep have large tails, which sometimes
grow to such a size as to yield fifteen pounds of tallow. A
peculiar description of sheep has a jet-black curly fleece,
which is esteemed in western Asia and eastwards, and
can be twisted. It is peculiar to the district of Karakol, and
cannot be transplanted to other places without degenerescing.
The skins of the male lambs are most highly prized, and the
lambs are commonly killed a few days after their birth,
whereas the wool is not sheared. The annual export of these
skins amounts to about 200,000. The goats of Bokhara
are the same kind as those of the Kirghis: they yield a
shawl-wool only inferior to that from Tibet.

Camels are numerous but high-priced, on account of the
continued demand, all the traffic of the country being car-
ried on with them. They shed their hair in summer, from
which a water-proof cloth is made. The camel with two
humps is frequent: it is lower than the donkey, yet
bears greater burdens by 140 pounds; the one carries 640,
and the other only 500 pounds English.

Horses are not raised in Bokhara, but are brought from
the desert of Desht Kowan, where the Toorkmans have a
deeper breed, more remarkable for strength and swift-
ness than beauty. The borole cattle are of moderate size
and the Toorkmans bring hutter to Bokhara in sheep-skins.
The asses are large and strong, and

Bokhara being situated between the two elevated table-
lands of Asia, has frequently been invaded by the nations
who inhabit the Pamirs and Tarim. The advantage 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, Bumes, Goldies, Kurshe, and Kara-Kalpakas, Jews, Afghans,
and Gipsies.

The Uzbekks 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
conquest of the country by the Persians, there was a race
which was known by the name of Tartars, but is not in
the eastern desert, but in the western desert of Persia.
The characteristics of their face are a flattened nose, projecting cheek-bones, narrow eyes, which
freely have a more oblique position, and are very little heard.
The Uzbekks partly continue the same life which the
whole nation led before their arrival in Bokhara; others are
employed as officers by government; and a few apply them-

The Tadjicks consider themselves as the aborigines of the
country, and apply themselves to commerce, manufactures,
and all the mechanical arts. They are employed in
the great trade of Nishni Novgorod are there called
Bokharis, but they are Tadjicks.

The Toorkmans, Kirghis, and Kara-Kalpakas belong to
the Turkish nation. The Toorkmans inhabit the desert
area to the east of the Amoo river, and the Kara-Kalpakas
on the Bokhara only when it suits their
interests. The Kirghis and Kara-Kalpakas are few in number, and live north of the Zar-afshan, and in the vicinity
of Bokhara.

The Arabs and Persians settled here at the time
when this country was subjected to the kalahs 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 Turtg Mongols abandoned Russia and emigrated
to Zungaria, or the Chinese province of Chian Shan Peu.
The few Afghans and Lezghins in Bokhara are said to be
the descendants of hostages which were brought here by
the famous Timur when he subjected their respective
countries. Both at present speak their own languages.
The Jews and gipsies have settled here voluntarily.

Meyendorff, who visited Bokhara in 1830-21, estimated
the whole population at nearly two millions and a half,
approximately 500,000; Tadjicks, 650,000; Toork-

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mansas, 200,000; Aral, 50,000; Persia, 40,000; Mongolia, 20,000; Kirghis and Kama-Kul, 10,000; Tadjik, 400,000; Afghan, 400,000; gipies, 2000; total, 2,476,000. 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 live in the natural life would amount to about a million. But there is no doubt that these tribes are illiterate, and that they are practically without a government. The most important of the cultivated districts are those of the Sinkiang, and in consequence the chief population of the province is in these districts.

The most remarkable edifices of Bokhara are the mosques, of which there are about 300 in the town alone. The principal mosque, named Mesgidi-Kalan, stands opposite the town gate, and is the largest in the whole province. It is a palace, and occupies a square of 300 feet. It is about 100 feet high. On the front bricks of different colours are so disposed as to form different designs of flowers tied together, and others contain sentences of the Koran. The prevailing colour of these bricks is blue, but those of the inscriptions are white. Some mosques are only built of earth.

Attended to the principal mosque is the minaret of Mir-gonbad, which is in 150 feet high, and its base upwards of seventy feet in circumference. It diminishes in width as it rises, and Meyendorff considered it the finest monument of architecture in Bokhara.

Bokhara contains a greater number of colleges, called medresses, than any other town in the Persian dominions, and partly on this account it is called El Sherifiah, the saint, or noble. The number of medresses amounts to sixty, great and small, a third of which, according to Burns, contain upwards of seventy students, but many of them have only ten. These edifices are generally in the form of a parallelogram, two stories high, and enclose 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 used as dormitories for the students, who live at a certain yearly maintenance from the college. The medresses have considerable revenues, the whole of the bazaars and baths of the city having been erected by pious persons, and left for the maintenance of the medresses and mosques.

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 shreds. Some of them are of large dimensions: generally they are square, and some have an oval area.

As Bokhara is the most commercial town of Central Asia, much has been done to facilitate the sale and transport of merchandise. There are fourteen caravanserais, all of them built on the same plan, though of very different dimensions. These caravanserais are square, and have a court-yard, with a room closing 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, the goods are exposed to sale, with the exception of wodden goods, which are sold in large edifices built for that purpose. Several of them, consisting of some hundreds of small shops, contain only the goods which are manufactured in the town, and others the cotton, 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 goods of every country, and at the greater part of the place is a market, in which the ruits of the country, consisting of grapes, melons of an extraordinary size, apricots, apples, pears, and plums, are sold; here likewise are exposed to sale the grain of the country, as rice, wheat, barley, barley, cotton, and silk, &c., in short all the necessary 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. On the Segistan a stranger may converse with Persians, Jews, Turks, Russians, Tadjiks, Chinese, Mongols, Cosacks, Hindoos, and Afghans, besides the Tadjiks and the Uzbeks, 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 artisans. The number of Jews and Hindoos settled at Bokhara is considerable, and they are chiefly engaged in the trade of barter and the manufacture of woolsens, spices, and rhubarb; they take back the common shawls of Persia, used in Bokhara as turbans, girdles of a yellow colour, wooden combs, carpets, and turquoise. About 15,000 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 Deris, which it crosses at Khojusulus. Hence it turns eastward, and passes through Baluchistan, and from which latter place it runs southward along the river Khoolooz, into the province of the Punjab, which extend to the neighbourhood of the town of Cabool. Before it reaches that town it traverses the valley of Bannee. This road and its continuation through Peshawur, Attock, and Lahore, connects Central Asia with India, but it is less frequented, and there is consequently more of the settled 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 Hindus of the Punjab and Shikarpore. They import shawls of Cashmere and Cabool, silken brocades, fine muslins, pearls, and precious stones, and a great quantity of indigo; and export raw cotton, paper, iron, copper, glass, cochineal, and some of the drugs manufactured in the country. (Meyendorff and Burns.)

BOLBEC, a town in France in the department of Seine Inferieure (Lower Seine) on the road between Lo Hare and Rouen, 17 miles from the former, and 34 from the latter; it has 9,949 inhabitants; 700 horses, and 1,150,000 francs of annual revenue.

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 Dames et de la Condition feminine, says that the inhabitants were divided into two classes: a poor poor, and a poor of some 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 has been the great cause of its prosperity. "A few years since and Bolbec was only a poor little country town ('une faible bourgade'); it is now one of the most important manufactories of cotton cloth in France, and is very rich in wool and linen; but it does not appear to greatly exceed 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 of cotton yarn, a branch of manufacture which, in 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>Value of goods produced.</th>
</tr>
</thead>
<tbody>
<tr>
<td>886</td>
<td>2,481,600 francs.</td>
</tr>
</tbody>
</table>

In spinning:
- preparing 2,350
- weaving 11,226
- the manufacture of printed calicoes 2,410
- tanning 34

Valuing the pound sterling, according to M. Balbi's table, at 23.24 francs. To the productions of the industry of Bolbec already mentioned may be added cutlery, lace, covers, and ticking for beds, linen and cotton handkerchiefs, woolsens, hosiery, 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 the town is famous for its manufacture of hemp. It makes much hemp and linen, and its manufactures are sold in merchant ships. The raw material for their manufactures is obtained from Havre, their coal from the districts of Pécamp 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 directly to the various parts of the colonies. (Duperin; Robert; Dictionnaire Geographique; Reichard, Descriptive Road Book, &c.) There is a considerable market for horses. The population by the census of 1832 was 8703 for the town itself, or 9630 for the whole of Bolbec. Before the Revolution, Bolbec had a prioria in the nomination of the abbots of Bernay.

The industry of the district in which Bolbec is situated may be estimated from the table given above, from M. Dupin. It is further shown by the fact that the little river Bolbec, which does not probably exceed ten miles, supplies water, or acts as the moving power to 113 different works. It passes the towns of Bolbec and Lillebonne.

BOLBOCERUS (Entomology), a genus of coleopterous insects of the family Geotrupidae, Scarabceus of Linnæus. 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 has merely a tubercle in the same part; the horn, which has generally a prominently small, or tooth-like processes, arranged in a transverse line on the anterior part; the antennæ are eleven jointed, the three terminal joints form a compact round knob, the middle joint being almost enclosed by the others; one mandible is armed with teeth, the other is simple; the anterior portion of the mentum is entire; the elytra are striated.

These insects live upon dung, and excavate cylindrical holes in the ground under the mass, in which they deposit their eggs enveloped 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 but two species have occurred, B. mobilicornis and B. testaceus. B. mobilicornis is of a pitchy black colour, and B. testaceus almost like to the former, but the male sex has a recurved horn; antennæ 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.

The body is of a purplish brown colour; head with two tubercles; thorax sparingly punctured; elytra with punctured striae. About the same size as the last, of which by some it is supposed to be a variety. Both of these species are very rare.

BOLCHOV, a circle in the northern part of the province of Orel in European Russia; between 53° 43' and 54° 50' of N. lat., and 34° 56' and 36° 26' of E. long.; it is watered by the Oka, Nurga, and Bolchowka, possesses a soil well adapted for the growth of grain, and is chiefly valuable in an agricultural point of view; it is well peopled, and a portion of the inhabitants are employed in stock-breeding; the Bolchow stocking indeed find their way into distant markets in Russia. Bolchow, the chief town of this circle, is the most considerable place in the whole province of Orel only excepting the town itself. It is situated at the confluence of the Nurga with the Bolchowka, the first of which streams falls into the Oka about ten miles E. or W. of the town.

Though all the houses, with the exception of six, are of wood, it is well built. Its foundation is of remote date, for it was an ancient family possession of the Russian sovereigns, and is known to have suffered great disasters during the inroads of the Crimean Tartars, as well as in the civil wars with which Russia has been distracted at various periods. It contains twenty-two churches, fourteen of which are of stone, and the remainder are of wood. It is situated at the confluence of the Nurga and Bolchowka, and the first of which streams falls into the Oka about ten miles E. or W. of the town.

BOLE. An earthy mineral which occurs in amorphous masses in various countries, as in Armenia, Saxony, in Tuscany, at Sienna, in Ireland, and in Scotland in the Isle of Skye.

The colour of bole is various, either yellow, brown, red or brownish, and pitch black; it is dull, has a greasy feel, and adheres to the tongue. Its fracture is conchoidal, yields to the nail, and the streak is shining. When put into water it readily absorbs it, emits bubbles of air, and falls to pieces. The Armenian bole, according to Wegel, consists nearly of:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica</td>
<td>63.13</td>
</tr>
<tr>
<td>Alumina</td>
<td>22.67</td>
</tr>
<tr>
<td>Iron</td>
<td>11.00</td>
</tr>
<tr>
<td>Loss</td>
<td>3.20</td>
</tr>
</tbody>
</table>

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 terra sigillata: these were impressed on one side with the figure of a goat, &c. According to Pliny, they are procured by Klaproth.

These earths were formerly employed as astrigent, absorbent, and tonic medicines. They might be slightly serviceable as absorbents, in the same way as putty powder is used in the present day, when sprinkled over oozings 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 disrepute; they are still however employed in the East, and occasionally as veterinary medicines in Europe, where they are used as the materials of the earths of China, the Indian, the Turkish, &c.

Bole is the name still retained for various kinds of earths, and is usually employed as an astrigent for the cure of dysentery by the inhabitants of Senegal.

BOLETIC ACID was first procured by Braccanot from the boletus pseudo-igniarius by the following process: the expressed juice is to be evaporated as the consequence of using 5° of alcohol, 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 the precipitate and filtrating 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 calcareous salt, and by evaporating the solution pure crystals of boletic acid are procured.

Boletic acid is colourless, crystallizes in four-sided prisms; its 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, between the teeth. It is soluble in 180 parts of water at 68°, and in 1 part of alcohol. By heating the greater part of it is sublimed either in prismatic crystals or in fine powder; but towards the end of the operation some empyreumatic oil is formed, and there is a strong smell of acetic acid. It has the peculiar property of precipitating the oxalate of iron from solutions, but not the protoxide.

This acid forms salts with the alkalis, earths, and with metallic oxides; they are called boleteas. They are not important compounds, none of them being applied to any use. (Beraelli, Traité de Chirurgie, tom. 5, p. 102.)
BOLETOBIUS (Entomology), a genus of coleopterous insects of the section Brachelytra (Macleay), and family Tachyporidea, Stephynius 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 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 spines.

The species of this genus reside in boleti and fungii: 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 easy for them to thread their way with rapidity through the putrescent fungii.

*B. lunatus* (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 varied 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 undivided, separable from each other, long, cylindrical, or angular, open from end to end, and bear saci (spore-cases) on their inside; saci cylindrical, with small roundish spores; the stalk is central, and often netted; the cap is flabby, soft, spread out into a hemispherical form; veil present in many of them. He includes in his definition but a small number of the old Boleti, referring the principal part to Polyporus, which is especially 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 as a mass, especially in pine woods; the Polypori are commonly met with in woods, as trees, spruce, and pollards.

Of the former several species are edible, as *B. edulis, subtramentinus*, and *grandulatus*; others are acrid and dangerous. Of the Polyporus, *subagregatus, ovinus*, and *truncatus* are edible; the latter is usually an Italian sort called *tuberarista*, which has a great resemblance to *N. luteus*. *Boletus officinalis*, supposed to have been the *agurikum* of Duscoridies, is an old-fashioned medicine remarkable for the extreme acidity of its powder; it acts as a powerful purgative, but is never employed at the present day. *B. igniarius* when dried and sliced furnishes the German tinder, or *Boletus* a leathery substance sold in the tobacconists' shops. *B. destructor* is one of the many species of fungii the ravages of which are too well known under the name of dry rot; their destructive properties are not however caused by the fruitification, 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 *thalus* and gardeners the *sporum* of such plants, which is in effect their stem and root in a mixed state.

The most dangerous of the dry rots is *Meredius Lacheyronii*.

BOLETUS, MEDICAL USES OF. Several different species, all confounded under the name *B. igniarius*, furnished the means of staining the flow of blood from wounded parts. The consequent putrefaction of the blood produced putrefactive odours which the patient could not bear, and, being erroneously referred to the genus Agaricus, were termed agaric, which word is often used as synonymous with *stypic*. Boletus possesses however no peculiar power of arresting the flow of blood, but acts mechanically by its spores. The patient being exposed to have 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 the blood points 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 tinder seems to offer a convenient substitute for the prepared agaric in case of an emergency, it is by no means so very efficacious, *Suffolc* (Boletus) or the nitrate of potash or saltpetre in which it is steeped would irritate and influence the edges of the wound. (Amadou, vol. i. p. 416.) The German tinder however forms a very excellent moxa.

The different kinds of boleti used as stypics were formerly designated by the names of their parts. It is less on account of their uses than of their peculiar habits that the boleti merit our notice. In chemical composition, colour, and habitus, they resemble animals more than vegetables. When cut into, some of them exhibit almost a Families structure (E. hepaticus, or F. hepatica), hence called by the French langue 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 of injury, from the plan of *Dioscorides*, 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 atmosphere in twelve hours. (Inquiry into the Changes which the Atmosphere undergoes when in Contact with certain Vegetables which are destitute of Green Leaves, by M. F. Marce; Janes's Edin. New Phil. Journal, October, 1835, p. 232.)

Bolleti consist largely of fungii 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 Sir William Jones, the *B. igniarius* is found in India, and used in nearly the same manner as in Europe. (Ainslie's Materia Medica Indica, vol. i. p. 6.)

BOLEYN, ANNE, or, more properly, BULLEN, or BULLEYNE, was the daughter of Sir Thomas Bullen, afterwards created Viscount Rochford and Earl of Wiltshire. He was the first of a line of distinguished English noblemen which in three descents had 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
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 known that she was present at the accession of Henry VIII. She was then sent into 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 Prince of Mary. The most charitable and credulous 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 this unhappy woman. A letter from the king to her in 1528 alludes to his having been one whole year struck 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 parts 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 direction of Bishop Burnet, and afterwards printed. The most interesting of these are the last addressed to the queen, full of the delicacy of expression usual in these days, they show unquestionably that Anne Boleyn was the lover not the mistress of the king. In 1529 she returned to court, and was known to be intended by Henry for his future queen.

In the meantime the king's divorce from Katharine was retarded by various delays; and at the beginning of the year 1533 Henry married Anne Boleyn secretly, in the presence of her uncle, the Duke of Norfolk, and of her father, Sir William Boleyn. On the 12th of May, 1532, 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 assertion is corroborated by that of Stow; although Hall, and after him Holinshed and Speed, mention St. Erkenwald's day, the preceding 14th of November. It was not till the 3rd of June, however, that 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 pomp. On the 13th of the following September the Princess 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, 1536, she brought forth a dead child, and it was at that time and during the preceding 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 Henry believed the reports which Lady Rochford, her sister-in-law, confirms, or whether the Queen'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 pomp. On the 13th of the following September the Princess was born.

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VIII. could only obtain her hand by annulling his previous marriage, and the refusal of the priests to do this led to the severance of England from the Roman communion. Thus it is 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 has engaged the attention of Catholic writers, and strives elaborately to prove that, after a courtship of more than five years, her chanty did not repel the advances of Henry up to the very day of her marriage; while Protestants indignantly deny the charge, and appeal in her 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 VII, though of Queen Elizabeth, are cautiously meagre in their details.

BOLINGBROKE, HENRY ST. JOHN, BART., afterwards Viscount St. John, of Buttesware, where he was born October 1st, 1678. 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 the first ten years of his post. It is not certain that he visited Milan. In 1700, soon after his return, he married Frances, daughter and one of the co-heiresses of Sir Henry Wintichomb, by which alliance he came into the possession of considerable property. His wife and he however resided for the greater part of his life at Godolphin, one of the family seats.

He had before this produced a few short poetical pieces of little merit; but he was chiefly known as one of the most disgusted among the young men of fashion of the day. He now however entered upon a new scene. He was returned to Westmorland, from which he was ejected in February, 1708, for the employment of England 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, with whom he had been so long associated, he was true, and 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 both in the new 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 1704, his friend William Pitt, then called Bolingbroke, to whom the correspondence which has since been published bears a strong resemblance, was appointed to the same office. Here also, the younger Pitt, as secretary of state, was 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 both in the new 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 complete 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, as a new parliament having now been called, he was returned both for the borough of Wotton-under-Edge 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 history 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 by 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 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 his Holiness and the Pretender, 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 actually formed schemes to this effect, and made the ruin of the Pretender the cause 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 ascendancy. 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 defeated herself. The Pretender's offer 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 28th of August by the king's order dismissed from the House of Commons, and in the following year, 1715, still worse, he was disfranchised. Early in the following year he returned, 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 22nd of November, 1714, and which in fact, had 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 treasons, and was ordered 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 the course of the year he had the heart to engage in the aid of the French government to the expedition then in 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 affairs in England. On his return, however, after an absence of about six weeks, the prince suddenly dismissed him from his employment, and soon after had him formally impeached before what he called his parliament for neglect of the duties of his office. On his appearance before the court 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 country, in consideration of the services he might possibly be able to render again to the cause in which he had just been flushed off. It is probable 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 present.

The following year he remained in prison 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 eminent in the nation. He lived towards the end of the year 1720, principally on a small property called La Source, near Orleans, which he had purchased in 1719, and which he had taken great delight in laying out and decorating. His wife having died in November, 1718, in May, 1720, he privately married the wife of a Marquis of Granby, whom he had known and for whom, and with whom he had lived 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, 1720, 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 this 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 attack by the publication of a ‘Letter to the Pretender’ (dated 1735), and an ‘Essay on the Study and Use of History’ (dated 1735), and first published in 1752, 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 to the Prince of Wales, containing an Account of the Origin of the Study.’ 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’ (originally published, 1749, and first published in 1752 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 Importance of Religious Knowledge’ (dated 1736, and first published in 1752 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 Morality;’ 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 1758 there appeared in 2 vols. 4to, (sometimes designated as the 6th series,) ‘The 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, Ox- ford.’

The sixth volume contains some letters which were discovered after 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 been preserved, their existence having been very little noticed or known. In 1756, there appeared a collection of letters by Bolingbroke, in French, edited by General Grimwood, which 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 de Ferrières, a lady of his acquaintance, and which he wrote 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 1756, 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 have often a certain speciousness, have rarely much solidity, and are often obscured by violence of language. He was, however, on one, he even in what he has written on the transactions of his own time, and on those in which he was himself concerned, only perplexed and obscured history; and this seems to have been his object. His most important performances of this kind, though they sometimes profess to have been published 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 confined to certain intimate friends, appear to have been carefully concealed by him, and may never have been in the possession of his immediate family. It is said that the great 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 that of the scholar and that of the man of society—or rather it was a style which combined the intellectualizing and the emotionalizing by heightening the ease, freedom, fluency, and liveliness of elegant conversation with many of the deeper and richer tones of the eloquence of formal ornament, and of hooks. The example he thus set has probably produced a very considerable effect in moulding the style of popular writing of 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 dissemble it himself, but left half-a-crown to a hungry Scoundrel, and, to the author's great comfort, never afterwards ventured to oblige himself to others, revealing in all the licentiousness of the Palais Royal—he returned in 1802 to Madrid, and there married the daughter of Don Toro, uncle of the Marquis of Toró and Catavetta, or, as they call him, the daughter of the Marquis de Ustoriz de Creo, his age being nineteen and sixteen that of his wife, who is described as being remarkably beautiful and accomplished. In 1809 he returned to his native country, where, with the company of the caballero Don Simón, he arrived March 24th at the port of La Guaira, and retired with the whole estate 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 existence, and left behind his wife, only after her arrival, ill and died. The mass in his intense affection threw him into a state of frantic grief, which he sought to alleviate by returning to Europe. From Europe he proceeded to the United States, where he gathered some useful political knowledge, and about the beginning of 1810 again journeyed in Veracruz to the general, that of 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 Simón Bolívar upon American soil. The Spanish colonies of South America appear to have remained in a state of rebellion, for 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 present revolution. The rebellion was, however, caused by the revolution of the Anglo-American colonies and afterwards by that of France, began to be earnestly discussed by the patriots of the southern continent, who, in aggravated circumstances of oppression, far exceeded the number of the Northern American colonies. The government sent coordinate official clerks, were sent from Madrid, and without being, in reality, under any responsibility, revellied 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 manufactures was not permitted; all the lesser and greater shops of Spanish city shops, were forced, in harder 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 to prevent them from knowing the greatness of their degradation, all intercourse whatever was strictly forbidden with any country or people besides Spain and Spanish, and allowed even with them only under many restrictions. In short every species of wrong appears to have been inflicted, and above all was in which the North American and Spanish ranks were reinforced by recruits from the lowest and worst description of monks in the monasteries of Spain. By them superstition and ignorance were upheld as the surest support of the policy of the Spanish colonial system, so that before 1810, throughout the whole continent, monasteries of the order of Monte Video, there was but one crazy old printing-press, and that in the bands of the monks, who consigned to the dungeons of the Inquisition every possessor of a disallowed book. (Quarterly Review, vol. vii., and North American Review, vol. 3.)

Simón Bolívar was born in the city of Caracas, on the 24th, or, according to General Miller, the 23rd of July, 1783. His father was a member of the military of the vall of Aragua, his mother Doña María Concepción Palacios y Sojo; both of very opulent families in Venezuela, of the rank of nobility called Los Mantuanas. He was sent, when about fourteen, to Madrid, for the complete education of the son of a Governor of the Spanish Government, and he was said that in his voyage he visited Mexico and Havana, 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 historians state, to the study of Law, and a diligent attendance at all the scientific and literary lectures—society at all, he devoted himself to his family, and relations, until the death of his father, which event occurred in the year 1807.
attempts; but terror soon quelled these partial efforts, after those concerned were destroyed by the cruellest kinds of death. The first decisive movement of the revolutionists was made on a solemn Catholic festival, Maunday Thursday, the 29th of the following July or August, the same was the day 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 positively asserted in several accounts that he was one of the principal actors. 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 veneration for the 'adorable Ferdinand,' for even after the establishment of the independent legislature at Caracas, he does not appear to have held any appointment, though importuned to do so by some of his members, especially by his cousin, Don Felix Ribas.

He accepted however soon afterwards the proposition to proceed to England, for the purpose of soliciting the British 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, who himself paid the expenses of the journey, after a stay of nine months, left his companion, 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 military force; the tricoloured flag was hoisted from the citadel of Caracas; and the town was destroyed. Bolivar was appointed colonel in the independent army, and governor of Puerto Cabello, the strongest fortress in Venezuela. The patriots were successful until the following year, 1812, when an earthquake destroyed, in the city of Caracas, the citadel, which was a part of the town, and as 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 effort, the cause of the royalists, charging the priest's calamity as a just visitation upon the revolutionists. Priests, monks, and friars were stationed in the streets, vociferating in the midst of creole multitudes trembling with fear, while the royalist troops under Monteverde were getting possession of the whole province. About 1200 royalists were sent out to conquer the fortress of Puerto Cabello, having shortly after broken loose, murdered some of the garrison, and by the treachery of the officer on guard, taken possession of the citadel, Bolivar, being unable to resist the enemy, abandoned the town, and retired to the citadel, and 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 ammunition and provisions, was deserted, capitulated in despair. Monteverde then possessed the whole of the country, and Bolivar determined him to proclaim that 'the executions which entitle themselves our enemies, have heaped thousands of our brethren: our fathers, children, friends they have buried in the subterranean dungeons and vaults of our country: we have imprest everyone of our debts on the commandant of Popayan, with all their captive companions: they have perpetrated in Varinas a horrid butchery of our fellow-soldiers made prisoners of war, and of many peaceful inhabitants; these victims shall be avenged—the executions shall be exterminated—some compel us to a mortal struggle— they shall disappear from America—the war shall be unto death!' The date of this manifesto is Merida, June 8th, 1813. It is said by General Holstein, that Bolivar himself never signed it. At Losagecas Monteverde was routed and obliged to retreat, leaving Cabello; and on August 4th, 1813, the liberating army entered the city of Caracas, the capital of Venezuela. The joy of the people exceeded all bounds: it was certainly the most magnificent display of Bolivar's military career. Greeted by shouting thousands, an artillery salute was given by the commander-in-chief, and the liberation was drawn into the city in a triumphal car by twelve beautiful young ladies of the first families of Caracas, dressed in white, and adorned with the patriot colours; while others drank to the health and courage of the liberators, and stretched their way with flowers. All the prisoners were thrown upon the throned pontiff's pale and enameled to thank him for their liberation. The royalists throughout the province capitulated, and the triumph was complete. Even General Holstein, the bitter enemy of Bolivar, could not but confess, 'he deserves great praise for his perseverance, and for his patience and undertaking, in which he sacrificed a considerable part of his fortune to furnish the troops with the means of following him.' Marino, who had recently raised an army in Cumana, and
from whom the royalist general escaped only by being caught in the arms and carried off upon the horse of a brawny Capuchin who was fighting at his side, had assumed the name of Mendoza to the end of avoiding arrest in 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 to the utmost. The legislative, executive, and judicial powers being united in the person of the dictator, occasioned great offense 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 dictatorial power was however agreed upon, for a great entreaty was made by the inhabitants of Caracas, to the royalists beginning again to rally their forces and arm the negro slaves: a desperate expedition by which they were much assisted in raising a numerous army.

At Flores 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, executed without mercy or compassion on 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 Vargas, Bolivar, in revenge, and for the sake, it is said, of deterring the enemy from the repetition of such atrocities, ordered about 500 Spaniards in La Guayra 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 in the same manner. This 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 be treated more leniently than the best of the negro slaves.' 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 defection 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 appearance of 8000 Ayre and Calabozo, would have occasioned the extinction of Bolivar's forces. His cousin Rihas was seized and shot, and his head was stuck on the walls of Caracas. Bolivar's beautiful family mansion was burnt to the ground, and he was ultimately compelled, in September, to leave the Spanish generals again, 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 San Tomé, who purchased for cash, from the king of Spain, the town of Carthagena, and bestowed upon themselves the title of free and independent citizens of the same; and on the 25th of November, with an armed force of only 50 men, they marched to the Cape of Santa Marta, which, in consequence of the improbity 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 received in scattered bands, and furnished some supplies, and after issuing defamatory manifestoes, and having essayed the possession of all the provinces of New Granada, had been reduced to the state of a prisoner. The troops of Bolivar, in resentment of this conduct, were engaged in reducing Carthagena; when, in April, in the midst of this unfortunate civil strife, which occasioned the greatest injury to the patriot cause, the arrival was suddenly announced of General Morillo, relieving the 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 cowardice and weakness of Castillo, retired in May, 1815, and joined Armendiz and his small army of 4000 men, at Zunzit, 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 exortations to the patriots, for whose assassination he was attempted 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 heart his secretary, who accidentally occupied the hammock in which the assassins intended to effect his escape. When at last Morillo arrived, Bolivar retired to his native town, and again joined the armistice, which General Armendiz had again assembled the independent forces. With these various recruits, in July he appeared in Cumana, where he was suddenly surrounded by the royalists, and defeated with great slaughter at Ocumare; after he had their general, Genaro Motta, killed. A similar exploit followed on the 24th August, in which the royalists were again defeated, and no one should be injured for having deserted to the royalist ranks. He now took ship to the Dutch island, 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 Morillo, who was severely wounded, and the capture of some of the royalist generals. The Llaneros of General Paez, 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 western points of Venezuela, and crossed the river of Calabozo, where Morillo was collecting his forces. After numerous and obstinate battles, which are individually too unimportant to be named in the present outline, the republican party obtained a decided superiority; being generally assisted by some foreign volunteers, of whom there were at this time in Venezuela about 3000 from Holland, Ireland, and England. On the 13th February, 1819, a solemn installation of the congress of the Venezuelan Republic was made at Angostura, which has also the name given by Bolivar to the town of La Guayra; and a constitution 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 ethnological imagination led him to indulge; in which 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. Bolivar, however, was always possessed of a quick and penetrative insight, and a most intimate, rational, and philosophical knowledge of men and events. 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
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ignorance of his countrymen. The strange combination of democratic and monarchial principles must astonish every one, that the suppression of all the Spanish influence of the government, which on the one hand asserts the social equality and universal brotherhood of man, and on the other as solemnly and for-everly advises the adoption of a government system, in which the sovereign power is centred in one ruler, is probably the more, that it created much distrust of Bolivar's republican professions; but the moral condition of his countrymen, and the state of exasperated factions, may well be allowed to account for the recommendation of a 'strong government,' without resorting to the uncharitable explanation of dynamical designs: for his assertions 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 the most immediate troubles and alike social and domestic. 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 subsided, and the enemy be utterly expelled. In the same year he marched to the assistance of General Sanander, in New Granada, and in July arrived at Tunja, which, after a daring and well-planned engagement on the neighboring heights of the Andes, he took from the royalists; and, on the 7th of August, a decisive victory at Bogota, in addition to several former triumphs, which he had obtained in New Granada. Sanano, 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 of the General of the republics united under the name of Colombia: the office of president was given of course to Bolivar.

In November, 1820, after numerous advantages gained by the liberating army, an armistice for six months was agreed to, on the 22nd of June, 1821. This armistice was determined, and Morillo twice passed the night in the same chamber with Bolivar. He appeared in fact to be weary of hopeless slaughter, and in January, 1821, returned worn out to Spain, leaving the command to General La Torre. Previous to his departure he said to Bolivar's deputies, 'My name will probably pass to posterity branded with cruelty and tyranny; but let it be remembered, that had I completely obeyed the orders of my government, this country would remain an unvisited desert.' He gives a full description of the destruction and devastation of the Spanish colonies, the two first chapters of the Memoirs of Gen. Miller. On the 21st, or, according to others, the 24th or 26th of June, 1821, General La Torre was totally defeated by Bolivar at Cucuta, near the city of Valencia, when the royalists lost above 6000 men, with all their artillery and baggage. It appears that Bolivar at first was far from being confident of the result, and that the victory was secured by the irreproachability of a body of English and Irish volunteers. This decisive blow concluded the war in Venezuela. The remnant of the Spaniards, who escaped was compelled to surrender to General Paez. Bolivar the third time entered the city of Caracas in triumph, but the principal inhabitants having emigrated during the war, the streets presented a scene of desolation and misery, with the usual consequences of distress and emigration: but the inhabitants, who were welcome and implored relief. A republican constitution was drawn up, and adopted on the 20th of August, 1821, decreasing that its arrangements should continue until 1834. Colombia was now cleared of the royalist troops, except the province of Quito, which was liberated by the great victory of General Sucre on the 24th of May, 1822, at Pichincha, one of the bloodiest and most expensive of the battles of Quito. It was still desired expedition, 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 permission of Bolivar and General Paez to march into the vicinage of Quito. On the 1st of Sept. he entered Lima. The royalists on his approach evacuated the city; and the inhabitants, with every demonstration of delight, received him, and gave him the command of all the country's resources for the completion of its liberation. A republican constitution was adopted 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 was saved from party insurrections, and the national enemy only by the energy and promptitude of military dictation.' At the request of the inhabitants of Lima to return to Quito, and march over the Andes, for the purpose of preventing any designs against the independence of Peru, Bolivar entered Quito March 26th, 1823; had designs of territorial aggrandizement, and that Bolivar was actuated solely by sinister views of ambition. San Martin had been similarly taunted, and having said in his address of September 18th, 1821, 'I have left my home; I have received as an inestimable gift, 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 6000 Colombians under Gen. San Martin, and several hundred Spanish officers, of many republics were united under the name of Colombia: the office of president was given of course to Bolivar. In November, 1820, after numerous advantages gained by the liberating army, an armistice for six months was agreed to, on the 22nd of June, 1821. This armistice was determined, and Morillo twice passed the night in the same chamber with Bolivar. He appeared in fact to be weary of hopeless slaughter, and in January, 1821, returned worn out to Spain, leaving the command to General La Torre. Previous to his departure he said to Bolivar's deputies, 'My name will probably pass to posterity branded with cruelty and tyranny; but let it be remembered, that had I completely obeyed the orders of my government, this country would remain an unvisited desert.' He gives a full description of the destruction and devastation of the Spanish colonies, the two first chapters of the Memoirs of Gen. Miller. On the 21st, or, according to others, the 24th or 26th of June, 1821, General La Torre was totally defeated by Bolivar at Cucuta, near the city of Valencia, when the royalists lost above 6000 men, with all their artillery and baggage. It appears that Bolivar at first was far from being confident of the result, and that the victory was secured by the irreproachability of a body of English and Irish volunteers. This decisive blow concluded the war in Venezuela. The remnant of the Spaniards, who escaped was compelled to surrender to General Paez. Bolivar the third time entered the city of Caracas in triumph, but the principal inhabitants having emigrated during the war, the streets presented a scene of desolation and misery, with the usual consequences of distress and emigration: but the inhabitants, who were welcome and implored relief. A republican constitution was drawn up, and adopted on the 20th of August, 1821, decreasing that its arrangements should continue until 1834. Colombia was now cleared of the royalist troops, except the province of Quito, which was liberated by the great victory of General Sucre on the 24th of May, 1822, at Pichincha, one of the bloodiest and most expensive of the battles of Quito. It was still desired expedition, 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 permission of Bolivar and General Paez to march into the vicinage of Quito. On the 1st of Sept. he entered Lima. The royalists on his approach evacuated the city; and the inhabitants, with every demonstration of delight, received him, and gave him the command of all the country's resources for the completion of its liberation. A republican constitution was adopted 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 was saved from party insurrections, and the national enemy only by the energy and promptitude of military dictation.' At the request of the inhabitants of Lima to return to Quito, and march over the Andes, for the purpose of preventing any designs against the independence of Peru, Bolivar entered Quito March 26th, 1823; had designs of territorial aggrandizement, and that Bolivar was actuated solely by sinister views of ambition. San Martin had been similarly taunted, and having said in his address of September 18th, 1821, 'I have left my home; I have received as an inestimable gift, 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 6000 Colombians under Gen. San Martin, and several hundred Spanish officers, of many
April, to visit the provinces of Southern, or Upper Peru; and proceeded to Acre, Guazu, La Paz, and Potosi. The many ceremonials he performed to the conquerors of Colombia were in 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 adjutant, and went to Potosi, to receive 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 Apens of dollars from 14,000,000 to 3,000,000, and to sell 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—I have too long delayed, and too long hesitated! 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. Paz himself issued a proclamation from Valencia, calling upon the people to receive him as the thirteenth receive the fortifying dew of heaven.' In the end of December, the liberator arrived at Puerto Cabello, where he met General Paz; but instead of imposing any punishment for his rebellion, he confirmed him in his command in Venezuela, and issued a proclamation to the people of Colombia, that was really 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 volume of the South American, and the following will be sufficient. 'It is said that Paz, in exciting insurrectionary tumults, was in deep collusion 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 equally plain that Paz has, by his actions, been the victim of a prudent desire to conciliate the good will 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 26th of February, 1827, a rumor was whispered that Paz had appeared; and in February, 1827, he addressed to the senate a letter, in which he states that 'suspicions 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 passions; in fact, the division was at first so great, that assigning to him an irresponsible executive power; and yet this apparent institution of absolute monarchy is accompanied with a declaration of the necessity for a general and enlightened exercise of the elective privilege; asserting that 'no object is of more importance to a citizen than the election of his legislators, magistrates, judges, and pastors: none are excluded from being electors but those who are vicious, idle, and grossly ignorant—knowledge and integrity, not money, are what is required for this purpose.' The collision of parties was at last resolved; the President of the Republic, Bolivar, considered that the society over which he was called 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 permanent in which absolute unlimited power should be centered in the president. It 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 arbitrary power, and which had just acquired from the despotic, unlimited, despotic, universal alarm was excited, especially as the large bodies of Colombian troops, though unemployed, were still retained in Peru, of which Bolivar was absolute sovereign for life, in virtue of his own act, and in consequence, as it was said, of intrigue and infection.

In Colombia, his long absence had occasioned the prevalence of much dissatisfaction and party strife. General Paz, 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 under the domination of a provisional government, and that of Columbia was in 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 adjutant, and went to Potosi, to receive 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 Apens of dollars from 14,000,000 to 3,000,000, and to sell 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—I have too long delayed, and too long hesitated! 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. Paz himself issued a proclamation from Valencia, calling upon the people to receive him as the thirteenth receive the fortifying dew of heaven.' In the end of December, the liberator arrived at Puerto Cabello, where he met General Paz; but instead of imposing any punishment for his rebellion, he confirmed him in his command in Venezuela, and issued a proclamation to the people of Colombia, that was really 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 volume of the South American, and the following will be sufficient. 'It is said that Paz, in exciting insurrectionary tumults, was in deep collusion 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 equally plain that Paz has, by his actions, been the victim of a prudent desire to conciliate the good will 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 26th of February, 1827, a rumor was whispered that Paz had appeared; and in February, 1827, he addressed to the senate a letter, in which he states that 'suspicions 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 passions; in fact, the division was at first so great, that assigning to him an irresponsible executive power; and yet this apparent institution of absolute monarchy is accompanied with a declaration of the necessity for a general and enlightened exercise of the elective privilege; asserting that 'no object is of more importance to a citizen than the election of his legislators, magistrates, judges, and pastors: none are excluded from being electors but those who are vicious, idle, and grossly ignorant—knowledge and integrity, not money, are what is required for this purpose.' The collision of parties was at last resolved; the President of the Republic, Bolivar, considered that the society over which he was called 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 permanent in which absolute unlimited power should be centered in the president. It 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 arbitrary power, and which had just acquired
'perfectly detestable.' The friends of Bolivar finding themselves in a minority vacated their seats, by which the meeting was left without a quorum, and thus became extinct.

In consequence of this event, a convention of the civil and military inhabitants of Bogota resolved to confer upon the liberator the title of Supreme Chief of Colombia, with absolute power to regulate the whole affairs of government. On the 10th of April, the assembled convention, that offered a magnificent state, and assumed an authority which the contenders for the inviolability of the constitution most darily denounced. Shortly afterwards several assassins broke into his chamber, and two colonels were shot dead in the street, while Bolivar was only by leaping headlong in the dark from the balcony of the window, and lying concealed under a bridge. Santander, with several military officers who were convicted of having participated in the conspiracy, was condemned to death, but eventually suffered only banishment from Colombia. In 1829 the republic was disturbed by violent factions: many military leaders were aspiring to supreme command, and the efforts of Bolivar to prevent disunion excited insurrections. At the head of one was General Cordova, who declared that 'In despair at the conduct and aims of General Bolivar, who oppresses the whole republic, I place myself at the head of all true patriots and freemen to prostrate his ambitious views, and restore the lost liberties of the nation.' Another was headed by General Paez, protesting that, 'As I drove out the invader, so will I drive out the oppressor, and the tyrant of Colombia. I will free Venezuela from the tyranny of Bolivar, the domestic despot, who has dared to attempt her slavery.' Venezuela became afterwards separated from the rest of the republic; Paez was made her president; and a declaration, signed by the heads of some of the most distinguished persons of the country, was issued in honor of Bolivar's splendid triumphs, denounced his ambition, and rejected his authority. Under these circumstances a general convention, in January, 1830, was held at Bogota, in order to frame a new constitution for Colombia. The proceedings were opened by Bolivar in a solemn address: 'I am taunted,' he said, 'with aspiring to tyranny; set me, I beseech you, beyond the reach of that censure: if you persist in electing me the state is ruined: give to another the presidency, which I now respectfully abdicate. His resignation was accepted by Bolivar in a solemn address: 'I am taunted,' he said, 'with aspiring to tyranny; set me, I beseech you, beyond the reach of that censure: if you persist in electing me the state is ruined: give to another the presidency, which I now respectfully abdicate.'

He had determined to resign his station: he therefore at once took leave of public life, and retired to Cartagena, where he remained for some months. Meanwhile Mosquera had been some time before solicited by Bolivar to become his president; he now accepted the office; but after a few months he resigned, in despair of controlling the fierce contention among the numerous aspirants to power. Bolivar, who was determined to stay in the service of his country and retire to Europe, was again imported to come forward; but his health now rapidly declined.

In December, 1831, he sent to the government of Colombia a farewell address, in which he vindicates his conduct, and bitterly complains of calumny and ingratitude. 'Colombians,' he says, 'I have unceasingly and disinterestedly exerted my energies for your welfare; I have abandoned my fortune and my personal tranquility in your cause: I am the victim of my patriotism, who has now abandoned the friends of Colombia; but I beseech you—my last prayers are offered up for the tranquillity of my country; and if my death will contribute to this desirable end, by a discontinuance of party feeling, I shall deemed a fortunate event. For weeks, in the midst of numbers, I have been supported by the most perfect calmness and resignation, and constantly showed the utmost anxiety for the prosperity of his country.

The reflection that the man who had devoted all his time, his fortune, and his life to the liberation and improvement of his country, had at last sunk beneath the weight of undeserved reproaches, and died broken-hearted, touched the callous hearts of his countrymen with a passionate grief and veneration, which, in every town of Colombia, was exhibited in orations and funeral processions. The 'United Service Journal,' in noticing this occurrence (vol. for 1831), says, 'This extraordinary man, it would now appear, was a disinterested patriot, and had consequently been basely requited by the country he had liberated. He died in the depth of adversity. but his virtues, under circumstances very affecting, his merits as usual have been discovered by the rabble whom he served; and honours are paid to his memory, which, to his living person, were ungrateful denied.'

In reviewing the career of Bolivar, his ever-ceasing appearance of great energy, will, and force, 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 formation of several political entities to unite 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 the cause of independence, and the generous rewards he bestowed upon his dependents. 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 differences 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 French allies, nor the intellectual support of the arts of peace. His conduct was depend 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 revolutions. The Spanish were a hardy, enterprising, frugal and industrious, with a general equality of property and education; but the countrymen of Bolivar, one-half Spanish Creoles more or less mixed with the aboriginal race, the other half Indians, Africans, and intermediate colours, were formed separate and conflicting castes, equal only in their ignorance and indolent habits—a few in possession of immense wealth, even 100,000£, and thousands in a state of mendicity and hunger. The army of Washington, independent of his foreign allies, was composed of local patriotism, rags, and eccentricities; but the army of Bolivar, too 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 half-savage Llaneros and occioneros mounted on wild horses. Their equipment consisted of what could be gleaned from 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 principally of the most unenlightened description: Arismendi was full of rapacity, Tiante wild and unbridled, Tovar a bull-buster, out of the deserts; and General Bermudez always took the field in a dirty blanket, with a hole in the centre for his head; while envy and fierce ambition were common to them all. The character and habits of such a people, and of such an army greatly enhance the merit of the individual who conducts them from an object 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 constitutional government. Washington, on the other hand, as a military commander rather than as a statesman, that his excellence consists. In enterprising promptitude and enthusiasm be differed greatly from Washington, and, on that account, was better qualified to succeed under circumstances essentially different from those in 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 to carry on the war, his skill in impressing upon wavering minds a confidence in his eventual success; the perfect 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 not less great: in the endurance of fatigue, in courage often of morbid, in a thousand hardships of snow, 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-
the introduction of his system of elementary instruction. It is preserved in the 26th volume of the *Revue Encyclopédique*, dated Lima, March, 1855, and addressed to the teaching profession with a request for five 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, for coming so long a journey, to bring to my young fellow citizens the benefits of elementary education. The 46th volume of the same work may be consulted for an exposition of the progress of social and mental improvement in Colombia during the first five years of the republican government, both in the capital and in the provinces. General Bolivar's political and intellectual power is still predominant, the clergy being at once members of the senate, officers in the army, and parish priests. It is therefore not surprising to find in the new constitution adopted in the year of Bolivar's death, the declaration that "none but the Catholic religion shall be tolerated." For those who desire to read the history of Bolivar's campaigns, the map of Colombia in the work of Captain Cochran may be named as useful for reference, being constructed on a comprehensive scale. A fine portrait of Bolivar's in one of the Library of Congress portraits, is a five frames. 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 distress. Of his general appearance, the great severity 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, which was an object of general attention, 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 munificent style, but was himself extremely abstemious. He preferred the earth to the air, and was a most elegant and appropriate extempore replies. On one occasion he delivered seventeen unpremeditated answers in succession, each of which if printed off as he spoke it would have been admired for its peculiar adaptation to the occasion. In proposing a toast, in returning thanks, or in speaking impromptu upon any given subject, General Bolivar was probably never surpassed.'

**BOLIVIA** is the name adopted by one of the new republics which have lately been formed in South America. It was first used in the 16th century, by the conqueror of the vicerealty of Buenos Ayres or de la Plata; but being separated from the more populous parts of Buenes 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 most 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 Madre. The most southern point is on the shores of the Pacific at the Bahia de Nuestra Señora, 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 confines of the province it extends to the boundary between Bolivia and Paraguay, and extends to 50° 30' W. long. The most western portion of the republic borders on the Pacific at Punta del Norte, about 76° 30' W. long. Under the parallel of 22° the extent of the country from east to west is about 300 miles, and on the parallel of 18° it is about 300 miles. The mean width may be about 500 miles, and 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 northwestern frontier is formed by the republic of Peru. It borders on the north-east and east on the empire of Brazil, and on the east on the state of Mato Grosso. To the south of it extends the republic of Buenos Ayres, 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 productions would correspond with tropical climates; and, indeed, it is not only hot, 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 valleys, and widely extending slopes. This mountain-as portion of Bolivia belongeth to the great range of Andes. Where 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 the affluents of the Rio Bermejo from those of the Pilco-
dura. At 16° 15' W. lat. it extends into the Paraguay on its right bank. This lateral mountain-range, which constitutes the southern boundary of Bolivia and separates it from Buenos Ayres, is very little known; it does not seem to rise to a very great height, but is extremely rugged and harron. The principal chain of the Andes here runs south, and east, and is likewise little known, but contains some peaks which rise above the snow line. The Nevado de Cholora (21° 30' S. lat.) is said to rise to 16,548 feet, but is probably higher. Up to this mountain the Andes seem to form a single mass, but the depression of the Cordilla of the extremity of Chili; but to the north of it at about 20° there is an extensive mountain-knot, called the Cordillera de los Lpez (19° 30' S. lat.); the mountains divide into two great longitudinal ridges, which run parallel to one another and contain the well-known lakes of Titicaca and Poopó. Gualatier, rises to 22,000 feet. To the north of these peaks, but within the limits of Peru, the range declines some degrees to the west, running parallel to the coast, and here other snow mountains occur. [Peruv.]

The eastern arm of the Cordillera de los Andes, or Cordillera Real, separates from the mountain-knot north of Perce (19° 50'), and of Potosi (19° 30'). The metalliferous mountains which surround these may be considered as constituting its southern extremity, and the cerulean mountain or Coro de Potosi also belongs to it. From this point the cordillera runs north, inclining a little to the west, to the Nevado de Illimani (16° 40'). Between Potosi and this summit no part of the range attains an elevation of 17,000 feet, none being enveloped in snow during the entire year, except the very highest summits. Above Potosi, and below Portland, the inferior limit of perpetual snow in this portion of the Andes. The Illimani forms a serrated ridge with four peaks rising to the height of 24,000 feet, or 7000 above the snow line. At this point the range somewhat changes its direction, continuing nearly due north-west, and forming an almost continuous line of snowy mountains till it joins the ridge called the Andes de San Juan del Oro and de Vilemasot, which between 14° and 15° extends nearly east and west, and again connect the two ranges of the Eastern Cordillera. In the vicinity of the coast of the Pacific 20° 10' is the Nevado de Sora, the highest peak of the Andes, rising to 23,350 feet, consequently 3814 feet higher than Chimborazo (21,438 feet according to Humboldt) and only inferior to a few peaks of the Himalaya Mountains. On the eastern side of the valley of the Desaguadero, occupy a breadth of upwards of 230 miles to the north of 18°, but to the south of that parallel they are upwards of 300 miles in width. The length of this mountain mass is about 420 miles, and it consequently covers about 170,000 square miles. The Cordillera de los Andes is, however, nearly one-fourth belongs to the republic of Peru.

It is remarkable that the summits of the Western Cor- dillera either present the form of a truncated cone, or of a dome, and that about them are numerous indications of former volcanic activity, such as the presence of various kinds of rock, of earthy and stony breccia, of glassy and fleshy lava, and of eject ashes; the higher parts of the Eastern Cordillera are either pointed peaks or notched ridges, and no volcanic produc-
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 towards the sea, the river which descends into it are almost entirely lost in the sandy soil, round which the lake of Titicaca at its northern extremity. This lake, the largest in the South American continent, occupies an area of about 4,600 square miles, and its surface is 12,735 feet above that of the Pacific. In some places its depth has been found to be 200 feet, and it is 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-ridges. It is remarkable that the watershed on the eastern part of the valley of the La Paz, and one of its tributaries on the western, is not formed by the high ranges, but by two low lateral ridges distant from twenty to thirty miles from the lake, and generally ranging 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 Desaguadero, which issues from its south-western extremity in lat. 16° 36' 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 Desaguadero, in which it is lost. Its course between both lakes may be 180 miles.

The position of the lake is extremely high. It is situated at an altitude of 3,843 feet, on the same level as the summit of the Cordillera, and nearly equal to the height of the Sierra Nevada in California. The lake is traversed by a range of mountains extending from east to west, which rise directly from the water's edge to a considerable height. That from which it has taken its name, and which is known in the history of the ancient Peruvians as the place where Manco Capac made his appearance, is situated at an altitude of 15,000 feet.

The vegetation of this lake has also a very peculiar character. There are no trees, but the lower districts, especially near the lake, are covered with the most beautiful green turf where the land is not cultivated. The cultivated portions are few, and the plains on which they are formed are indeed sods, 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 exist in a considerable distance on the sides 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 plains, is of great fertility, and produces not only enough for the要求 for the 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 wild animals have been observed in the valley of the Desaguadero, except a peculiar kind of hare, described by Mr. Basil under the name of Lagotis Cuneiri 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 corrupted the soil as to render travelling on horseback unsafe. The numerosity of the lake Titicaca, and the fish, have not yet been described, nor even sufficiently examined.

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 trees has compelled the natives to apply them to nearly 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; most 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 the western Cordilleras to the Pacific Ocean. Their highest points rise to nearly 19,000 feet, and are abovemented, except that 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 to the sea is exceedingly rapid. The highest point of the mountain-passes that range towards the Pacific, the Cordilleras, 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 a mountainous and almost barren district, to one of the richest in the world. This coast of Bolivia, in length upward of 250 miles between the Bahia de Nuestra Señora and the small river Los, does not differ much from the coast which extends northward to Guaquayl in Columbia, and southward to Coquimbo in Chile. All this coast, which is nearly 1800 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 were it not for the stupendous 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 mile in width. The ascends of many of them are the found the only places which are inhabited; and the narrow strips on each bank of every stream are people in proportion to the supply of water. During the rainy season in the interior the rivers swell prodigiously, and can only be crossed by rafts of canoes fastened upon four bull-hides sewed up, made air-tight, and filled with wind. A few of the large 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, and do not reach the sea. It is not unusual to find in the water a sand, which in a few days rises to the surface, and 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 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.

The coast which extends northward is 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 mountain-district extends along the coast from north to south to the Andes, in the northern portion of the coast: 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 mountain-range detaches itself from the Eastern Cordilleras, which runs generally due east for upwards of 200 miles. This branch rises near the city of Cochabamba, above the line of perpetual snow, in the pointed peak called Nevado de Tinsan; farther eastward it descends to the banks of the Rio Guapay or Grande, at no great distance west of the town of Santa Cruz de la Sierra. This chain is commonly called the Sierra de Santa Cruz. Between this ridge and that forming the boundary line towards Buenos Ayres, which we have already noticed, there extends the mountainous portion of Eastern Bolivia. This western boundary may be fixed at about 88° W. long. This country is traversed by many lateral ridges, which are offsets from the great chain of the Andes, and form extensive valleys. Many of these valleys sink slowly, and often maintain themselves for a considerable time. In 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. Many persons have considered these valleys as the most fertile, and the most beautiful parts of South America; but 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 cattle.

No part of America has a greater abundance of water than this region. The rivers which descend from the eastern declivities are very numerous and contain a volume of water which cannot be exhausted by irrigation. These rivers may be considered as the true sources 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, of the Rio Beni and the Rio Mamore, two of the most important. The Rio Chiquitos, which descends from the Cordillera Real and unites its waters between 15° and 11° S. lat. The upper branches of the Rio Beni are the Rio Caca, the Rio Chiquitos, and the Rio Questo. The Rio Questo, the most southern of them, rises where the Sierra de Santa Cruz detaches itself from the eastern Cordillera, and taking a N. and E. course, enters the plain, where it soon meets the Chiquitapo, which has its origin in the valley of the Desaguadero to the northward of it, and 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 enormous chasm. It then runs for nearly a hundred miles through a fine valley and joins the Chiquitos, entering the plain. Afterwards the river continues its northern course, dividing the mountainous country from the eastern plains till it meets the Rio Caca. The Caca, under the name of Mapiri, rises likewise in the valley of the Desaguadero, at no great distance from the Rio Questo, and running east and then north and then east, traverses by a deep chasm, the Cordillera Real north of the Yerbal 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 declivity of the same Cordillera, and the Rio Questo and the Caca join the Umayo. This river joins the united rivers Queto and Chiquitos above 13° 30', and the river formed by their junction is called Beni, which name it preserves in its northern and north-northeastern course to its junction with the Mamore. Thus the Beni brings to the Madeira all the waters from the eastern declivity and from a portion of the western declivities 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 Momor, 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 Chapare at about 16° 30', receives the waters of the Yacuma, whose source is at no great distance from the Rio Grande. After this the river runs through an extremely flat country. The Ibanes [Brazil] is increased by the streams descending from the northern declivity of the Sierra de Santa Cruz. Before the Mamore unites with the Ibanes, a large river which rises in the western part of Brazil, it receives the waters of the Yacuma, whose source is at no great distance from the Mamore. This river, after being circumvented by its immediate tributaries, is seen at 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 Ibanes, the river continues its northern course till it meets the Beni at the most northern angle of Bolivia, from which point the remainder of the river is named of Madeira.

The waters which descend from the eastern declivity 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 hardly exceeds sixty or seventy miles. Both these great rivers also rise nearly in the same parallel between 25° and 21°; their sources are 25° of long. distant from each other, or upwards of 1000 moses.

The Pilcomayo rises on the southern declivity of the mountain-knot called Cordillera de los Lipez, and running generally due east, is soon increased by numerous other streams, some of which are considerable, as the S. Juan, which rises about 20° S., and falls into the Pilcomayo from the south; the Pasey, which rises in the neighbourhood of Potosi on the southern declivity of the eastern Cordillera and soon becomes navigable; and the Cafchymayo, which rises not far from the source of the Cochabambas, and traverses the valley of Chiquitos. Soon after the junction with the Cafchymayo, 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 150 miles; which is densely covered with 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 Pilcomayo. Our information goes no further; it does not appear to rise to any great height above the sea. This plain is principally watered by the Beni, the Mamore, and the Ushair, which in the rainy season, from October to April, inundate the country along their banks to a considerable extent. In rainy seasons the waters are large, though none of them 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 this plain very unhealthy, especially for Europeans. This climate also induces the natives to cultivate many plants 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 their valuable products are entirely neglected, except that a considerable quantity of cocoa is gathered by the natives and brought to the towns of San Lorenzo de la Fraterna, La Paz, and Cochabamba. The plantations consist commonly of mandioca and maize, those of cotton and rice being rare; all the other tropical productions which have been cultivated with the greatest advantage are almost entirely neglected.

Where the borders of Bolivia, Brazil, and Paraguay meet, the Lake of Xarages 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 portion of the South American continent being very little known.

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 not plentiful. To make up for it, the sun is in summer elevated 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 the mountain region. In winter, and from April to September, there is a temporary blindness called cunuyami, 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. This complaint generally continues when the snows are 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 noticed. 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 allagrores (Prosopis dulcis, Humb.), a kind of pulse, which grows to the length of a foot, with its seeds enveloped in a substance like cotton, which the Indians weave into very cooling Cotton, a little sugar-cane, and the Arundo donax, of which there are large plantations, are also cultivated.

The other portions of the republic, especially the beautiful vales watered by the Cochabamba and Cachiayo Mayo, are more arable. As the lands 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, different species of vallée, which line the rivers abound in the finest timber for all purposes, especially for ship-building, and in trees which distil aromatic and medicinal gums. The plantain is found in abundance; and there is a species of cinnamon called by the creoles the canela de claro, which only differs in the greater thickness of the bark and its darker colour from that of the East Indies.

Besides the animals peculiar to the valley of the Desaguadero, there are the tapis, the jaguar, the leopard, six or seven species of fox, and several species of deer that are peculiar to these countries. Of domestic animals, there are horses, asses, and mules, but for steep the climate is too warm. Great herds of horned cattle find abundant pastures on the banks of the rivers in the plains.

Birds seem to be unknown to the naturalist. They 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 most prevalent in the plains, addicted in fluf; 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 on the delta of the eastern Cordillera, where it is washed down by rivers which run between slate-mountains in 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 Tiquipay, which falls into the Mapiri. The mines of Potosi 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 Corocuero, a small place about seventy miles from Potosi, is a large deposit of carbonized copper, which is nearly 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 Quitoan language, and those who speak different dialects. The Quitoan language prevails among all the inhabitants of the coast and of the valley of the Desaguadero. Agriculture had been adopted by them before the first arrival of the Spaniards, and although they have adopted their principal if not their exclusive occupation. But they make no improvement in agricultural operations, which may be attributed to their very feeble mental powers. They have been converted to the Catholic faith, but retain some of their savage manners; but they have not been converted to the Catholic faith, but retain some of their savage manners; but they have not been...
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The capital of this department, Oropesa, contains about 16,000 inhabitants, and is the most industrious of the towns of the department. The manufacture of cotton goods and of glass being carried on to a great extent in the immediate vicinity of this town, it is the seat of considerable manufactures. But its connexion with the sea is not immediate, and the produce of its fossil beds has to be conveyed by land to the river Guápí or Caranavi, thence to the sea. From this point, the trade of the department is carried on by means of the river Beni, which is navigable by small vessels as far up as the city of Santa Cruz de la Sierra.

The road from Oruro to La Paz traverses one of the two passes called Las Guallas, of which the northern (17° 43') rises to 14,200, and the southern (17° 50') to 14,530 feet, and though foreign commodities passing through any part of Peru had to pay a transit tax of 3 per cent., this road is preferred for all sorts 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 altogether limited to the precious metals, and to different kinds of woolens, most 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 Madeira rivers.

As it was excluded from foreign commerce, the Bolivians are obliged to satisfy their wants by their own industry. The manufactures of cotton are the most extensive. The better kinds are made in Oropesa; but in many districts 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 hanacas, is used by the poorer classes for dress, and likewise for blankets; the finer sorts, called cambis, are embroidered with great care, and used as carpets by the richer classes.

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 vessels of silver-wire, which are not without some merit. The lacquer vessels made by the Indians are superior in taste and much cheaper. In some districts the Inca race plumes of the American ostrich with brilliant colours, and make of them fans and a kind of parasols. (Pennant and Parls in Geog. Journ. 3, 1814; Meyer's Geographical Dictionary of General Miller; Cap. Basil Hall; Temple; Azara.)

BOLLANDUS, JOHN, a learned Jesuit, was born at Thienen (Tillemont) in the Netherlands, August 13th, 1599. He entered the Society of Jesus at the early hours of his life, and began, in 1618, to teach both in the Netherlands and other countries. The share which he took in the Asia Sanctorum, or Lives of the Saints, entitles him to especial notice.

The history of this work is not uninteresting, although the work itself otherwise has suffered much from disuse, delay 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 Heribert Rosedi, a Jesuit then of the age of sixty, and conversely the agent and patron of another work which had been extended to no further than sixteen volumes folio, with two volumes of illustrations: a trifle in those days, had he begun earlier. In 1667 he had begun by printing an octavo volume, entitled Faust Sanctorum, consisting of the manuscripts of a great number of saints of the eastern church, and which have not been printed in the Netherlands; but he died Oct. 5th, 1629, before he could accomplish what he had undertaken. The execution of his project was then entrusted to Bollandus, who was about this time thirty-four years of age, and collected to a great work. To prepare for the purpose. After examining Rosedi's collections, he established a general correspondence all over Europe, instructing his friends to search every library, register, or repository of any kind, where information might be found; but beyond this he did not go, and it is from this that the work is called in the assistance of another Jesuit, Godfrey Henschen of Guelderland, younger than himself, more healthy, and equally qualified in other respects. With this aid he was enabled to publish the first two volumes, folio, Antwerp, 1643, 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 with another associate, Père Daniel Papaleo, at that time in Rome, a young Jesuit from Germany, who went 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.' Hence the name of Bollandists has been given to the authors of the books of the saints of the month of March in three volumes, Antw. 1668; and those of April in three volumes, 1675. The saints of the month of May occupy
seven volumes, the second and third, by Henschen and Paperothius, were published in 1683; the first, and fifth bear the date of 1685, and had the assistance of Francis Baert and Conrad Jaunin; the sixth and seventh volumes were published by the same parties, in 1688. Henschen's personal labours however had been concluded by his death, Sept. 11th, 1681. The saints of June fifth, sixth, seventh, and eighth were also published by Henschen in 1685; the first, in 1701; the fourth in 1707, by the same parties; in the fifth, 1708, John Baptist Sollier was added as an editor; the sixth volume of this month, 1715, in two parts, was edited by Conrad Jaunin alone; the 'Martyrologium Ugaritense' was prefixed to the volume; Bolland's S. Papebrochius died June 26th, 1714. The saints of July extended to seven volumes; the first, 1716, was by Pini, published 1719 and 1721; the title of the third volume had the addition of the name of William Cuper; in the first two parts, 1725, the name of Bolland was added; and these names were continued in vol. v. 1727, vol. vi. 1729, and vol. vii. 1731. The same names also appear as editors of the first three of the six volumes of August, 1733, 1735, 1737; the fourth volume of August was by Pini and Cuper only, 1739; the fifth and sixth, 1741 and 1743, by Pini, Cuper, and John Stilting. The saints of September fill eight volumes. The first, 1746, is by Pinn, Stilting; John Limpen, and John Veldius; the second, 1746, by Stilting, Limpen, Veldius, and Constant stanus; and the third, 1746, by John Veldius, and the addition of John Perier; the fourth, 1753, by Stilting, Suyzkon, and Perier; the fifth, 1755, by the same, with the addition of Urban Sticken; the sixth, seventh, and eighth, 1757, 1760, and 1762, by Stilting, Suyzkon, Perier, and Corneliux By, Jacobus Ue, and Joseph Ghesquiere. The same editors are continued through the year 1793, and the volumes are uniformly printed at Antwerp. The fourth volume of October was printed at Brussels, 'typis Regiais, 1780, by the same editors, with the addition of Ignace Hubens, and all are now styled: 'Presbyteri Theologi.' The fifth volume, printed at Brussels, 'Regiasi, 1780, by John Baptist Fonton, 1780, by Jacobus Ue, and John Baptist Fonton. The sixth volume, 'Tongerlo, typis Abbatatis, printed at the Abbey of Tongerlo, 1794, is described as 'partum cu Cornelio Byse, Joanne Baptista Fontonos, presb. Anselmo Bertbodo Ord. S. Benedicti P.M. par. et Ioanne Buies presb. Sardo Dycke, Cyprano Goorio, Mathia Stasio, Ord. Frans. Canis. Regul.'

It is regretted that a work so full of curious information as the Acta Sanctorum, continued through a series of volumes, the greater part of them, and some still remain unfinished; but the great mass of monasteries in Europe has been suppressed; no purchasers can now be found for long sets of legendary reading; and it seems likely that the remaining lives will never be added to the collection. The continuation was interrupted, probably for ever, by the entrance of the French troops into Belgium in 1794.


The following works may be considered as connected with the greater part of Acta Sanctorum:—1. "Exhibitio Errorum quos Papebrochius suis in notis ad Acta Sanctorum commis, per Seb. a Sancto Paulo, 4to. 1663. 2. Examen Juridico-Theologio praebulentur Sebastiani a Sancto Paulo," autore N. Raymond, 4to. 1691. 3. "Responsio" D. P. de Solaro, 4to. 1696. 3 tom. 4to. 1606-1606. 4. "Acta Sanctorum Bollandiana apologetiae libris vindicata," fol. Antw. 1725. This last work is usually found as an accompaniment to the set of the Acta.'

(Life of Bollandus prefixed to the first volume of the greater part of Acta Sanctorum.) This is the portrait of Bollandus. Foppens, Bibliotheca Belgica, 4to. Brux. 1739, tom. i. p. 584; Moret, Dict. Hist. Bolland. tom. ii. fol. Par. 1759; Chalmers's Biographical Dictionary, vol. vi. pp. 29, 30; Biogr. Universelle, tom. v. p. 60.)

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 means of the Po, the city of Venice, the water-way of the Adriatic extends to Venice. The population of Bologna is about 70,000, but with its surrounding territory or commune about 74,300. (Calidri, Saggio Stistico dello Stato Pontificio, 1830.) Towards the end of the last century, when S. Petronio was the Annali Bolognesi was then also 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, where they have fine seats and extensive estates. The most distinguished families are: Pizzoni, Magnani, Bollagio, Zambecari, Marescalchi, Belimurghi, Lambertini, Bocchi, 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 Hentziers, son of the Emperor, was spendidly entertained, long 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 legato and the seat of the political government. The principal church is the cathedral, is situated at the centre of the town, and contains a large volume of sculptures, statuary, and paintings, by the Bolognese, and of other French artists. Its dome is supported by four painted towers. The gardens of the cathedral are spacious, and contain many statues, fine fountains, and various buildings. The city has a large number of churches, the most remarkable of which is the cathedral, and several of the other churches are devoted to the Virgin. The cathedral is of great antiquity, and was rebuilt in the fourteenth century. It is large, but not very magnificent. The church is cruciform, having one nave and four aisles, and contains some fine paintings of Lorenzo Vecchi and others. The town is surrounded by walls and has twelve gates; the streets are tolerably wide, and most of them have large 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 onehalf 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 foundation, and the fear of its collapse gives it a romantic air. Many buildings in the city are erected of the material of the dismantled towers. The Asinelli is a little out of the perpendicular, though in a much slightly 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 3052 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, law, medicine, science, and mathematics, and belles lettres. The first; of medicine; of letters and sciences, and the flourishing art of printing. 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. And we may add that the library of the University of Bologna is considerable, and contains 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, Zanotti, Monti, Orioli, Tommasini, Mezzofanti, Dondi, who was a professor 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
Bologna has a public library, the legacy of a clergyman named Magnani, which occupies three rooms of the convent of San Domenico, and contains 62,000 volumes. The academy of the fine arts has also a gallery of paintings, chiefly 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 town, possesses a valuable musical library of 17,000 volumes. Among the naturalists, the principal is Baron Vanni, an important member of the Società Italiana di storia naturale, and the composer of the eighteenth century. The College Venturoli, founded in 1525, is devoted to studies of architecture. There is also a college for Spanish students, founded by Cardinal Albornoz; and another for Flemish students, who are sent there by the province of Flanders. The Academy Istituto Reale 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 Terrabilla; the children are taught, gratuitously, Latin, arithmetic, singing and drawing. (Valley, Voyage Littéraire en Italie, 1833.)

Bologna is an architect's see, and the series of its bishops ascends as far back as the fourth century. St. Petronius, who lived about 430, was the tenth bishop of Bologna. The city, as well as its province, called Legzione, are administered by a cardinal legate appointed by the pope. The court of appeal for the four provinces of Bologna, Ferrara, Ravenna, and Forli, sits at Bologna, and consists of six judges.

Bologna is the centre of 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 spirit in Italy. Bologna is divided into two parts, regular and modern, 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 Terrabilla; the children are taught, gratuitously, Latin, arithmetic, singing and drawing. (Valley, Voyage Littéraire en Italie, 1833.)

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 contributed greatly to their cure. Bologna is one of the Italian cities which have 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 whom Benedict XIV. is the most illustrious. The native of the country who has made the greatest impression on the world is Bizzozero, the doyen of anatomy in Europe at the beginning of the fourteenth century, the physician and naturalist Malpighi, the naturalist and astronomer Marsigli, the mathematician and engineer Eutichio Manfredi, the brothers Zanotti, 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. folio to the biographies of Bolognese writers: Notizie degli Scrittori Bolognesi, 1781-94.

Outside the walls, the Campo Santo, or cemetery, contains many handsome monuments, which have been illustrated in a recent work: ‘Collezione scelta di Cento Monumenti Sepolcrali del Cimitero di Bologna.’ On the hill called Della Guardia, about three miles from Bologna, is the handsome church of La Madonna di S. Luca, which is joined to the town by a long arcade consisting of 635 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 invaders.

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 district of Bologna. 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 changed its name to Bononia. The Via Aemilia, a continuation of the Via Flaminia through Felsina, was the only land route from the Adriatic to Rome before the bridge at Rimini was built. In the civil war between Antony and the senate, Bononia was attacked by the party of the former, and it was here that the Consul Panas, defeated by Antony in the first battle of Mutina, died of his wounds b.c. 43. The place of Mutina, a small town near the Po, is now taken by the town of Mutina (Romagna), founded 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 name of the island occurs as being 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 Lavinius, still called Lavino di Bologna, which now runs northwards into the Samoggia, whence the united streams run to join the Reno above Cenno, 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 confusantes 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 the bed, and it forms even now several little islands near Bologna.

A fire consumed great part of Bononia under Claudius (Tact. xii. 59), when 10,000,000 sesterces were granted from the public treasury for rebuilding the town. On this occasion a great number of the citizens tattooed their hands with the name of Bononia. (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 Proculus, Agnus, 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 this 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 the dukes, probably of Lombard origin, of the House of Arpinas, and then of the House of Poitevins, had a right of patronage in the election of the bishops. Bologna, 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 Miasa 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 1112, by a charter. The city ruled over by a bishop. 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 milites or nobles only. The judges and notaries were to be approved by the emperor, in whose name the justices of the city were constituted. 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 every side except the Po by a body of villages on the same plan as towns and churches 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 estates in the city to the citizens, and by 1262 the town was able to make a good 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
Bolognese 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 party, was renewed immediately by Bologna in his elevation to the burlesque poem 'La Socchia Rapita.' The factions of the Guelphs and Ghibelines ruined the liberty and independence of Bologna, as well as of the other North Italian cities. Ambitious and rival families sided under one and the same sign, all fighting against the Guelph party, being worsted in the city by the Gereiemi, the chief family of the Guelphs, were, after much bloodshed, driven away in 1274 with 15,000 of their partisans and dependents, men, women, and children. They however rallied in the towns of Bologna, Certaldo, and Montefeltro, lord of Urbino, and made incursions to the very gates of Bologna. The Gereiemi 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 Ghibeline 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 driven out of the city, and soon after the latter set fire to the town. For two years he held his power, and every means was tried to drive him away. He used his authority with temperance and justice and for the good of the commonwealth for twelve years, but after his death his two sons, not able to maintain their power, sold the town to the Archbishop Viscontii of Milan. The yoke of the Viscontii was soon after removed. Della Scala became lord of 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 administration, and magistrates. It was the custom appointed in their turn all subordinate civil officers, and administered the finances of the commune; a gonfaloniere di giustizia, and eight anziani, who were changed every two months; and the tribuni della plebe, and masseri dell'arte, who were chosen every four years of the commune of the seigniories. They proved the guarantor of the communal liberties as against the seigniories. The senate coinz money in the name of the city, and the word 'Libertas' was retained on its escutcheon.

In June, 1796, Bonaparte entered Bologna, and drove away the papal authorities. In February, 1797, Bologna became a commune, the time of which continued, after a few months was united to the Cispalpine republic, afterwards called the Italian republic, and lastly transformed into the kingdom of Italy in 1804. Bologna was then the capital of the department Del Reno. In 1814 Bologna was overthrown by the Austrians, and in 1815 the name of the Austrian empire was restored to Bologna and the other legations to the papal authorities. In 1831 an insurrection broke out at Bologna against the papal government, which was put down by the arrival of an Austrian auxiliary force. For the antiquities of Bologna see Malvasia, Marmora Pelasina, and Montalbini, Antichita di Bologna; and for its history Savioli, Amnadi; and Leandro Alberti, Istorie di Bologna.

Bologna, Legazione di a province of the papal state, is divided on the east by the province of Ravenna, on the north by that of Ferrara, on the west by the duchy of Modena, and on the south by the central ridge of the Apennines, which divides it from Tuscany. Its length from south-west to north-east, from the sources of the Reno above La Porretta to the confines of Ferrara beyond Malabergo, is about fifty miles, and its greatest breadth from the Panano, which divides it from Modena, to the Silaro, which divides it from Imola in the province of Ravenna, is about thirty. It is watered in its length by the Reno, which enters the Po near Ferrara, and by numerous torrents descending from the Apennines. The north-east part of the province is mountainous, and the same is watered by numerous streams; the southern part is mountainous, but the middle part or plain of Bologna is very productive, and in a high state of cultivation. The lower hills also, and valleys at the foot of the Apennine chain, are well cultivated. Corn, wine, oil, vegetables, and garden flowers, are the principal products of the country. A great quantity of cattle is also reared.

The population, including the city, is 324,000. (Caliabri, Saggio Statistico, 1832.) The territory is divided into 29 districts, and its capital is Bologna. Bologna, a city, is the residence of the cardinals of the council of Trent, and market-towns: the principal are, S. Agata, 3000; S. Agostino, 5000; Aregeta, 3000; Argile, 2600; Barcella, 5000; Barzano, 2200; Borgo Panigale, 3400; Budrio, 10,000; Calderara, 3000; Castelfranco, 5500; Castel Goffredo, 2400; Castel Maggiore, 3400; Castel S. Pietro, 6600; Castiglione, 2800; Crespolano, 3400; Crovabore, 6500; Galliera, 2900; S. Giorgio di Piana, 3300; S. Giovanni in Persiceto, 6700; Granaglione, 2700; Loreto, 3000; Malamocco, 4700; Medicina, 9000; Molinella, 7000; Minerbo, 5000; S. Pietro a Casale, 4500; Ponterosso; of these numbers include within the respective territory or commune, 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 hamlets. All the above towns are stiely terze; they are of 105 to 150 houses, and the larger or more important 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 hereditary, subject however to the right 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 council, with the assent of the bishop, and the councils appoint the magistrates, i.e. the gonfaloniere, and four elders, and all the other communal officials and servants. The gonfaloniere is renewed yearly, the elders are renewed by ballot every year. The councils vote every year the municipal expenditure, as also the regular and extraordinary funds and other means to provide for it. This budget must be approved of 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. They receive for the commune a rent of about 1000 l.; the town is rich in pasture and wood, and working together on the same farm. They are sober, peaceful, 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 products of the land than those of the other parts 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 La Porretta 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 individuals; 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 the masters in the line of one of the chief arts, which 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 has thus been said to have sprung from a school as certainly as that he founded one. But when excellence was once ac-
proximated, originally seemed only compatible with a difference in the mode, since a difference of degree appeared to the eye; but Vasari's reference to the first picture was ascribed 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 least the professed object of Raphael, who, indeed, ascribes to himself among the Bolognese 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, concourse; the greatest masters having been contemporaneous and beginning to be succeeding, give 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.

The names of the distinguished master artists 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 vitiate 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 not unfrequently exaggerated their merits, and his opinions have been largely influenced by the narrower tastes and 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 age and the Renaissance by 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. The name of Primaticcio, which is the earliest known in the annals of the Bolognese school, and of 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 in the case of 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 Maddone; some of his works remain, and Malvasia relates, with reference to one in the church of St. Proclo, that he heard Guido extoll its purity 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 Greek and Roman masters was in part renewed; a practice previously 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 consecrated by tradition, but independently of this the works themselves, 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 matter which was more or less felt, when (after the death of Maso di Banco he was 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 religious subject, a mode which was carried by the greatest painter of the first period, 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 at a comparatively advanced period of life. Vasari states that the first picture was done 1430. 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 Pramticcio's. Niccolò dell' Abate, and Bonvicino, which the Italians have called antico-moderno, ranks with Perugino and Bellini, should, like them, have preceded the highest development of the art in a Raphael or a Titian; but it is precisely in this highest corresponding point that the Bolognese school is wanting, and which has in vain been required to extalt 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 him in 1516, Francis, to whose care it had been consigned by the greatest painter himself, was so amazed by 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 Francis, that he lived some years after this, but the story has been recently repeated by Quadratext de Quincy in his life of Raphael, and by Tieck (Phantastien über die Kunst). The school of Francis presents no distinguished names. The summit of the art had been already reached elsewhere, and his followers, who were inferior to him, were eclipsed by the disciples of Raphael.

The art flourished under these circumstances, and the style of their great model into Bologna; the best were Rammegh called Bagnacavallo, and Innocenzo da Imola. It is in the account of Bagnacavallo (which includes a notice of Innocenzo, Asperti, and Girolamo da Cotignola) that the Bolognese school, which was, perhaps, the most uniform of all, is called the Tuscan 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, Primaticcio, and Tibaldi. 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 Primaticcio at Fontainebleau, and by the extravagant compliment paid to him in a sonnet by Agostino Caracci, in which he is said to unite all the excellences of all the great masters. Primaticcio 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 afterwards at his capital to the execution of works 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 in the case of Benozzo, were executed after the middle of the 15th century.

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 witness the rising fame of the Carracci, who may be mentioned Passerotti, as the latest Bolognese painter alluded to by Vasari. The others may be passed over, with the exception of Denis Calvert, a native of Antwerp, who, after settling in Bologna, where he opened a school, not only took pupils, but in the same way created a group of his own, which was formed at Fontana, Fracino, and other celebrated Bolognese painters, but also of introducing that elevated style of landscape-painting which afterwards added a new lustre to the school in the hands of the Carracci, Domenichino, Grimaldi, and others.
the older Zuccaro 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 in general it remained independent of its models. The first imitation of Correggio may be said to have extended uninterrupted beyond his own date, since Parmigiano, who indeed rather holds the rank of an original master, exhibited 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 at Parma, where he resided in 1560, a school which immediately preceded the leading influence and fame of the Caracci. They too, from whatever cause, partook of the new admiration, and in their attempt to unite the excellences of the different schools, it was natural that a style, which had been hitherto in 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, like many other painters of the day, he considered the works of the Caracci and his contemporaries, as forming the instrument 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 seem to have borrowed least. 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 was occasioned by the attempt to strengthen the famous school which shortly attracted most of the rising painters who were studying with Denis Calvart, Cesì, and Fontana:—ample details as to the mode 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 abeters of the old style was not completely silenced till the frescoes in the Palazzo Magnani, Bologna, by the elder Caracci, and his Calzetta, 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 schools, 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, though 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 must bow to the strength of the performances of Lodovico in Bologna: Poussin and other painters, who visited Rome early in the seventeenth century, gave it the highest praise.

The followers of Lodovico at Bologna were however true to the founder of the school: posterity seems to have confirmed the opinion, and to have manifested that this great painter, with less academic power than Annibale, is more original in style. Sir Joshua Reynolds thus speaks of Lodovico Caracci:—'His unaffected breadth of light and shade, the simplicity of his colouring, which, holding its proper range and with the least possible contrast, is of great power from the subject, and the solemn effect of that twilight which seems diffused over his pictures, appear to me to correspond with grave and dignified subjects better than the more artificial brilliancy of sunshine which enlightens the pictures of Titian.'

The principles and practice of the Caracci and their scholars superseded for a time every other style in Italy, yet it may be remarked that the efforts of Lodovico can hardly be considered so spontaneous and independent as the historians of art have commonly asserted. It has been already shown that a new impulse had manifested itself in the Roman and Bolognese schools, which, though it was not at first discernible, the Caracci effected; and whatever may have been the origin of that impulse, the sudden rise of various and powerful talents in Bologna may be considered a symptom rather than the cause of general improvement.

Lodovico, among the followers of the Caracci, Domenichino holds the first rank; but the merit of this painter was last unnoticed in Rome, where he resided some time, owing in some degree to the intrigues of his rivals. Poussin had the honour of bringing some of his best works into notice, and declared him to be the most perfect of Caravaggios; Raphael. By some modern critics, too, he has been preferred to the Caracci themselves: his chief excellence, and that in which he approaches Raphael, is his expression. The graceful Albani, who left the school of Calvart for that of the Caracci, perhaps the Domenichino himself, and who escaped from the Fleming: he communicated it to Francesco and Giovanni Battista Mola, who often suffered it to predominate in their own historical works, and who occasionally painted the landscape backgrounds to the figures of Albani: these consisted frequently of females and children in subjects connected with religious stories, or with the lives of the apostles, perhaps more than in sacred subjects. The more brilliant talents of Guido excited the jealousy of the Caracci from the beginning. Lodovico encouraged Guercino as a rival to him, and Domenichino was put forward, it is said, for no other reason than in the interest of his own ambition; his colour which is observable in some of Guido's best works is said to have been owing to an accidental expression of Annibale Caracci, who at a time when the dark style of Caravage excited general attention, and was imitated among others by Guido himself. He remarked that the opposite treatment, with appropriate subjects, would perhaps be still more attractive. Caravageggio, who was born in the Milanese, and painted in Rome, Naples, and elsewhere, cannot be placed in the Bolognese school, which however he greatly influenced: his want of any part of the practice of Annibale was at the close of the sixteenth century, sought to oppose literal and unselected nature to the insipid imitation of the purer styles, and may be considered the chief representative of a class of painters called by the Italians the Naturalisti and the Teneros. Among the numerous scholars of this school, Guercino, born at Cento, seems to have been most smitten with the vigorous effects of Caravageggio, although in his latest practice he acknowledged the charm of Guido's style by attempting to unite it, perhaps with little success, to his own. His greatest work, the decoration of the cabinet of the Marchese Rosso at Bologna, perhaps, more than any other work of Guercino, has been accounted for by the spirit of innovation which manifested itself in every branch of the art, and which took the opposite of the vices of the day. The negative and somewhat heavy colour of the two masters alluded to was opposed to a florid and weak imitation of the colourists, the excesses of which are ridiculed by Boschini in his 'Carta del Navigare Pittorese.'

Lanfranco, born at Parma, was another distinguished scholar of the Caracci, and assisted Annibale in the Farnese palace, but his influence was chiefly upon the great Bolognese school 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 boldness of foreshortening which he had long sought in the works to have been seen at Parma. He is less a painter, and no new talent arose. The taste in landscape which the Caracci introduced or improved was inherited and almost exclusively practised by Giovanni Battista Violi, the Grimaldi, and others; the most perfect specimens of this branch of art, as practised in the school, however, can be sought in the works of Domenichino and Annibale Caracci.
About the year 1700 the greatest name was Carlo Ciganni, a painter of considerable repute in his day, and who so exerted himself as to bring about the fashion of the style that provided to unite the anatomical science of Annibale Carracci with the more attractive qualities of Correggio. Under his auspices the Clementine Academy of Bologna was instituted to preserve as much as possible the acknowledged principles of his master, and to point out the best models for imitation. But while the impulse which he gave was allowed to his school to have communicated to the school was gradually exhausting itself, a pernicious and in many respects opposite tendency had been gaining ground. The specious facility and consequent popularity of the mawkishists who imitated Vassari in Florence and were thus enabled partly by the united efforts of the Carracci, and appear to have been the chief causes of the neglect of Donencino. 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 than 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 German and Dutch art, and allowing for some exaggeration in their views, 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 whose 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 institutions and followers than from a particular evidence of that object in their productions. In a certain resemblance of manner, whatever it be derived from, characterises the masters, it may be admitted that no school presents so much variety as to be met with in the works of their disciples. This, it must be confessed, cannot be said of the followers of Michelangelo and Raphael. The example of an art eclectic style may thus lead to a more original style, whereas the example of an original style, if it cannot be surpassed, can only end in a weaker copy. Yet assuming that the Caracci were as independent of the spirit of their age and as free to choose their own road as their biographers and historians suppose, had they endeavored to follow up the feeling of Francia (not to return to Lippo Dalmasio or to Giotto), they might have succeeded in connecting the highest effort of the school with that earlier, national, or local style, which, as we have already pointed out, under Michelangelo and Raphael was 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 here 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 a much influence on the education and genius of Raphael.

BOLOGNIAN PHOSPHORUS. [Phosphorus.] BOLOGNIAN STONE, a variety of sulphate of bar- rites. [Barium.]

BOL OR, or BELUR TAHT, is a name applied to 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 was 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 knowledge, it is to be supposed that it is derived from the word Bol, which 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 will be found to be retained by any of the modern authors, for instance Marco Polo, after leaving Badakshan, or Balsalaq, in traversing a country called Vocam, arrives at the highest mountains in the world, and having passed them, to the table-land of Pomer. Travelling from it in a north-eastern direction, for forty days, over a mountain-region of great extent and elevation, Marco Polo, in common with 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 Kliproth, at a later date, compared the passages of Marco Polo with the great Chinese map, and found the name of Bolor 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, Kliproth 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 Kliproth 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 be found to correspond to Marco Polo's, in the next chapter 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 Tabr, the name by which it is known among the moderns. The Chinese map gives it the name of Tar- tashi-ling.

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 1500 inhabitants. Bolsena is near the site of the ancient Volstini, 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 conquered. But the pope and the state, tyrannized over their former masters, held their persons and property at their mercy, and violated the honour of their wives and daughters. The citizens secretly sent deputies to Rome imploring assistance. A Roman army was sent by Fabius Maximus, and the city was given to his friend Volstini, 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 Vol- stini, B.C. 356. Most of the revolted liberti were put to death, but at the same time Fulvius Flaccus razed the city which had so long withstood 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 Nioburh's remarks upon it, Römische Geschicht, vol. i. part 2.) The inhabitants still themselves in the town by the high wall. This new Volstini is little noticed in subsequent history. Se- janus, the favourite of Tiberius, was a native of it. The Via Cassia passed through Volstini. Among the few re- mains of antiquity at or near Bolsena are some ruins of a temple, said to have been dedicated to the worship of Venus. The Via Cassia is in the parish of Santa Cristina, and in the place before the church is another church with a curious basso-rilievi, representing satys and bacchantes, and near it is likewise a large and elegant ruin of old houses. 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 Flo- rentia.
vines, and gardens. To the south-east the town of Monte-Fiaccione rises on a conical hill a short distance from the lake, from which there is a fine view of the surrounding country. To the eastward, behind the town of Bolsena, is the caeruleous ridge of Bagnoara and Orvieto, which divides the basin of the lake from the valley of the Tiber.

[Bagnorex.] South-west of the lake, the country opens out into extensive plains after leaving the sea. At this point, the river Marta (Lartes flumen) issues out of the lake, and after a course of about forty miles enters the sea near Corneto. The lake is subject to overflowing; it is in many places shallow near its borders, where it is covered with reeds and fringed by multitude of water fowl. The air around the lake is unhealthy in summer, though not so deleterious as that of the plains towards the sea. The lake of Bolsena abounds with fish and large eels, which were celebrated in the time of Dante. (Purg. 28. 54.) Two small islands lie out from the lake, Isola Bisentina and Isola Martana. It was in one of these islands, some say the Martana, and others the Bisentina, 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, during the minority of her son Athalaric, who dying pre-maturely, Amalasonta took for her colleague in the cares of the kingdom her cousin Theodatus, who soon after con-fined her in the island on the lake of Bolsena, where she was kept in subjection and forced to dress in mourning, and put to death by Vitiges. The hills that surround the lake of Bolsena are basaltic; but the rock in most places has a covering of rich mould, through in others it is bare and shows hexagonal prisms ranged in all lines of directions, very much resembling the red marls of the very old wine, both red and white, especially of the meas-ter kind.

BOLSOVER, a parish and formerly a market-town in the hundred of Screaves, county of Derby, 23 miles N.N.E. from the town of Gotham. 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 Robert de Mortimer in 1183, the castle was mentioned 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 sometimes 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.) died possessed of it in 1456, together with the Castle of Harewood, but it was afterwards granted in 1546 to John, Duke of Norfolk, on the attainder 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 con-tinued 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 inconveni ent domestic residence with somewhat of a castellated appearance at certain points on the outside. It was its purchase, by Sir Charles, who appears to have removed on the occasion what remained of the old castle. It is a square, lofty, and embattled structure of brown stone with a tower at each angle, of which that at the north-east angle is much higher and larger than any of the others. The building stands 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 designated as the great parlour. This floor, called 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 36, called the "star chamber," and a small room in the same apartment, called the "attic parlour," 24 feet square, which are all very small: the floor of every room is of stone or 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 standing. In front of this mansion there was a fine terrace, from which there was a fine view of the lake.

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. Pegge, Horace Walpole, and others, thought that these apartments could not have been intended for the use of Cavendish Duke of Newcastle, son of the Sir Charles, who built what is called the castle. Dispenesck's view of Bol sover (1632) however decides the point of their previous existence, and that they were built before the civil wars were more probable, as otherwise there would have been no 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 earl had previously entertained the king at Bolsover in 1621, when the castle was still uncompleted and crowned. 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. However, it was purchased for the castle 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 be longs to the Duke of Portland, whose family derived it in descending line from the Cavendishes. The palace, though still inhabited, the mansion has long ceased to be even occasionly 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 separates this range of hills from the steeper one to the 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 Gawpwell, amounted to 320 in 1831, and the population to 1429, of whom 695 were females. The inhab itants are chiefly marked out as farmers and laborers. 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 111l. 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. of bank annuities, bequeathed by Mrs. Smith, was in 1823 granted to the vicar and churchwardens, by the discretion of the minister, churchwardens, and four trustees. (Pegge's Sketch of the History of Bolsover and Peak Castles; Bray's Tour into Derbyshire; Pilkington's Present State of Derbyshire; Lysons's Magna Britannia.)

BOLTON (geology).--Parish of Aesculapius, a family of the group Tunicata, which, according to William Sharp MacLeay, are the animals that connect the Acria, or lowest primary division of the animal kingdom, with the mollusca, from which, he observes, they differ in the follow ing points: 1. They are covered with an envelop of a rich and tender substance, which, when opened, is visible in the outside of the animal. 2. The shell is not coarsely divided into particular apertures, as are the other shells, but is provided with two openings, of which one is branchial, the other anal. Secondly, in their mantle forming an internal tunic corresponding to the outer covering or test, and provided like it with two openings, and thence, in having branches which occupy all or at least part of the membranous cavity formed by the internal sides of the mantle. From the Acritia the Tunicata (or Heterobranchia, as De Blainville calls them) differ in having distinct nervous and generative systems of tubes. This distinction is perfectly preserved in the animal, which is provided with two openings, both internal. [Tunicata, in Jameson's "MacLeay in his excellent "Anatomical Observations on the Natural Group of Tunicata," after referring to the investigations of Cuvier, bestows well-merited praise on the "imitable labours" of the above-mentioned De Blainville, and censures De Blainville for his obvious "tendency to alternate." He well observes, that dissection must 

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 inclosed 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 Botlenia (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 conicose test, supported from the summit by a long pedicle, and having both orifices lateral and cleft into 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. Botlenia cinerea, Botlenia fumiformis, and Botlenia reniformis. We select the latter, Ascidia globifera of Captain Sabine, Ascidia clavata 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.

**Testula.** about ten or twelve in number, very unequal, clavate, with the claw planiform or beautifully divided into a number of regular laminae.

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

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

**Eosophagus** 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 eosophagus, only higher; anus having a scolpixed margin.

Ever 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 pharynx.

Ovaries 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 Second Voyage) says one single specimen 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 scabrose 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 cinerous or dirty white, which, he adds, may possibly be the true colour of the animal, as it is not unfrequently that of the other ascidids. MacLeay's specimen was brought home from Winter Island by William Nelson Griffiths, Esq., while under the orders of Captain (now Sir Edward) Parry.

**BOLTHEAD,** 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 Salford, county palatine of Lancaster, comprising the township of Great Bolton and the chapelry of Little Bolton; 11 miles N.W. of Manchester, 6 miles W.S.W. of Bury, 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 53° 33' N. lat., and 3° 34' W. long.

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

<table>
<thead>
<tr>
<th>Township</th>
<th>Population</th>
<th>Estimated Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglezarke</td>
<td>108</td>
<td>£975</td>
</tr>
<tr>
<td>Blackrod, chapel</td>
<td>2,589</td>
<td>4,618</td>
</tr>
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<td>Bolton, Great, township</td>
<td>28,289</td>
<td>27,887</td>
</tr>
<tr>
<td>Bolton, Little, chapel</td>
<td>12,896</td>
<td>11,747</td>
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<tr>
<td>Bradshaw, chapel</td>
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<td>Brightmet, township</td>
<td>1,926</td>
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<td>Edgworth, township</td>
<td>2,168</td>
<td>2,989</td>
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<td>Entwistle, township</td>
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<tr>
<td>Lever, Darcy, chapel</td>
<td>1,119</td>
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<td>Lever, Little, township</td>
<td>2,221</td>
<td>2,614</td>
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<td>Longworth, chapel</td>
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<td>Quarston, township</td>
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<tr>
<td>Sharples, township</td>
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<td>3,228</td>
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<tr>
<td>Tongue with Haugh, township</td>
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<td>2,632</td>
</tr>
<tr>
<td>Turton, chapel</td>
<td>2,563</td>
<td>4,193</td>
</tr>
</tbody>
</table>

**Total** 63,034 | £77,997

The increase in the population of the town of Bolton has been very rapid since the year 1775, when there were only 3329 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 58 years of 35,856 persons. The returns for the whole parish during 30 years preceding the year 1831 exhibit a proportionate increase. In 1831 the parish contained 29,826 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:—

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*P. pedicle; C, branchial orifice of envelope; A, anal orifice of envelope.

The cut is taken from the figure given by Mr. MacLeay, who observes that the specimen was probably contracted by being in spirits, as the situation of the loop of the intestine is indicated by a corresponding elevation of the envelope.*
BOL

The boundaries of the borough, as laid down in the Boundary Act, sec. 2 and 3 Will. IV. cap. 64, are not the boundaries of the town: a portion of Little Bolton lying to the north of Ashtley Bridge, end extending as far as Horrocks' Fold, out of which the franchise and the right of the town in the joining township of Tonge with Haulgh 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 affords proof of 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 Bodelton or Botheiton, a town which is mentioned in the 'Calendarium Rotulorum Chartarum' preserved in the Tower of London, the name belonged at the time of the Conquest to Goger of Mescheyre, by whom it was sold, along with his other lands between the Ribble and the Mersey, to Ranulf de Blandunville, Earl of Chester, from whom it came into the possession of the Earl of Ferrers, and thence to an ancient Lancashire family of the name of Pikington. In the possession of this family the menor remained for nearly a century, until Sir Roger Pikington, 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 end 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 he held until part of it was again confiscated and allowed to the Earl of Derby. 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, by whom they are still held. The earls of Derby and Bolton have, at various times, alone and in combination, have each one-twelfth, and a fifth party holds one-sixth. The menor of Little Bolton is in the possession of Thomas Tipping, Esq.

During the political disensions in the reign of Charles I., Bolton began to rise into notice, owing to the ardent spirit manifested by the inhabitants in favour of the Commonwealth. During the long strifes between the royalists and the parliamentarians the town was garrisoned by the latter, in whose possession it remained till 1644. 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 earl of Derby, he attempted to take the town by storm. After a number of attacks had been made, the inhabitants having been driven from the town, it was retaken by them. It did not remain long in their hands; for by one of the regulations made for the time it was to be taken by the English, those few residents who were left were to have the right of returning to it; but they were not permitted to return until the end of those few occasions on which it was held. It was again surrendered to the parliament; and after the battle of Wrothcester the unfortunate Earl, who had signalized himself in the attack upon Bolton, being taken prisoner, was condemned by a military tribunal at Chester, and sent under 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 cotton, woollen, and worsted goods; and another writer (Blome), who wrote somewhat later, describes it as a very well frequented 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 this trade was at first prosecuted by some Flemish weavers, 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 was first improved, and in many of its kinds introduced, by some emigrant weavers, who came from the palatinate of the Rhine.

Bolton made no great advances in population until the improvements in the machinery for spinning cotton gave a new impulse to manufacture, which has been and is 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 men 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 which resulted in the formation of the valuable invention, and the application of his invention, was remunerated by a parliamentary grant of 500l. 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 practised cotton machinery to 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 principles. 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 and the neighbourhood employing some 6,000 hands. Steam-power 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 1100 horses. About fifty steam-engines are used in the spinning- mills alone of Bolton. Mr. Richard Arkwright, the inventor of the machine, was in 1831, at the age of 86 years, in very decline, and was reduced to the necessity of taking a hint from Baines' calculation that there would therefore be 7700 persons, old and young, engaged in the mills alone in Bolton. But this average is taken too high; there would be more accurate, giving a total of 5000, which corresponds very nearly with the population in the townships where men employed in the cotton and silk trade in the townships of Great and Little Bolton was 6160. The women and children would quadruple the number.

The weavers of Bolton produce a great variety of fabrics, probably of no inferior quality than any other piece in the county. Plain and fancy muslins, quilting, counterpanes, and dimities, are the chief kinds of cloth, but cambrics, ginghams, &c. are also woven. Formerly fustians, jeans, thickets, and similar fabrics, were the principal articles manufactured in Bolton, and, there was a considerable amount of cotton manufacture. At present we are now chiefly produced in the power-loom, also 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 manufacture of the blanket, which is now largely carried on, is among the largest in the kingdom, and employ a considerable number of persons, tens of 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 one thousand 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 those that are imported or 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 its vicinity. A great proportion of the cotton goods which are manufactured here are 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 Tuesdays. Here are the central mart of the export trade 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 strange, is by no means uncommon, and is certainly 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 intercource with Manchester, already very easy and frequent, will be rendered still more so by the line of the new road laid (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 and goods are sent to and from the two towns. 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 began at the southern end of the town called Clifton, and ran east to Bolton, which, for the distance by the canal, is laid parallel 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 and iron mines, though not perhaps so close as the town, appear to have been worked when Leland wrote his 'Itinerary.' He says 'They burne at Bolton sum canale but more so col, of the wic the pittes be not far off.' The principal mines for cannel coal belong to the earl of Bal- tontyre, and those for iron to the earl of Clifton, the last, is called Bolton, but the two wapentakes are near thirteen inches diameter to the 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 sufficient to raise the water at all to the height at which it was 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 effectuated at an expense of £24,600, and the reservoir was completed and 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 the 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 the churches, the one 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 deficiency in the deanery of Manchester, in the prebend of Bolton, 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 in the English-Gothic style, and contains 923 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 endowment for the living is a perpetual curacy, to which the subscribers had three presentations, which are now exhausted, and it revert 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 Tip- pins, Esq., which has a fixed income of 20l., and is a perpetual curacy. It is endowed with 200l. 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 of Bolton are those of the town. The grammar school, continuous 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 482l. per annum, of which the head master receives a salary of 160l., 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 except those of the foundation, and all selected from the sons of Dissenters. 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 class of charity, to whom are introduced the boys of the foundation. 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 R. Ainworth, the compiler of a Latin dictionary, and Dr. Lempriere, the author of the Classical Dictionary.

At another school, endowed by Mr. Nathaniel Hulton, in School-street, Moor-lane, 120 boys and 50 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 to them. Boys and girls pay a small sum yearly towards their education.

Marston'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 a master. Mrs. Susannah Brookes left a further sum to instruct twelve more in the same manner, and latterly 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 its usefulness to the labouring classes. (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. xxvii. 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 Methodists</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>Catholick School</td>
<td>110</td>
<td>120</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 300 poor children, 600 boys and 400 girls.

In addition to the school charities, considerable sums are distributed to the poor from various bequests connected with the town. From Hulton's Charity, 25l.; Parker's, 5l.; Gossnell's Charity, 5l.; Crompton's Charity, 7l. 10s.; Astley's Charity, 5l.; Cockles' Charity, 5l. 9s.; Aspendell's Charity, 5l. 15s.; Mort's Charity, 14l.; Leman's Charity; 5l. 10s.; Greenhalgh's Charity, 4l. 10s.; and Popplewell's Charity, 30l. (Report of Commissioners concerning Charities, 1829, pp. 168-164.)

The Infirmary was established in 1814, and is liberally supported. A clothing society, and a society for the relief of poor women during childbirth, 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 weekly market on Mondays and Saturdays, which is attended by all the inhabitants of Bolton and the neighbourhood. There are two annual fairs, one on the 21st of July, and the other on the 14th of October, for hardware, toys, &c., and on the day preceding each a fair for horned cattle. A fortnight fair is also held for keen cattle on Wednesdays, at which are sold, among other things, a large newspaper, under the title of 'The Bolton Chronicle,' is published every Saturday. (Communication from Bolton.)

BOMB, 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 detonated by a mortar or howitzer, generally at a considerable angle with the horizon; in order that, by the momentum 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 the 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 1588 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 Brunswick, placed a bomb, which falling on one of the houses set fire to it, and, as flames spreading, three fourths of the town were destroyed before they could be extinguished. (Père Daniel, Histoire de la Milice Françoise, liv. vii. chap. 6.) But Grose records that a French translation, made in 1756, of a work by Valtinus, 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, as in a hand. The first edition of Valtinus is dated 1472, it appears from whence these stories 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 1624, at the siege of La Mothe, under the direction of one Mathiu, an English engineer, who was invited from Holland by Louis XIII., and was afterwards killed at the siege of Gravelines.

In 1858 there was cast in France an enormous bomb, which is said to have been in the form of an egg, and to have been capable of containing 1000 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 loaded was to have been 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 1822, 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.

Who would now be supposing a bomb now nearly superseded as a component in those which expel the objects 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 purposes it is at present in use: as CARCASS, CASE-SHOT, GRENADE, and SHELL.

BOMB-PROOF. This name is given to a military magazine, or other building, when its roof has sufficient thickness to withstand the shock of a bomb falling on it, after being projected from mortars at considerable elevation. Under the word BLINDAGE is given the construction of such buildings of timber as are intended to secure troops or artillery from the effects of what are called vertical fires; and under the word CASING is given the construction of those which are formed in the mass 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
roof of the same material. The intrados, or interior line, in a vertical and transverse section of the vault, is sometimes a semicircular rim; 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 greatest thickness is given to the crown, or upper part of the arch, where, being so distant from the walls, it is more exposed to the shocks and prickers which render the vault dangerous to 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 of these purposes, it should not only be able, with its off-ends, to receive some shock 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 given under Magazine, it is only necessary to observe, in general, that a bomb-proof vault, usually about eighteen feet, and the thickness of the arch three feet at the hances or sides. But the extrados, or exterior of the vault, should be covered with a bed of earth about five feet deep, to deaden 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 the 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 compel the surrender of some town situated out of the reach of their guns. In the service of a bomb- vessel, besides 6-pounder guns, 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 artillery-men, with their officers, for the service of the 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 elevations never less than 45°. In taking their stations previous to the commencement of the bombardment, it is necessary that they should keep beyond the range of the enemy's vessels, and that they should have springs upon their cables. For particulars concerning the ordnance and stores on board of bomb-veesels, and for the management of the latter when in action, see The British Gunner, by Captain M. Spearman. 

BOMBACEE, a group of plants considered by some a distinct natural order, by others as a mere section of Sterculiaceae. They are usually large trees, with broad deep-green leaves and conspicuous flowers. The commonest species of them differ from Malvaceae 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 having only one cell; but this is an inaccurate mode of speaking of them, inasmuch as they are formed upon the common two-celled type, and merely have the cells united at the point of the connective. 

It 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 cottony substance found within their fruit, and which has gained for some of them the name of cotton-trees, is too 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 Malvaceae. Adenanthera, or the Bau-bau tree, already mentioned in its proper place, is one of them. It forms a portion of the garrisons of the 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 such a state that, in order to avoid 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
between now and the year 1340. The town, which was burnt by a corsair in 1279, and never recovered 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 several times; attempts were made to blow up the entire shore of the harbour, and to enchain the British army by gun-boats.

On the other hand, the garrison was employed in strengthening the old fortifications and adding new batteries, and in making occasional sorties against the Spanish lines. Of 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 fire of the ships except to the carasses, 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 besiegers; 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 1657, and was effected by a British army under Lord Cathcart, which closely invested the city on the land-side, while the fleet under Admiral Gambier blockaded the harbour. The fire from the land-batteries and bomb-ships opened 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 cathedral, with above three hundred houses, was destroyed. The ship which came into the town.

The last act 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 Algiers. The firing continued during twenty-four hours, when all the ships which came into the harbour were destroyed and great part of the town.

BOMBAY, an island on the western coast of Hindustan, lying off the shore of the Concan in the province of Bombay, is 23 miles long, which is reckoned from the south-eastern extremity of the island, is in 18° 56' N. lat., and 72° 57' E. long. It is some 450 miles from the island of Colbatte, 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 governor of the residency.

Bombay is little more than five miles long from north to south, and about three miles broad in its widest part. It is formed by two ranges of whitestone rock of unequal length, running parallel to each other on opposite sides of the island, at the other end of which are separated by seven 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 interior 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 several batteries, which are a chain of mounds or dunes, 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 disadvantage, so that during the continuation of 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 natural difficulties of the island must have prevented any settlement upon it by Europeans but for the advantages of its position for commerce, and its harbour, which is unequaled 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 Salletse, Bombay and Colabga, 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-east extremity of Bombay, and now united to the town, which is called Bombay. The new colonies of cantonments for the European soldiers are situated on Colabga.

On the east side of the harbour, about four miles from Bombay, is Butcher's Island, and behind this the island of Elephants, celebrated for its caves and temples, and which is only five miles from the town. This island is supposed to be the old site of Butcher's Island and five miles east from Bombay is Caramja Island, on the western side of which is an extensive shoal.

The entrance to the harbour thus formed is between Colabga and Carnajia Islands, or rather between the shoal and a rocky point on the coast of the former. This point is the extremity of a long and narrow sand swept projecting beyond the point of Colabga, 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 the harbour it is necessary to clear a sunken rock and a bank which projects about one mile from the extreme south of the island, built on the southern extremity of Colabga Island, 150 feet above the level of the sea, which may be seen seven leagues off the coast.

There are no other important harbour in British India where the rise and fall of the tides are sufficient to admit of 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 Kal-

Aegypt, was little frequented. It had previously been an established station of the Persian merchants. The sovereignty 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 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 Portugal. By the marriage-contract the king was to receive 30,000l. in money, the title of the island of Bombay with its dependencies, together with permission for his subjects to carry on a free trade with all the Portuguese settlements in India and Brazil. A fleet of ten ships arrived, commanded by the earl of Marlborough, with 500 soldiers, which were landed at Bombay, where they arrived on the 18th September, 1662.

Under the pretext that the instrument by which the sovereignty of the island was made over did not accord with the usages 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 till 1674, when a signature was taken in the name of the king of England by Mr. Conyngham, who had been there at the same time remained 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 received from Europe, and who consequently were able to undersell the factors of the East India Company, caused great dissatisfaction on the part of that corporation; and on
the other hand, the expenses which the settlement occasioned beyond the revenue to the king made him willing to transfer the island to the Company. The instrument by which the Company acquired possession of the island stipulated that the island is to be held by the king in free and common socage, as of the manor of East Greenwich, on the payment of the annual rent of 10l. in gold on the 30th September in each year. With the place itself the Company received the right of all the property necessary 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 at Malabar. In 1674 a cotton bazaar was opened in Bombay, but was easily repressed, 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, renounced 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 obtained, and at this time it was deemed expedient to guard the island by a small fleet of ships. So early as 1668, the Bombay was in the service of the East India Company, which had previously been placed at Surat. In 1687 the title of regency was given to the administration of Bombay, and unlimited power over the rest of the Company's possessions in India was awarded.

The only natural vegetable production of the island, with the exception of some rank grasses, was the cocoanut tree, which grew very abundantly, it being a property of that tree to be uninjured by sea-water. It was necessary to clear away great numbers of trees 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 only drawback for even the increased cultivation of the narrow neck of land at the south-eastern extremity of the island.

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, supposing a general attack of a few thousand men, they would offer comparatively little resistance. The houses within the walls are built of wood, with verandahs and sloping roofs covered with tiles. In 1685 a great fire destroyed many houses; after which a great number of dwellings were reconstructed before the season of the rainy season. The sea as already mentioned. The adoption of this spot for building ground appears to have been a matter of necessity arising from the denseness of the population in proportion to the quantity of land cleared or capable of being converted to building purposes. Many of the dwellings, both within and beyond the walls of the fort, are constructed in a commodious manner, particularly in what is called the European quarter. The shops and warehouses belonging both to European and to native merchants and traders are upon the same plan as in other parts of the island, being principally inhabited by Parsee families, is dirty and uninviting. The government-house within the fort is a large convenient building, used principally for conducting the public business. The governor has two other residences; one at Malabar point, the S.W. extremity of the island, the other at Parel, about four miles from the fort near the eastern shore of the island. The first of these, which is a cottage beautifully situated on a rocky promontory, is inhabited by the governor during the hottest season. The building and the surrounding gardens are in great 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 high, the air uncommonly dry, and the amount of rain that falls in the wet season. He admires 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.

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 42,726l.

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 classes, and necessary for its defence and government.

<table>
<thead>
<tr>
<th>Community</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>British residents, not military</td>
<td>1,840</td>
</tr>
<tr>
<td>Do. military and marine</td>
<td>2,460</td>
</tr>
<tr>
<td>Native Christians, Armenians, and dependants of Portuguese</td>
<td>11,500</td>
</tr>
<tr>
<td>Jews</td>
<td>12,450</td>
</tr>
<tr>
<td>Mohammedans</td>
<td>28,000</td>
</tr>
<tr>
<td>Hindus</td>
<td>103,800</td>
</tr>
<tr>
<td>Parsees</td>
<td>13,150</td>
</tr>
</tbody>
</table>

Including the fluctuating population, which is at all times very great, it is estimated that Bombay at this time contains 229,000 souls. The number of houses, according to the government census in 1816, was 20,786. The floating population, being drawn together by commercial pursuits from various parts of India, is necessarily of a very mixed character, and consists principally of Persians, Arabs, Malrattas, Carnatists, Portuguese, Indians from Goa, and a great number of sailors. The lower classes of residents are mostly merchants, the more employed with palmyran leaves. There is only one English church, which is within the fort. Portuguese and Armenian churches are numerous both within and without the walls; there are likewise three Jewish synagogues, and a great number of mosques and Hindu temples; the largest Hindu temple, which is about a mile and a half from the fort, is dedicated to Mumba Devi.

The property of the island is principally in the Parsee inhabitants, who are active and intelligent, taller, better formed, more athletic and with handier features than Hindus. In early youth their females are delicate and handsome, but they very soon grow coarse in their persons, and show the marks of age sooner than Indian women in general. The principal merchants on the island are Parsees, and it is usual for every Parsee family to have one or more Parsee partners, who supply a great part of the capital. These people wear the Asiatic costume, but they assimilate more to other eastern people to the customs of Europeans, and nearly the whole of them speak English; more artistic and with handier features than Hindus, many of them speak it as fluently as Europeans; at the same time they adhere most rigidly to their religious customs and observances. In the morning and evening they crowd to the shore, where they prostrate themselves in prayer before the sun. Each Parsee has about twenty-five 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 bodies are deposited between this wall 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 more artistic and with handier features than Hindus.

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 Engineers. The docks are well provided for their architectural beauty; the slips and basins are calculated for vessels of any size. Two ships of the line, or one ship of the line and two frigates, can be completely built and equipped in these docks every eighteen months. Bombay being situated between the forests of Malabar and Coromandel, receives supplies of timber with every wind that blows. Ships built of teak-wood are much more durable than those built with European timber; they have been known to last more than fifty years. Some Bombay-built ships, after
no separate account has been given of the value of the exports made from Bombay to Canton. we know the aggregate value of the shipments so made from the three presidencies, and also the number and tonnage of the ships despatched with the same; from which last information it would appear that more than two-thirds of the whole country trade between India and China is, as far as export is concerned, carried on from Bombay. in the three years ending with 1831-32, the tonnage so employed was as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Ships</th>
<th>Tons</th>
<th>Ships</th>
<th>Tons</th>
<th>Ships</th>
<th>Tons</th>
<th>Ships</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829-30</td>
<td>18</td>
<td>5,373</td>
<td>4</td>
<td>4,449</td>
<td>28</td>
<td>29,729</td>
<td>54</td>
<td>35,536</td>
</tr>
<tr>
<td>1830-31</td>
<td>25</td>
<td>10,113</td>
<td>4</td>
<td>3,178</td>
<td>35</td>
<td>96,695</td>
<td>64</td>
<td>20,985</td>
</tr>
<tr>
<td>1831-32</td>
<td>35</td>
<td>8,646</td>
<td>9</td>
<td>879</td>
<td>27</td>
<td>16,566</td>
<td>44</td>
<td>20,918</td>
</tr>
</tbody>
</table>

the value of the trade between Bombay and the eastern islands has been:

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports</th>
<th>Tons</th>
<th>Export</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829-30</td>
<td>£3,996,881</td>
<td>1,986</td>
<td>£7,743</td>
<td>528,683</td>
</tr>
<tr>
<td>1830-31</td>
<td>1,986</td>
<td>528,683</td>
<td>£7,743</td>
<td>1,986</td>
</tr>
<tr>
<td>1831-32</td>
<td>1,986</td>
<td>528,683</td>
<td>£7,743</td>
<td>1,986</td>
</tr>
</tbody>
</table>

with the Arabian and Persian gulf the trade in each of the same years was:

<table>
<thead>
<tr>
<th>Year</th>
<th>Value of Imports</th>
<th>Tons</th>
<th>Value of Exports</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829-30</td>
<td>£1,986,809</td>
<td>528,683</td>
<td>£7,743</td>
<td>1,986</td>
</tr>
<tr>
<td>1830-31</td>
<td>1,986,809</td>
<td>528,683</td>
<td>£7,743</td>
<td>1,986</td>
</tr>
<tr>
<td>1831-32</td>
<td>1,986,809</td>
<td>528,683</td>
<td>£7,743</td>
<td>1,986</td>
</tr>
</tbody>
</table>

through these channels Bombay receives from Persia raw silk, copper, pearls, galls, coffee, gum-arabic, copal, myrrh, olibanum, bdellium, assafodida, dried fruits, horses, and bullion. the returns are grain, Bengal and China sugar, British manufactured cotton and woollen, and spices. the merchandise sent to Calcutta from Bombay, in return for sugar, indigo, and rice, are timber, coir, cocnut-nuts, sandal-wood, and cotton.

the shipments from England to Bombay consist of the usual assortment of British manufactures and vessels; the returns for which are made in Persian raw silk, cotton-wool, spices, gums, and drugs.

the heavy duties levied by the Ameer of Scind, 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 200,000 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 coasts 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:-

- Ajmeer, 650 miles; Allahabad, 927; Ahmedabad, 321; Ahmednuggur, 181; Aroth, 722; Aurungabad, 269; Barooh, 221; Bassein, 27; Bednore, 452; Bijanagar, 398; Calcutta, 1301; Canore, 889; Cashmere, 1233; Cuttuck, 1934; Cochin, 780; Delhi, 88; Dowlaabad, 238; Goa, 292; Gobonda, 472; Gwalior, 768; Hyderabad, 489; Juggernauth, 241; Kaira, 1062; Kandeish, 1080; Kandhar, 800; Kairen, 399; Madras, 758; Masulipatam, 668; Mirzapore, 292; Moodshred, 1259; Moulant, 920; Mysore, 630; Nagpore, 552; Oude, 1013; Ooein, 486; Patna, 1145; Pondecherry, 805; Poonaah, 87; Seringapatam, 622; Sumbohore, 1289; Surat, 1233; Talcher, 615; Toda, 480; Toppoor, 413; Travancore, 889; Ulycan, 735.

**BOMBAY, PRESIDENCY OF.** Bombay is the seat of one of the 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, North of the Island of Bombay.
  - Surat, Barooh, Bombay Island.
- **Darwar, Candeish, Northern Concan, Southern Concan, Poonaah, 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 Colahas or Old Woman's Island</td>
<td>184</td>
<td>169,570</td>
</tr>
<tr>
<td>Surat, comprising the city and suburbs, the town of Randier, and the suburbs peryaugh in which constitute the collectorate of Surat</td>
<td>1,350</td>
<td>454,431</td>
</tr>
<tr>
<td>Barooth, Lahoore, 456; Lahoore, 1010; Lucknow, 923; Madras, 758; Masulipatam, 668; Mirzapore, 292; Moodahred, 1259; Moultan, 920; Mysore, 630; Nagpore, 552; Oude, 1013; Ooein, 486; Patna, 1145; Pondecherry, 805; Poonaah, 87; Seringapatam, 622; Sumbohore, 1289; Surat, 1233; Talcher, 615</td>
<td>20,870</td>
<td>684,768</td>
</tr>
<tr>
<td>Ahmednuggur collectorate</td>
<td>1,850</td>
<td>484,761</td>
</tr>
<tr>
<td>Southern Concan collectorate</td>
<td>6,770</td>
<td>540,597</td>
</tr>
<tr>
<td>Poonaah collectorate</td>
<td>7,280</td>
<td>630,655</td>
</tr>
<tr>
<td>Ahmednuggur collectorate</td>
<td>12,430</td>
<td>417,276</td>
</tr>
<tr>
<td>Darwar collectorate</td>
<td>9,350</td>
<td>776,153</td>
</tr>
<tr>
<td>The Southern Jaghires</td>
<td>9,350</td>
<td>776,153</td>
</tr>
</tbody>
</table>

**Total** | **59,438** | **6,251,546**

The above is exclusive of the district of the Northern Concan, from which there are no returns; its area and population are estimated at **5,500** | **387,264**

64,938 | 6,638,810

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 Subder Dwaneess Ahmednuggur, it is stated that in the British territories dependent 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 1680 were mere village schools, with 53,338 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 company's accounts:-

| Bombay school | 3,600 |
| Society for Promoting the Education of the Poor within the Government of Bombay | 11,385 |
| Native School Native book and School Society | 6,400 |
| Native School, Southern Concan | 500 |
| For the education of natives on Capt. Sutherland's plan | 4,800 |
| Durkaah in the Deccan | 50,000 |
| College at Poonaah | 15,250 |
| Engineer Institution at Bombay | 180 |
| For an English class | 960 |

Total rupees | 99,395

equal to 99392 10s. sterling.

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

<table>
<thead>
<tr>
<th>Schools</th>
<th>Scholars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmedabad—city, 21; village, 63</td>
<td>84</td>
</tr>
<tr>
<td>Southern Concan—in private dwellings, 55; in temples, 23</td>
<td>86</td>
</tr>
<tr>
<td>Northern Concan</td>
<td>9</td>
</tr>
<tr>
<td>Ahkaah</td>
<td>139</td>
</tr>
<tr>
<td>Kaira Sudder Station</td>
<td>3</td>
</tr>
<tr>
<td>Surat Zillah</td>
<td>139</td>
</tr>
<tr>
<td>Surat Town</td>
<td>1,346</td>
</tr>
<tr>
<td>Broach Zillah</td>
<td>98</td>
</tr>
<tr>
<td>Broach Town</td>
<td>16</td>
</tr>
<tr>
<td>Kandish</td>
<td>169</td>
</tr>
<tr>
<td>Poonaah</td>
<td>322</td>
</tr>
<tr>
<td>Poonaah District</td>
<td>149</td>
</tr>
<tr>
<td>Ahmednuggur</td>
<td>161</td>
</tr>
<tr>
<td>Darwar</td>
<td>150</td>
</tr>
</tbody>
</table>
| Total number of villages in these districts is stated to be 15,422, while the number of village schools is only 1185, showing 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 answering this description; but this is an obstacle which, if the government were so disposed, might surely 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 society has been established for many years in Bombay. The quarto volumes of its transactions were printed between 1819 and 1823. In 1810 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></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surat</td>
<td>1,340</td>
<td>4,545,431</td>
<td>4,067</td>
<td>3,998</td>
<td>2,240</td>
<td>1,165</td>
<td>3</td>
<td>1,330</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Ahmedabad</td>
<td>6,650</td>
<td>1,018,888</td>
<td>1,334</td>
<td>1,930</td>
<td>421</td>
<td>2,533</td>
<td>2,286</td>
<td>127</td>
<td>119</td>
<td>1</td>
</tr>
<tr>
<td>North Cooan</td>
<td>5,100</td>
<td>387,256</td>
<td>1,751</td>
<td>1,936</td>
<td>326</td>
<td>1,624</td>
<td>1,475</td>
<td>46</td>
<td>50</td>
<td>22</td>
</tr>
<tr>
<td>South Cooan</td>
<td>6,770</td>
<td>640,857</td>
<td>1,572</td>
<td>2,351</td>
<td>855</td>
<td>2,265</td>
<td>2,256</td>
<td>38</td>
<td>61</td>
<td>4</td>
</tr>
</tbody>
</table>

Total                   | 53,370            | 4,045,053              | 12,448              | 14,866           | 5,899               | 10,841              | 9,283          | 472           | 433         | 53       |

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

**Engineers—Officers, Europeans** 21
- Non-commissioned Officers and Privates, Europeans 14
- **Natives** 147
- **Total** 185

**Artillery—European, Horse, Officers** 20
- Non-com. Officers and Priv. 562
- Foot, Officers 38
- Non-com. Officers and Priv. 1,811
- **Native—Foot, Office. Europ.** 20
- **Natives** 23
- Non-commissioned Officers and Privates, Europeans 2
- **Natives** 890
- Ordnance Drivers, &c. 109
- **Total** 4,144

**Cavalry—King's, Officers** 26
- Non-commissioned Officers and Privates 679
- Company's, Officers, Europ. 45
- **Natives** 75
- Non-commissioned Officers and Privates, Europeans 2
- **Natives** 2,695
- **Total** 2,817

**Infantry—King's, Officers, Europeans** 133
- **Privates** 3,321
- Company's, Officers, Europ. 473
- **Natives** 466
- Non-commissioned Officers and Privates, Europeans 934
- **Natives** 24,424
- **Total** 26,297

**Invalids—Europeans** 66
- **Natives** 1,797

**Pioneers—Officers** 16
- **Privates** 302
- **Total** 918

Carried forward 39,708

Brought forward 39,708

Hospital—Surgeons and Assistant-Surg. 156
- **Native Doctors** 136
- **Total** 292

Staff—Commissioned, European Officers 9
- Other Staff, European Officers 82
- European Non-commissioned Officers 87
- **Total** 168

Regulars—Europeans 7,657
- **Natives** 9,613
- **Total** 36,370

Irregulars and Invalids—Europeans 70
- **Natives** 3,808
- **Total** 3,878

Europeans, 7,727—Natives, 32,421. Total 40,148

The expense of maintaining this force amounted to £2,903,516, 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:

1831-32. 1832-33. 1833-34.

**Revenue** £2,996,834 £3,125,340 £2,898,682

**Charges, including interest on debts** 2,754,925 2,663,741 2,660,086

**Deficiency** £653,582 £537,401 £267,634

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 Collections</th>
<th>Charges in the Revenue and Judicial Departments</th>
<th>Net Collections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rupees</td>
<td>Rupees</td>
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<tr>
<td>Southern Cooran</td>
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<td>8,56,553</td>
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<tr>
<td>North Cooran</td>
<td>14,15,205</td>
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<tr>
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<td>North Cooan</td>
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<tr>
<td>Ahmedabad</td>
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<td>6,39,084</td>
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<tr>
<td>Poona</td>
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<td>Ahmednuggur</td>
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<td>Candee</td>
<td>19,37,603</td>
<td>11,78,299</td>
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<tr>
<td>Darwara</td>
<td>25,26,468</td>
<td>2,76,469</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,62,59,099</td>
<td>69,88,504</td>
</tr>
<tr>
<td>Sterling</td>
<td>42,929,900</td>
<td>696,900</td>
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It was in 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, to Kettering, and Halifox in Yorkshire.

The weaving of worsted was introduced into England 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, under the reign of Edward III. the government thought fit to control the worsted and wool trade by many statutes, writs, and proclamations, and by granting great privileges to foreign artisans settling in the city.

The first 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 manufacture. In 1375 the Dutch elders presented in council in London with several works called bombazines, praying to have the search and seal of them taken out of the hands of the Walloons, who, on their parts, insisted that all white works belonged to them; but the Dutch, as first inventors, had their petition granted them. From this time the bombazin manufacture extended into France, and the articles were largely exported to various parts of Europe, especially to Spain, and the Spanish colonies in South America, where it was used as the dress of some of the religious orders, and of the women.

The manilla, an indispensable article of female attire among the Spaniards, was universally called black bombazine. It has however of late been greatly superseded by black silk.

The great increase in the manufacture of bombazine took place soon after the introduction of spinning wool into yarn by machinery. It is worthy of remark that an invention, which was at first favorably received by the men of science, and which is now so generally condemned by many as destructive of the interests of the poor, was, in reality, the cause of the increase of the bombazine trade, and of the consequent employment of many thousand hands.

In order to prove this, it is necessary to state that yarn was originally spun by the hand: the wool, after combing, was given out to the spinners by persons who weekly went the round of the country for this purpose, and received it when spun into yarn. It was required that a given weight of yarn should be carried into not less than a given number of hanks or skeins of yarn, containing 550 yards, but it was at the same time desirable this number should be exceeded as much as possible, in order to procure a finer article. The yarn, when received from the various spinners, was found to be uneven in length from the want of spinning, and from the different bands employed upon the same parcel. The bombazin manufactory were consequently equally uneven.

Upon the introduction of spinning machinery, the wool was sorted and the yarn spun of an even thickness, but it was found that the various lengths of yarn from the bombazine manufacturer to dye the yarns of various colours, and to produce an even, soft, and elegant article, fitted in bue and texture for all seasons. A large demand was immediately created for coloured bombazins; and this manufacture was found to be very extensive in the years 1814, 1815, and 1816, about 12,000 bands, an increase which could not have been obtained by any other means than by the use of mill-spun yarn.

The changes of fashion have thrown the coloured bombazine out of use, and the article is now made only in black for mourning and for exportation. It must however always continue in demand while custom prescribes it as the mourning dress appropriate to females.

As the capital city during the most flourishing period of the bombazine trade amounted to about 300,000. At the present moment the capital employed does not reach 100,000. (Communication from Norwich.)

BOMBEII 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 (Monteuia, Bossut, Wallis, Deadies, De Thou's Catalogue, &c.), or in both (Lacroix, Biog. Mathematiciens). The book is not extant. But it is principally known as the first who attempted the solution of what is called the irreducible case in cubic equations. He gave the geometrical solution which depends upon the trisection of an angle, and observed that the latter problem may be reduced to that of bisecting the angle. He also who attempted the actual extraction of the cube root in the result of Cardan's (or Tartake's) well-known formula.

Bombeii states that he discovered a manuscript of Diophantus in the Vatican Library, and with another 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 assertion has been much quoted and frequently censured: Cossali caused all the Vaticani's manuscripts to be translated into French, and each part was examined, but without finding any thing to confirm Bombeii's assertion; which remains a puzzle, since there is no suspicion of deceit, and the work of Diophantus is in reality full of questions which puzzle the Hindoo Viga Ganda. But Bombeii is said, in the Tutoriels, his edification 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.

Algebra (Lacroix) For further information, see Heron's Mathematical Tracts, vol. ii. p. 259; Monteuia's Hist. des Math. vol. i. p. 598; also Cossali, Storia di Algebra. If there be any mention of Bombeii in Kistner's History or Murbard's Bibliography, we cannot find it. (BOMBEII, PROCEMOLV.) For further information, see Heron's Mathematical Tracts, vol. ii., p. 259; Monteuia, Hist. des Math., vol. i. p. 598; also Cossali, Storia di Algebra. If there be any mention of Bombeii in Kistner's History or Murbard's Bibliography, we cannot find it.

This acid product has not been examined of late years, and is scarcely noticed by modern authors. Notwithstanding the nature nor that of its salts is accurately known; and it is not even certain that it is a peculiar acid. It is probable that a re-examination would show that it is similar to the formic acid, or acid of ants.

BOMBUS (Hymenoptera). For further information, see Heron's Mathematical Tracts, vol. ii., p. 259; Monteuia, Hist. des Math., vol. i. p. 598; also Cossali, Storia di Algebra. If there be any mention of Bombeii in Kistner's History or Murbard's Bibliography, we cannot find it. (BOMBEII, PROCEMOLV.) For further information, see Heron's Mathematical Tracts, vol. ii., p. 259; Monteuia, Hist. des Math., vol. i. p. 598; also Cossali, Storia di Algebra. If there be any mention of Bombeii in Kistner's History or Murbard's Bibliography, we cannot find it.

The generic name of those insects commonly called humble-bees: this latter name was derived (Messes. Kirby and Spencer conjecture) from the German hummel or hummel-biene, a name probably given to these insects from the humming sound which they emit. The Bombii are the only true Hymenoptera of the family Apidae, and, as regards the English species, are far by the largest of the tribe. They may be distinguished by the following characters:—body thickly covered with hair; head with a longitudinal groove and an indentation extending from the top of the eyes to the base of the antennae; the three stemmata are placed, being arranged nearly in a straight line: and it is from the central stemmata that the longitudinal groove has its origin, when it extends downwards; antennae with twelve joints; labrum with its surface unequal. In all the Bombii: the eyes are small, and have on the upper side; posterior tibie compressed, smooth, marginated with strong recurved hairs, and armed with spines at the apex. *

* These recurved hairs (cornicles) 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 antennae are thirteen-jointed and considerably longer; the eye-segment, the hind legs, the abdomen, the corbicula; 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 neuter 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 this section * * * c. 2: this section, with the exception of a few species [Paviliius], now constitutes the genus of which this article treats.

The prevailing colours of the species are yellow, red, and black. And 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 as yet common.

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

*B. Derhamius*, colour ashy-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. pratrum*, 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. Cullumanus* (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 black humble-bees; it has the anterior margin of the thorax and the posterior margin 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 neuters 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*, yellow: thorax with the anterior and posterior portions yellow; abdomen with the base yellow; rather less than the preceding species.

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

The insect described by Kirby under the name of *Larthis*, discovered by Mr. Pickering to be the male of this species; it is of a pale yellow colour, with the central portion of the thorax and two indistinct fasciae towards the base of the abdomen black.

*B. Jonellus* (male), yellow: thorax and abdomen each with a black fascia.

*B. Lucorum* (male), yellow: thorax with the central portion black; abdomen with the two basal segments yellow, and the two following black, the remainder white.

**Section 3.—** ground-colour of the body yellow or buff.

*B. Mecusorium*, yellow: thorax orange.

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

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

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

*B. Fosteri*, thorax buff-coloured, with the anterior part blackish; abdomen with three oblong black fasciae.

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

*B. eurytarsus*, 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 *Lapidarius* are the largest; *B. fragrans*, *Tunnistalianus*, and *Hortorum*, are the next in size; all the rest of the species are nearly of a size, with the exception of *B. pratrum*, which see description.

For the habits of the species see *Humble-Bee*, and for more detailed descriptions we refer our readers to Kirby's *Monographia Apina Anglica*.

*BOMBYCIDÆ* (entomology), a family of the order *Lepidoptera*, belonging to the section *Lepidoptera-nocturna* of Latreille.

The principal characteristics of this family are the possession only rudimentary maxillae, remarkably small palpi, and bipeptinated antennae.

Some of the species fly very rapidly, and make their appearance in the day-time as well as in the evening. The caterpillars of most of the species are hairy (some produce great 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 third much resembles the perfect insect, a circumstance common in caterpillars. Its proper food 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 eat its skin it ceases to eat, raises the fore-part of the body slightly, and remains in perfect repose. In this state it is necessary that it should continue for some time.
little time, in order that the new skin, which is at this time forming, may be sufficiently mature to enable the caterpillar to pass through it. This operation 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 the spot) contrives to thrust the skin back to the tail, and ultimately covers a cavity which it has formed; 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 contrivance. The chrysalis 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 the body in 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 of skin, but the head, it will be observed, does not in a bent position. From the foregoing account it appears 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, it is the skin between the plates that is first loosened, and in the silkworm, 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 at the time of change of skin; the head, and other 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 a certain extent and no further, when it becomes necessary to proceed from one mold to another. With respect to the silkworm and other caterpillars, an unobserving 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 have come out of it; but if the silkworm be examined 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 behind the old one, so that the fore-part only is included by the latter.

When full grown the silkworm commences spinning its web, and as it is directly that it begins to change the position of the hinder-part 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 inclosed by the thread. The work is then 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 before it. As the silkworm spins its web by thus bending the body back and forth, the hind 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 covered with the body in a position which 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, as before 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 completed, the remaining section of the cocoon becomes quite tordil, 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 fluid which it ejects.

The moth is short-lived; the female, in many instances, dies almost immediately after she has laid her eggs; the male survives her but a short time. It is a curious fact that all those animals which are most useful to man are likewise most manageable. There is no objection to the vanity of being observed as that which turns to the silkworm-moth. [SILK.]

BOMBYCILLA (zoology). The name of a genus of tooth-billed birds (Dentirostres). Cuvier places the genus among the Dentirostrales; but, according to Linnaeus, it does not allow it to belong to the Dentirostres, and classifies it among his first family, that of the broad-billed birds (Latirostres). Temminck, considering it to be an omnivorous bird, finds a place for it under the name of Bombycilla, in his second order (Sylviae). From the foregoing account as that which turns to the silkworm-moth.

BOMBYCILLA. The genus of a species of tooth-billed birds (Dentirostres). It is included in the first family of the Dentirostres. Bonaparte makes its genus of his family Dentirostres. In the British list it is described by Temminck, under the name of Bombycilla, a sub-family belonging to the aberrant group of the Ampelididae, or fruit-eaters; but, in giving his table of Ampelids, he expresses considerable doubts on the true nature of the aberrant divisions. Linnaeus distinguishes it from the other species by a tooth-bill (Lunula), and afterwards an Apexitis. Brisson classed it among the thrushes (Turdua), and Illiger among the crows (Corvus).

The birds of this genus are known by the English names of Wax-strings or Wax-string bird; and the following are the principal characters according to Temminck:—

Bill short, straight, elevated; upper mandible curved towards its extremity, with a strongly-marked tooth.

Nostrils basal, ovoid, open, hidden by strong hairs directed forwards.

Feet, with three toes before and one behind, the exterior toe connected (coud) with the middle one.

Wings moderate, the first and second quills, longest.

Only three species have been recorded. The first has a wide geographical range; the second is confined to North America, and the third is Oriental.
that it could be neither the one nor the other. The worthy Italian gravely assures his readers that its feathers do not shine in the night; for he says he kept one alive for three months, and observed it at all hours (quævis nocte hódé contemplatus sum).

It is by no means improbable that this bird was the Thunderer (Graphalus) of Aristotle (Hist. Anim., Book ix. c. 16).

The geographical range of the Bohemian Chatterer is extensive, comprehending a great portion of the arctic world. It appears generally in flocks, and a fatal was, at one time, attributed to concomitant circumstances. Aldrovandus observes that large flocks of them appeared in February, 1530, when Charles V. was crowned at Bologna; and again in 1531, when they spread through the dukiches of Modena, Piacenza, and other Italian districts, carefully avoiding the cities of Florence, Rome, and Venice, and elsewhere in an earthquake. In 1552, according to Genter, they visited the banks of the Rhine, near Mentz, in such myriads that they darkened the air. In 1571 troops of them were seen flying about the north of Italy, in the month of December, who says that, in the winter of 1810, large flocks were observed, took place, and the rivers overflowed their banks.

Necker, in his memoir on the birds of Geneva, observes that from the beginning of this century only two considerable flights have been observed in that canton, one in January, 1807, and the other in 1814, when they were very numerous, and, having spent the winter there, took their departure in March. In the first of those years they were scattered over a considerable part of Europe, and, early in January, 1814, a visitation of these birds occurred in Edinburgh. The observers there reported that they are not seen in Tuscany except in very severe winters, and that the years 1806 and 1807 were remarkable for the number of them which entered Piedmont, especially the valleys of Lanzo and Susa.

It has been said that it is always rare in France, and that of late years it has become scarce in Italy and Germany; but Bechstein observes, that in moderate seasons it is found in great flocks in the skirts of the forests throughout the greater part of Germany and Bohemia, and that it is to be seen in all parts of Saxony. The winter, however, in very small numbers, the greater portion remaining in the north; if the weather be severe, it advances farther south.

The Bohemian Chatterer must be considered only as an occasional visitant to the British islands, though Penny says that they appear only by accident in South Britain, but that about Edinburgh they come annually in February, and feed on the berries of the mountain-ash; adding, that they also appear as far south as Northumberland, and, like the fieldfare, make the berries of the white thorn their food; he says further, that in the year 1789 a visitation of these birds was made in Denbighshire, in a dry tree, during the severe frost of December, 1788. Latham, in a note to this statement, says, that the late Mr. Tunstall informed him that, in the winter of 1797, many flocks were seen all over the county of York, and that in Lincolnshire and Northumberland, and thirty were observed within two miles of Wycliffe, his place of residence. Bewick states that, in the years 1790, 1791, and 1803, several of them were taken in Northumberland and Durham, as early as the month of November. Selby says that, in the winter of 1810, large flocks were dispersed through various parts of the kingdom; and that, from that period, it does not seem to have visited our island till the month of February, 1822, when a few came under his inspection. He describes them as extremely nervous during the severe storm in the winter of 1822. Montagu says that the first was received out it of Staffordshire, and that he had known others killed in the more southern counties in the autumn. Mr. Rennie’s edition of the ‘Ornithological Dictionary,’ where it near Edinburgh that large flocks may have shot in the park of Lord Boringdon, at Saltiram, in Devonshire, and that not less than twenty have been killed in the counties of Suffolk and Norfolk during the last three winters. Graves says, that about Christmas, 1803, a number were shot in the woods of the Rape of Bury, which has been being but slightly wounded, his figure was taken. In the ‘Loudon’s Magazine’ for Sept. 1833, it is stated that a fine specimen was shot near Coventry, in December, 1830, where it appeared to associate with other birds. It is said, also, that in the winter of the same year six were killed in the vicinity of Ipswich. It says only the same source we derive the following additional records.

The Bohemian wax-wing, or chatterer, was unusually plentiful in the neighbourhood of Bury St. Edmunds, Suffolke, in the few days in January, 1832, 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 shot at Liverpool, feeding on the hips (fruit) of a rose; and another one was seen at Bury St. Edmunds, the same time one was shot at Norton, and four were seen in Newton, and one in the gardens of Hardwicke House. On the evening of the 24th, five or six were seen feeding on the leaves of hedges in the neighbourhood of Ipswich. The one shot at Norton was also identified as a male. It is also reported that another that was shot in the neighbourhood of Bungay, two, at least, additional have been shot in or about Thetford.

(From the ‘Norfolk’ Journal, April 18, 1835.)

It was the custom of the bird to fly to and fro at Radnor, near Breamham, 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 Worcestershire Natural History Society.

An individual was taken alive early this winter, 1834-35, with birdlime, near Netherwold, Northumberland; and I saw it lately (April, 1839), very tame and healthy, in the possession of the proprietor of Leadbeater. It chiefly bred in the open fields. Some other individuals, its companions, were shot, at about the same time, which it has preserved. (W. C. Trelvelyan, Wallington, Northumberland.)

In northern Russia, and the extreme north of Norway, according to Dr. Frank, of Moscow, 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; the species is presumed to be, which had its colours remarkably bright and vivid, and the four central of its tail-feathers terminated each with a hornys appendage, the colour of red sealing-wax, and identical in kind with that with 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 same neighbourhood by Mr. H. Carlisle, Cumberland. (Phil. Mag. Feb. 1833, p. 84.)

An individual was taken alive early this winter, 1834-35, with birdlime, near Netherwold, Northumberland; and I saw it lately (April, 1839), very tame and healthy, in the possession of the proprietor of Leadbeater. It chiefly bred in the open fields. Some other individuals, its companions, were shot, at about the same time, which it has preserved. (W. C. Trelvelyan, Wallington, Northumberland.)

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, that he named at the time, with some little hesitation, because he thought that his best specimen was shot on the 20th March, 1825, on the Athishaba river, near the Rocky Mountains; and he observes that the species appears to be spread widely, as he had been credibly informed by hunters, that "cedar-birds of a large kind" were heard in the interior of the Rocky Mountains, adding, that he is at a loss to conceive why it should 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 Athishaba; and Mr. Richardson observed it in the same season at Great Bear, in lat. 66°, where a male, of which he gives a description, was shot on the 24th of May of that year. "Specimens," writes Dr. Richardson, "procured at the former place, and transmitted to England by the agents of the Hudson's Bay Company, were communicated to me at Quebec." It is stated that Mr. Richardson was the first who has 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, if it does not actually winter within it; but I have not heard of its having been hitherto met with to the southward of the fifty-fifth parallel of latitude.

The mountainous nature of the country skirting the Northern Pacific Ocean being congenial to the habits of the species, it is probably more generally diffused in New California, and may even penetrate into Russia, on 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, marsh vaccinium, &c., that have been frozen and covered during winter. It stays only for a few days, and none of the Indians of that quarter with whom I conversed had
seen its nests; but I have reason to believe that it resides 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 thousand birds at the top of the Bay of Genoa, at Genoa House, early in May, 1827. They lighted in a grove of poplars, settling all 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 breeding grounds are in the oriental parts 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 insensé," 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. Bechstein says that it does not build in Germany when wild, but with Dr. Ar^tius.

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 birds associate in the same manner as other birds; but 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 xi, xi, xi, but are generally silent, notwithstanding the name that has been given them. Bechstein 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 young birds come together and peck the leaves of the 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-sorrel and phytolaccaes, and that they are extremely greedy of grapes, and also, though in a 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 Bechstein, 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 rude 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, a little resembling the thrush, but not so loud. While singing, it moves the crest, but hardly moves the throat. This warbling is somewhat unmusical, it has the merit of continuing throughout every season of the year. When angry, which happens sometimes near the common feeding-ground, 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, and relisheth nothing 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, "should always be kept in store till February. It appears to be frightened at nothing, for it flies into nets and traps, though it seems 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 depressed at pleasure. Upper parts purplish-red, or vinaceous-brown dashed with ash-colour, the rump lightest. Breast and belly pale purplish-shafted, 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 third 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 from six to nine (Bechstein at from five to nine), and mentions the specimen in Mr. Hare's collection, which had some on the tail, which is black tipped with yellow, and dashed with ash-colour at 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 waxen appendages. Some females may have been taken with the plumage last mentioned; but in general, the first description will be found the most correct. Bonaparte's specimen shot on the Athnasia river was a female. It was, according to him, eight and a half inches in length, and sixteen in extent. The tail was three-quarters of an inch long, black, but paler at the base of the under mandible. There was no yellow 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. Bechstein 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.

[Bombbyx Bohemicus, male.]
AMERICAN WAX-WING.

The American wax-wing, or cedar-bird, was considered by some of the old naturalists to be identical with the European wax-wing from which it had degenerated. Latham was of this opinion which all now agree in considering erroneous. The specific differences are too strongly marked to admit of any doubt on the subject.

The American Certhia americana L. * Certhia americana var. b. of the Systema Naturae; Gariituts Carolinensis, Le Jardinier de Caroli, the Chatterer of Catesby; Turdis Gariituts Carolinensis of Klein; Coquintolof of Hernandez; Arts Americana cristata, Romol dicta of Seba; Chatterer of Carolina, Edwards; Certhia Americana, Wilson; Recollett of the Canadian Voyagers; Bombycilla Carolinensis of Brisson, Bonaparte, Audubon, and others.

It is said to be found in the whole extent between Mexico and Canada, and parties are said occasionally to roam as far north as the State of New York. It is an inhabitant of the Southern States it is a resident during the whole year, the northern and middle states being its more usual quarters in the summer, and the southern in the winter season. It is stated that the bird has been found on the north-west coast of America, but its northern boundary appears to fall short of that of Bombycilla Bohemica. Saw it neer Winnipeg river, in latitude 56°, and Dr. Richardson states his belief that it has not been hitherto observed to the northward of the fifty-fourth parallel. He says that Mr. Johnson, of Prince Edward Island, observed it on the branch of the Saskatchewan on the 27th June, and gives a description of a male killed there in lat. 52°3' on that day, 1827. He adds, that it frequents the northern shores of Lakes Huron and Superior in summer.

A very curious and interesting sound, and 'fly,' says Wilson, 'in compact bodies of from twenty to fifty; and usually alight so close together on the same tree, that one half are frequently shot down at a time. In the months of July and August, they collect together in flocks, and form vast pillars of the air, in the vicinity of the range of mountains on the boundary of the United States, and other collateral ridges of the Alleghany, to enjoy the fruit of the Vaccinium uliginosum, whortleberries, which grow there in great abundance, whole mountains for many miles being almost entirely covered with them; and where, in my travels, I have wandered through the woods and forests, I seldom fail to see the birds numerous. In October they descend to the lower cultivated parts of the country, to feed on the berries of the sour gum, and red cedar, of which last they are improvidently fond; and thirty or forty may sometimes be seen flying among the branches of one small cedar-tree, plucking off the berries....'

In the fall, and beginning of summer, when they become very fat, they are in considerable esteem for the table; and great numbers are brought to the market of Philadelphia, where they are sold at from ten to fifteen cents each. In the whole winter and spring they are occasionally seen; and about the 25th of May appear in numerous parties, making great havoc among the early cherries, selecting the best and ripest of the fruit. Audubon says that they roost in the trees about the beginning of November, and retire towards the middle districts in the beginning of March. 'The holy,' writes the author last quoted, 'the vines, the persimmon, the pride of China, and various other trees, supply them with plenty of berries and fruits, on which they feed. They are said to be excellent fly-catchers' un-doubtedly are; though Hernandez, who met with them near Tetzuco (apud Tetzucquemuses), says that neither in their song nor in the flavour of their flesh are they better than other small birds, 'que est cu natu nutrimento canosavus aviscula commendatione.' Their appetite is extra-ordinary: 'they gorge themselves,' observes Audubon, 'to tipped with yellow, and there were five only of the appendages or tips on one wing, and seven on the other. It is added that this is the only individual which has been shot in this part since 1803. (London's Magazine for 1858, quoting the Carolina Journal.)

Dr. Richardson well observes, that Cook and others who have made this statement, might easily mistake the preceding species (B. Bohemica) for that before us, such excess, as sometimes to be unable to fly, and suffer themselves to be taken by the band. 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 great quantity of berries, 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 these birds seated upon a branch, darted after an insect, and offered it to his associate when caught, who very distinctly 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 pay more 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, Willd.), but more frequently in the oaks, 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 yellowish-white, about the size of the pigeon's, 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 the latter part of the year they are first seen on the young crest of the male, and are fatter than the first fed on insects and their larvae; 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 safe distance, without noise or commotion; no cries are 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 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 hickory 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 dried grass, interwoven with a considerable quantity of dead hemlock sprigs, further connected by a small quantity of wild-weed fibre. The inside was composed of thin grape-vine bark, and dry leaves of the silver fir.

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 the same form, and frequently marked with brownish spots on the ends, of a pale clay white, inclining to olive; with a few well-defined black or deep umber 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 and in the hickory, where the branches dim and close, the other on a depending branch easily reached by the band. 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 layer of coarse ivy, and afterwards lined with pieces softened with glutinous saliva, so as to be bound in close connection and the lint. The round edge of the nest was made of coils of the wiry stalks of a common cinquefoil, then lined with exceedingly fine root fibres; over the whole, to give elasticity, were laid fine strips of a slender juncus, or minute rush. In these nests the eggs are described by Wilson (except as to form), marked with smaller and more numerous spots than the preceding. From the lateness of the autumn, at which period incubation is still going on, it would appear that the birds are very prolific, and must have at least two hatches in a season; for 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."


Acer canadense, L. 2 Phascolarctos plantaginaceum.

Acer canadense, L. 2 Phascolarctos plantaginaceum.
Having endeavored 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 fleged, while his mate in the nest was suffered to perish by the forgetfulness of his natural protectors. Coeval with the growth of his wing-feathers, 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 of 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 craw, 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 sedentary to me, and finally joined the piping master cry of toe, toe, toe, 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 ti-did, ti-did, hui-ri-did (often also the charming cry of the young Baltimores) was his desisting 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 fruit, and remained steadfast in his attachment to Mr. Winship till killed by an accident, being unfortunately trodden under foot.

The following is Wilson's description:—Length seven inches, extent eleven inches; head, neck, breast, upper part of the back and wing-covers, a dark fawn colour; darkest on the back and brightest on the front, bordered above with a fine line of white, and another line of white passes from the lower mandible; chin black, graduated; throat white, tail black, lying extremely close; bill black, upper mandible nearly triangular at the base, without bristles, short, rounding at the point, where it is deeply notched; the lower scollopcd at the tip, and turning up; tongue as in the rest of the genus, broad, thin, cartilaginous and lanceated at the end, belly yellow; vent white; wings deep slate, except the two secondaries next the body, whose exterior vanes are of a fawn colour, and interior ones white, forming two whitish strips there, which are very conspicuous; rump and tail-feathers pale light brown; tail feathers are now being taken 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 torn 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 generally fluffed and ragged; the wing-feathers are much more 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 commonly found on the male and female, and are only two in number. The male 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 formed, as the young birds of other kinds of birds. I 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; and not readily the gullet capable of such destruction as often to maintain twelve of the birds living on the kind of craw 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-twelfths, 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, rather on the breast and rump; the female appendages of the male 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 Mr. 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 congeners.

The length of the Japanese Wax-wing is six inches and six lines. The base of the bill is bordered by a black band, 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 ashyy-reddish colour with an inferior layer of the black

*Did see Nuttall's account above.*
Although far from the brownish-ash, they and the mode 1827 half was The plumes vellow and verses of the of the of the parent—the the omnivorous birds with covered nostrils from those which have those organ smooth or naked, and divide them into distinct groups. He also considers the proper position of the genus to be near the Pirroles (Kitta), and the Rolles (Colotis of Cuvier, Everettus of Vieillot).

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 ancient name Hippopos, called by the Arabs Beled el Aneb, or 'country of the jujubes,' is a seaport town of the regency of Algiers, in the beylik or province of Constantina, in 37° N. lat. and 8° 19' 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 Selboos, 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 Dabah and Wadi el Boumjnah, which flow into the Selboos just above its entrance into the sea. This marsh is believed to have been the ancient harbour of Hippo Regius, the scanty remains of which town are seen about a mile and a half south of Bona. Between the town of Bona and the marsh 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 west-wards parallel 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 occupation of the place. Previous to that event Bona contained 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 occupied by the French in 1830, but soon after it was evacuated, 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 obliged the French to evacuate the place a second time. In 1836 the Arabs and Kabyles, on the arrival of the 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 vicissitudes the population of Bona has dwindled away to a few hundred people, besides the French garrison. [Pichon, Alger sous la Domination Francaise; Berthenez, Dix-Huit Mois à Alger.] Along the coast eastward of Bona were the French settlements of La Calle and Bastion de France, which France retained by ancient 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 consequence of the breaking out of hostilities. In the Excursions in the Mediterranean, by Major Sir Greville Temple, it was said in 1835, there is an account of Bona in 1834, and of the ruins of Hippo Regius, which he visited.

BONACCI, LEONARDO. [Leonard of Pisa.] BONAPARTE, NAPOLEONE, was 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 Ramolini, 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 baptismal register, which is in the parish church, his name is written Bonaparte, but his father generally signed himself Buonaparte, a mode of spelling which seems more accordant with Italian orthoepy, although there are other Italian names in which the first component part is written with a final e, e.g., Bonaventure, Bonaventura, CORSI, &c., besides common nouns, similarly compounded.
such as bonwitza, bonaccia, &c. This appears in itself a question of little moment, but it has been made the subject of much controversy, to which a sort of national importance has been given by the decision of the French Academy, which is 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 the Emperor, adopted the simpler spelling. He did it without the u, probably, as Bourienne 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 spelling of most Italians, with the exception of the name Miniato, a familiar conversation "bono" instead of "buono." 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 that form. His brothers 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 Buonaparte of San Miniato, citizen of Florence, styled La Vedova, Florence, 1568 and 1592. There is likewise a narrative of the pilgrimage of Rome under Charles V., written by a Jacopo Buonaparte, Rapaggigno Storico del Sacco di Roma dell'anno 1527, Cologne, 1736. Charles, Napoleon's father, who was born at Ajaccio, was the son of a corsair. Some relatives of the family still lived in Tuscany, and one of them was canon of San Miniato in Napoleon's time. Before the birth of Napoleon, his father had served under Pauli in the defence of his country against the French, to whom the Corsicans had lately sold the island. The entire 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, when Count Marboré, the French commissary, convoked by the king's letters patent the States of Corsica, consisting of three orders, nobility, clergy, and commoners, 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 to Louis XVI. He was appointed assessor and subsequent judge of 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 younger Joseph Napoleon, the second of his son Napoleon, was educated at 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, he attended in the school, and in its mathematics, but showed less disposition for literature and the study of languages. Picheru 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 1783, 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, and enjoying excellent health. He was said of young Napoleon's taciturnity and moroseness while at school. Bourienne, 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 himself distant and was always in the most friendly feelings towards those who showed him sympathy, his intimacy with Bourienne sufficiently proves. Many stories have also been told of his assuming an authority over his comrades, showing a precocious ambition, and an instinct for command; but this appears to be quite contrary to his character, 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 as the caravan was prolonged, 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 Bourienne speaks rather indifferently of their learning and system of education, though the teacher of the school had been previously a Jesuit. Bourienne 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 French translations, for he does not appear to have studied Greek.

Napoleon left Brienne in October, 1784; some say in 1783; but Bourienne is positive as to the date '17th October, 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 Bertin, his superior at Brienne, a long letter, in which he forcibly exposed the error of such a system of education, as luxury and comforts were a bad preparation for the hardships and privations attendant on a military career. The system impressed upon him the 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 disposition, the probable results of his former experience, 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 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 Fere, and was soon after promoted to a first lieutenant in the regiment of infantry of the Garde nationale of Valence. His father had just died at Montpellier of a scirrhus 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 brother Joseph, who was enrolled in the regiment of infantry, with the rank of an ensign, was sent to 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 Pesch, whose father had been an officer in a Swiss regiment in the Genoese service, formerly with the French. This officer, with those of the same 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 advantage?' The man of greatest promise to the French government was nominated by the Academy of Sciences 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 off, we do not know what his early ideas might have been about the happiness of mankind. (La Casse's A. Bonaparte, vol. ii. p. 516.) But the preceding passage in Raynal while at Paris. Having made an excursion from Valence to Mont Cenis, he designed writing a 'sentimental journey,' in imitation of Sterne's work, translations of which were much read in France at the time, but he ultimately dropped the project. The gentleman who furnished the solution found him at Valence with his regiment. He took a lively interest 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, and his example and his arguments influenced many of the Neapolitan volunteers. In 1792 Napoleon became a captain in the regiment of Genoese artillery (Las Cases, vol. i.), his promotion being favoured probably by the emigration of so many officers.

By others it is stated that he was made a captain in July, 1791, on the 26th of June, 1792, was at Paris in 1792, and there met his old friend Bouvierne, with whom he renewed his intimacy. He appears to have been then unemployed, probably unattached, while the army was undergoing a new organization. Napoleon and Bourienne happened to be, on the 29th 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 crowd,' whispered Napoleon to his friend. They went accordingly, and saw the mob break into the palace without any opposition, and the king afterwards appears at one of the windows with the red cap on his head. 'It is all over henceforth with that man!' exclaimed Napoleon; 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 brought them to the place of their destination; but running yet at this moment!' He was collected and extremely grave 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 Buonaparte's regiment. Buonaparte had 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. Buonaparte had approved of the constitutional monarchy in France, but not of the excesses of the Jacobins, nor of the attempts to establish a republic. Fractions had broken out in Corsica also, which Buonaparte endeavoured to repress. In January, 1793, a French fleet, under Admiral Truguet, sailed from Toulon, for the purpose of attacking the island of Sardinia. Buonaparte left his regiment and his post of command in Corsica, and told him to make a diversion by taking possession of the small islands which lie on the northern coast of Sardinia, which he effected; but Truguet's fleet having been repulsed in the attack upon Cagliari, Napoleon returned to Corsica with his regiment. The fleet of the French National Convention, and called upon his countrymen to shake off its yoke. Napoleon, on the contrary, rallied with the French troops under Lacombe St. Michel and Saliceti, and he was sent with a body of men to attack his native town Ajaccio, but the possession of the town was however did not succeed, and was obliged to return to Bastia. The English fleet soon after appeared on the coast, landed troops, and assisted Buonaparte, and the French were obliged to quit the island. Napoleon also left it about May, 1793, and his mother and sisters with him. After seeing them safe to Marseilles, he went to join the 4th regiment of artillery, which was stationed at Nice with the army intended to act against Italy. So at least his brother Louis says, but from Las Cases' account it would appear that he repaired to Paris. In February, 1794, he was attacked with the fever, and his residence at Marseilles and in the neighbourhood, that he wrote a political pamphlet, called Le Souper de Beaurepaire, a supposed conversation between men of different parties: a Marseillan, a man of Niemcy, a military man, and a manufacturer of Montpellier. Bonaparte speaks his own sentiments as the military man, and recommends union and obedience to the Convention, against which the Marseillan then were in a state of revolt. This curious pamphlet became very rare afterwards. Napoleon was said to have suppressed a given copy of this book. Buonaparte, appearing in the papers of the day. Napoleon, in his memoirs, says that 'perhaps they were the productions of his brother Lucien, who was then a much more violent democrat than himself.'

Buonaparte was at Paris in September, 1793. Being known as a good artillery officer, he was sent to join the besieging army before Toulon, with the rank of lieutenant-colonel of artillery, and with a letter for Cartaux, the republican general of that regiment. Buonaparte himself has given, in Las Cases' journal, a most amusing account of his first interview with Cartaux, of the wretched state in which he found the artillery, of the total want of common sense in the dispositions that had been made for the attack, and the necessity of correcting the defects. In the course of his conversation Cartaux was asked whether he thought it possible to raise a siege under such a protracted and vexatious continuance in making Cartaux understand the simplest notions concerning a battery, &c. At last, luckily for him, Gasparin, a commissioner from the Convention, arrived at the camp. He had seen a little service, and understood Buonaparte's plain statements about the state of war was assumed, and although the orders of the Convention were to attack Toulon and carry the town, Napoleon succeeded in persuading them to attack first the outer works that commanded the harbour, the taking of which would insure the surrender of the place. It was decided that Bonaparte's plan should be adopted, even at the serious risk of incurring the displeasure of the Convention. Soon after, Cartaux was recalled, and another mock general, a physician, was sent in his place, but he was soon frightened away by the whistling of the shots. Dugommier, a brave veteran, then came to command the besieging army, and he and Bonaparte agreed perfectly. Napoleon constructed his batteries with great skill, and having opened his fire with great effect, the works which commanded the harbour were carried by the French, and by the 22nd of September, 1793, when the British commander, General O'Hara, was taken prisoner, and Bonaparte received a bayonet wound. Upon this the evacuation of the place was resolved upon by the allies, as Bonaparte had foreseen. A scene of confusion, destruction, and bloodshed, ensued, in which, however, the French did not appear to dwell upon: the English, Spanish, and Neapolitan fleets sailed out of the harbour, carrying along with them about 14,000 of the inhabitants, whose only safety was in flight. The deputies of the Convention, Barras, Firon, Pouché, and the younger Robespierre, entered Toulon, and exercised their vengeance upon the few that remained, 400 of whom were assembled in the square and exterminated by grape-shot. Bonaparte says that neither lie nor the regular troops had anything to do with this butchery, which he considered as 'execrable.' As to the execution of the army as 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 artillery who were called upon to assist the army of the Convention attached to the armies, who directed and presided at the massacres. There is an atrocious letter by Fouché to Collot d'Herbois, testifying his joy at the extermination of the rebels; and another from Saliceti, Barras, and Fouché, relating to the same party. (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 called upon to join in the campaign against Italy, which commenced in April, 1794. The army 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 Staggio, 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. He was in the rear action, carrying on, terminated the campaign, in which Bonaparte had taken an important part, together with Massena.

Previous however to the battle of Cairo, Bonaparte had run considerable risk from the factions that divided France. On the 17th of July, 1794, during the interval of the convention who were superintending the operations of the army, gave him a commission to proceed to Genoa, with secret instructions 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 Leano, and signed Ricord. Ricord and the younger Robespierre were then commissioners. Bonaparte went to Genoa and fulfilled his commission. Meanwhile, the revolution of the 9th and 10th of May (Thermidor (27th and 28th July) took place, Robespierre fell, and Couthon, Saliceti, 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 seized, and an order was issued by the commissioners, telling him to throw his confidence in his 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 an escort to appear before the committee of public safety. This order was disobeyed by him, and he escaped with three commissioners, and countersigned by Dumortier, general-in-chief. Bonaparte remained under arrest for a fortnight. He wrote a pithy remonstrance, which he addressed to Albite and Saliceti, without taking any notice of the third commissioner Laporte. In it he complains 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 Saliceti, who had known him he says for five years, &c. This was the first time he had written himself with more precise information 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 traitor Couthon. Nearly 30,000 men, it is alleged, conducted the examination of 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 the advantages that might be derived from his military capacity and knowledge of localities to 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 resolution was confirmed by the revolution, which was supported by 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 repaired to Marseilles, where his family then was. It seemed that he had been superseded in his command of the army of the Automation, and in the ensuing year at Paris soliciting employment. Auer, an old officer of the Creole, was then president of the military committee. Bonaparte was coldly received by this officer, who made some remarks on his youth, which Bonaparte resented; Auer then proposed him for the rank of a general of a brigade of infantry, in the army of La Vendee, 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 Mont, near the Place des Victoires, and led a private life. Bourrienne states, that he had then some idea 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 already visited 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 20th of September, 1795. This act was generally acclaimed since the beginning of the revolution. But the Convention, previously to its own dissension, passed a resolution to the effect, that at least two-thirds of the members of the two legislative councils should be taken from the members of the convention. This resolution was 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, meeting in secret and surrounded by 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 everything 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, a strongly democratic officer, and cousin 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 speedily mainly from the cannon with grape-shot and shot, and by a fire 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 Vendemaire (4th October, 1795), in front of the Tuileries, and captured the arsenal, the quays and the street of St. Honoré. 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 were returned by discharges of grape-shot, which discharged the cannon and 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. Foiled in this attempt, 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 carried into the Tuileries. 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, others being sentenced to life in prison. Barras, Voisin, Varennes, 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, Barras retaining the two honours himself; 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 the fall of Robespierre. The Director Barras, an old acquaintance of her husband, frequented her society, and she was courted for marriage. Bonaparte was at first inclined to write 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 marriage acts with the lady of rank and fashion (for although nominally proscribed, began again to exercise a sort of influence in society), who was upon terms of intimacy with the political leaders of that period, could not but prove advantageous to him. Such was the advice given to him by his former guest, Gen. Laporte. He was well known to Marly. Barras, having heard of the projected marriage, approved of it also. Meantime, 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
Solferino, was making no great progress. After gaining a victory over the Austrians at Loano, in November, 1795, the French found themselves in difficulties between the mountains and the sea, without being able to penetrate into Piedmont; and this was the fourth year of that war carried on at the foot of the Alpes and the Ligurian Apennines. Barras and Carnot agreed to give Moreau the command of the French army of Italy, of which several other directors approved of it. This appointment was signed the 23rd February, 1796; on the 9th of March following he married Josephine, and a few days after parted from his bride to assume the command of the army of Italy. This moved that true patriot, Bonaparte, not only to lose the good opinion being made the condition of his appointment, and all the invidious built upon that assumption, appear to have no foundation. He was appointed to the army of Italy, because he was thought capable of succeeding, because he was always regarded as the principal of the government; also, it was 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 seemingly dependent upon their favour, one whose growing reputation might serve as a counterpoise to the widely-extended popularity of Moreau, Pichegru, Hoche, and the other generals of the first years of the Republic.

The army at Bonaparte's disposal consisted of about 50,000 men; but the third were three 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 Austrian forces were incomparably stronger, but the patriotic Bonaparte, aged thirty, was the conqueror of the field. On the 5th of May he arrived at Nice, and immediately moving his head-quarters to Albenga, pushed his advanced guard as far as Voltri, near Genoa. Beauilieu, with the Austrians' left, attacked Voltri and drove the French back; he at the same time ordered his division to be posted along the ridge of the Apenines, at the foot of which the French were advancing. Bonaparte, in his despatches to the Directory, stated the allied armies at 75,000 men, and his own at 50,000. On the 13th he was driven back from Monteottone by Wukassowich, and thus took the French in flank. On this road the French Colonel Rampon was posted with 1500 men on the heights of Montenego. He was repeatedly attacked on the 10th April by D'Argen- teau, 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 make a retreat. But beyond the best part of his division, before Beauilieu, on the left, or Coll, who commanded the Piedmontese at Ceva on the right, could come to his support. Bonaparte had now pushed into the valley of the Bormida, between the two wings of the allied army. Beauilieu and Coll hastened to repair this disaster, and re-establish their communications by Millesimo and Dego. On the 13th April Bonaparte sent Augereau to attack Millesimo, which he carried; but the Austrian General Provera, with 3000 men, sent him over the summit of a hill, where he withstood all the assaults of the French for that day. Two French general officers were killed in leading the attack, and another, Julbert, was severely wounded. On the 14th the whole of the two armies were engaged. Coll, after an unequal struggle, sent his to relieve Provera, who was driven back towards Ceva, while Massena attacked Beauilieu at Dego, and forced him to retire towards Acqui. Provera, without provisions or water, was obliged to surrender. The Piedmontese were now in a most critical situation; and in order to relieve Provera, which was the great object of Bonaparte's movements. The French remained for the night at Maglian, near Dego. All at once, early in the morning of the 15th, an Austrian division sallied out under General Wallisch, coming from Voltri and Mendusa, and by a sudden movement, by which they drove. Massena up to the Dego, were astonished to find the French there, who were equally surprised at seeing the Austrians, whom they had driven far away in their front, reappear in their rear. Wukassowich did not hesitate; he charged into the village of Magliani, and took it. Massena hurried to the spot to drive away the Austrians; Lalaurme came also with reinforcements, but they could not succeed, until Bonaparte himself led a fresh charge, and at last obliged Wukassowich to retire. This was called the battle of Dego, but more properly of Magliani, the last of a series of combats which opened to Bonaparte the road into the plains of North Italy. Beauilieu came to the Po with the intention of defending the Milanese territory, leaving Coll and the Piedmontese to their fate. Bonaparte turned against Coll, drove him from Ceva, and afterwards from Mondovi, and beyond Cherasco. The provinces of Piedmont, south of the Po, were now open to the French; the king, Victor Amadeus III., became alarmed, and asked for a truce, which Bonaparte granted on condition that the fortresses of Cuneo and Tortona should be placed in his hands. He then moved to Turin. The other Piedmontese fortresses and all the passes of the Alps were given up to the French, and Piedmont in fact was surrendered at discretion. This defection of the king of Sardinia ensured the success of the French army. From his head-quarters at Cherasco Bonaparte issued an order to his soldiers, in which, after justly praising their valor, and recapitulating their successes, he promised to lead them on to further victory, but enjoined them at the same time to desist from the frightful course of plunder and violence which had marked their progress into Italy.

Being now safe with regard to Piedmont, Bonaparte ad- vanced to encounter Beauilieu, who had posted himself on the left bank of the Po, opposite to Valenza, his troops extending eastwards as far as Pavia. He ordered the artillery to take position on the left, while he dispatched a body of cavalry along the right bank into the state of Parma, where they met with no enemy, seized some boats near Piacenza, crossed over to the Milanese side, and dispersed some Austrian piquets who were posted in Antola. He then ordered a column of cavalry to advance, and to dislodge Beauilieu from his new position, and accordingly he attacked the bridge of Lodl, on the Adda, which the Aus- trians defended with a numerous artillery. He carried it by the daring bravery of his grenadiers and the bad dispositions of the Austrian commander, who had not placed his infantry near enough to support his guns. The Austrian army was panic-struck. Beauilieu attempted to defend the line of the Minio, but he had only time to throw a garrison into Mass- tus, and then withdraw behind the Adige into the Tyrol. Bonaparte, in his turn, was attacked by a force of 12,000, 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 Lom- bardy showed a quiet, passive spirit. There was no enthusi- asm among them either for or against the invaders, who 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 if it knew how to enjoy the fruits of free administration, 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 French, in order to make the most of the advantages as conquerors. The people of the towns behaved hospitably 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 as it was, and the Directory, instead of draining the rich resources of the Directory 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 up Lombardy in his despatches, which were granted to the rich proprietors and the ecclesiastical bodies. Meantime he authorized the commissaries to seize prov- isions, 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
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 and clothes for the army, and a number of his best paintings to be sent to Paris. The Duke of Modena, who had not been with the greater part of his treasures, leaving a regency at Modena, who sent to Bonaparte to sue for peace. Modena had committed no hostilities against France, but the duke was allied to the house of Austria by the marriage of his daughter to Joseph, the heir-elect, and he was resented as a feudatory of the emperor of Germany. He was required to pay six millions of francs in cash, besides two millions more in provisions, cattle, horses, carts, &c., and fifteen of his choice paintings; but as he was not quick enough in paying the whole of the money. Until the legation 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.

The Grand Duke of Tuscany, although brother to the Emperor of Austria, was not perceived to design; 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 English, Austrians, Portuguese, and other enemies of the Republic. Every Frenchman, whether merchant or mariner, 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 delivering up all the property in their hands belonging to the enemy. The Emperor of Germany, who had submitted to the clouded part of the treaty, 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 sovereign was really in a state of hostility towards the French republic, which he had never acknowledged, in consequence of the treaty of 1797, by which Austria was to have the possession of Milan. On the 18th 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 laid heavy contributions on both those provinces. The Monte di Piacenza shared the same fate as that of Milan, only the deposits or pledges (not exceeding 200 livres each, 8d. sterling) were ordered to be returned to the owners. The people of Lugo, a town between Imola and Ravenna, rose against the invaders. Augustin Francois, a soldier of fortune, who had fought in the Dutch, 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 then issued by the governor of every town or village that took 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 claimed against the Duke of Brunswick for using a similar treatment when he entered France in 1792.

The court of Vienna, on hearing the 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 conditions of the armistice were, that the pope should give up the province of Ferra and Bugnione, the Isle 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 other objects of art, for which the 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. The fall of Napoleon.

Some of the scientific and learned men of France, among 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 Paris.

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 35,000 men from north of the Adriatic, joined by the troops of General
Tyrol, where he collected the remains of Beauharnois'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
be vastly strengthened by 60,000 men of the Austrian army.
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 Quosnadovitch marched by the western shore
to Salò and Brescia, and in the 25th, which was the day of
Bonaparte, after some hesitation, hastily raised the siege of Mantua, leaving his battering train, and collected the best part of his forces to meet Quosnadovitch 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, hav-
ing 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
withdrew in the 4th, and then took the city which he decided to
destroy. The French left the town, which was fought 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 at-
tacked and defeated an Austrian division at Roveredo on the
4th of August. Bonaparte followed him quickly by the same road,
but Wurmser 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
party of mobile infantry and subalterns he avoided the French divisions moving against him from various
quarters, surprised the bridge of Legnago, passed the
Adige, marched day and night followed by Bonaparte, beat a
French division at Corea, cut down several other bodies which were marching against him, and reached Mantua on the 14th September. Thus, in the course of six weeks,
a second Austrian army was destroyed in detail. The
rapidity of movements of the French divisions, and the
intricacy of their manoeuvres, can only be appreciated by a
modern reader. 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 Nivelle on the 14th November, and defeated him in a brilliant
action. The 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 opposed to Davoust, was driven away from Trento and
Roveredo with great loss, and obliged to fall back to
Rovio and La Corona. Had Davoust 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 a very critical position, with Alvinzi in front, Davoust
in the middle, and Wurmser and Massena in the rear instead of Davoust's attempt at Roveredo, Alvinzi meantime
had advanced by Vicenza and Villanovia to the heights of
Caldiero facing Verona, where he waited for Davoust's
appearance. Bonaparte attempted, on the 12th November,
to carry off the heights of Caldiero, but was repulsed.
Wurmser, losing his right bank of the Adige, crossed that river at Ronco early next morning, and moved quickly by a cross road leading through a marshy country towards Villanovia in the rear of Alvinzi, where the Austrian baggage, stores, &c., were
left. Bonaparte was on this occasion admirably served by 800
men. 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 was unquestionably the hardest
battle in all the Italian campaigns. On the 17th Bonaparte succeeded in turning the position of
Arcole, when Alvinzi thought it prudent to retire upon
Vicenza 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 disas-
terested: 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 attacked Alvinzi to retire from the Adige, Davoust, pursuing himself from his uncon-
ceivable inaction, pushed down by Ala 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 retrace his
steps towards the River 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
Milanic in general remained passive, but the people of Ma-
ersago and Massena were wildly excited, and called upon
the French to restore that country to the emperor at the peace. Bonaparte had 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 fanatics who wish a confederation of all Italy; 2nd, that
which aims at liberty and a national government, and that
with some degree of independence; 3rd, the party friendly to Austria and hostile to us. I support the first, restrain the second, and put down the third. But I need not raise a fourth country of the prejudices of the
people who would have the empire everywhere, 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 conse-
quentially, after paying five millions of livres, he stopped all
further remittance. Bonaparte, after disappointing 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 was preparing a second army to prevent the
Austrian march 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 did not know to what quarter he should make his
movies. 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

B O N
Massena's division to Rivoli, and on the 14th the battle of Rivoli took place. Alvinci, calculating upon having before him Joubert's corps only, had extended his line with the view of surrounding him. Twice was Rivoli carried by the Austrians, and twice retaken by the French, and afterwards Rey, with his division, coming to Joubert's assistance, carried the day. Alvinci's scattered divisions were routed in detail with immense loss. Another Austrian division, consisting of 15,000 men, was repulsed with heavy loss from Rivoli, and arrived just in time to prevent the junction of Provera and Wurmser. Provera, attacked on all sides, was obliged to surrender with his division of 5000 men, and Wurmser was driven back to the fortress. Alvinci, with the exception of 6000 men, was soon reduced to the same state that had driven the Austrians from Rivoli.

By these terms the pope was allowed to remain at Rome a little longer. The Directory wished at first to remove him altogether, but Napoleon had hesitated to touch him from pushing his political 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 under the command of 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 Beaulieu, Wurmser, and Alvinci; it was recruited from the ruins 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 30,000 men from the Rhine under the command of General Massena.

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 Pontosa in the Norico Alps, which was badly defended by the Austrian General Wurmser. The Austrian army retreated upon the Massa, 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 defend the road to Vienna. Bonaparte's object was to drive him back to France rapidly, so as to give the emperor a peace at his own pleasure.

He wrote to the Directory from Ancona, after driving back the French opposed to it, that he had been again attacked by the valley of the Adige towards Lombardy. Had this movement been supported by a rising in the Venetian territory, Bonaparte's communications would have been cut off. He was therefore astonished by the emperor's letter, in which, after calling him the Saviour of Germany, he appealed to his feelings in favour of humanity at large. "This is the sixth campaign," he wrote. "How long are these poor nations to continue to destroy each other? Were you even to conquer, your own Germany would 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 treaties of peace, but that he had written to Vienna to inform the emperor of his (Bonaparte's) overtures. Meanwhile Bonaparte continued to advance towards Vienna and the archduke to retire before him, without any new hostilities. By the 11th of November the emperor's communications were cut off, and the archduke's advice was to draw the enemy farther and farther into the interior of the hereditary states, and then make a bold 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 to the aid 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 Judenburg in Upper Styria, about eight days' march from Vienna, and the citizens of the capital, about 12,000 men, under their walls for more than a century, were greatly alarmed. The cabinet of Vienna resolved for peace, and Generals Bellegarde and Meerfeld were sent to Bonaparte's head-quarters to arrange the preliminaries. After the 25th of April, 1797, the negotiations began at the village of Leoben, and the pro-
liminaries of the peace were signed by Bonaparte on the 16th. Of the conditions of this convention some articles of which were to be submitted to a vote at the first meeting of 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 act of pillage, and punishments meted out of 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 them. Austrian Chancellors in Censorina. This matter 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. di R. Canda, published at Villetard, for the latest and most authentic information concerning the Corte di Venezia. 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 Faipoult, serves to confirm this view of the subject. He says that he seized upon the opportunity of the Austrians having entered Poschiera by stratagem, and without the Venetian senate’s consent, in order to frighten the senate into submission to his will. If your object, he said to the Directory, was to destroy or to humble the Venetians, 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, 1795. He then seized upon the castles of Bergamo and Brescia, and other fortresses, while the Venetian state, he made the country support his army, and meantime he watched 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 troops. They then threatened 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 who assembled in obedience to the senate. At last the soldiers fell back, and the government was reduced to desperation, a dreadful insurrection broke out in April, 1797, which ended by Verona being plundered by the French. Bonaparte now insisted upon a total change in the Venetian government, and French troops being surreptitiously introduced into Venice, the Doge and all authorities resigned. A provisional government was then formed, but meantime Bonaparte bartered away Venice to Austria, and thus settled the most arduous question: the aristocrats, who had written 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 emporium of the Cisalpine Republic was to be subjected to the New of the Rhine with the city of Mainz; he acknowledged the independence of the Milanese and Mantuan states under the name of the Cisalpine 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 Cisalpine republic; the French government was to receive an increase of territory at the expense of the elector of Bavaria, and the Duke of Modena was to have the Brissago.

All this time the democrats of Venice were still thinking of a republic and independence; they had planned, with great common prudence, the tree of liberty in the square of St. Mark, and the French garrison smashed 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 province, 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 Villaret, the French secretary of legation, a young enthusiastic republican, who had been a main instrument of 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 might be taken. Many of the Communards 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 concurring in the spoliation of their country. They had been too confiding; it was true, that they would be massacred, but they would be massacred together, and would depart in their resignation. Villaret, 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 letter of the Republic an answer which has often quoted for its unfeeling aneering 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 sacrifice 40,000 Frenchmen, so that the Venetian republic may be maintained against the people of Venice, and the republics, 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 winter campaign with me . . . . And then he went on railing on the words of the Frenchmen, and how he would 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. And this after the troops were disbanded, the Cisalpine republic was abolished, and the Venetian army, after being thrown into the Rhine, was 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 by Bonaparte to complete the sacrifice of Venice. Having requisitioned the territory of the Cisalpine republic, he was sent to see the ships of war, sunk those that were not fit for sea, and stripped the famous state barge called Bucintoro of all its ornaments and gold, he departed with the French garrison, and the next day the Cisalpine Republic was extirpated. The Venetian Republic Pesaro came as imperial commissioner to administer the oaths. The late Doge Mamin while tendering his oath fell into a swoon, and died soon after. Thus ended the republic of Venice, after an existence of fourteen centuries. With it the only 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. A club of democrats secretly encouraged by Salselli, Faipoult, and Porta,假装ed to favor the republic, assembled the other democrats, and forced the senate, and effected an insurrection. The lower classes of the people, however, rose in arms against the democrats, and routed them; several Frenchmen were also killed in the fray. Bonaparte immediately wrote threatening letters to the Doge and to the Senate, and declared the democrats, the liberty of the prisoners, the disarming of the people, and a change in the constitution of the republic. All this was done; a sum of four millions of livres was paid by the principal nobles to the Directory, the French placed a garrison within Genoa, and a constitution modelled upon that then existing in France, with councils of elders and juniors, a Directory, &c. was set in operation. The people of the surrounding valleys, who did not relish these novelties, revolted, but were put down by the French troops; and many of the newly established democrats were arrested or executed. The king of Sardinia, by a treaty with the French Directory, remained for the present in possession of Piedmont, which Bonaparte however openly disowned, professing, at the same time, a deep regard for the House of Savoy. His letters to the Marquis of Mornas, the minister of the king of Sardinia, who had promised to receive the French troops, and to evacuate the other towns. Nevertheless, treaties 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 despised.

Bonaparte wrote to the Directory that he had with him only 1500 Cisalpine soldiers, the refusal of the towns, that no reliance could be placed on the democrats, who were but a handful, and that were it not for the presence of the French they would be all murdered by the people. (Bonaparte's Correspondence.) He however thought proper to consolidate the Cisalpine republic, and to give it a constitu-
tion. This he did. The whole of the Napoleonic authorities took place at Milan on the 9th of July with great solemnity.

Bonaparte appointed the members of the legis-

lative committees, of the Directory, the ministers, the magis-

trates, &c. His choice was generally good; it fell mostly upon the good, upon the men of property, of 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, with another part, the Treviso, and Rimini, as far as the Rubicon. Tuscany, Parma, Romagna, and Naples remained under their old princes; all, however, with the exception of Naples, in complete subjection 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; though he afterwards obtained its sanction to all the operations of his army. He had in 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 Argueur, who sided with the Direc-
tory. On the 24th of the month, a French frigate was evinc'd on several occasions but an indifferent opinion of the Directory, calling it a government of lawyers and rhet-

oricians, unfit to rule over a great nation. (Bourienne, and Napoleon's Memoires.) He finally refused, after his first Italian victories, to divide his command with Gollman; 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, and was first to have the evacuation of the island of Elba, that he might give in his resignation if not allowed to do so; he made that peace on his own conditions, though some of these 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 per-
haps break out into vociferations, but that is of little conse-
quencer.' Such were the words of the Directory's minister for foreign affairs, Talleyrand. (Bonaparte's Correspond-

ence and Botta, Storia d'Italia.)

In the mean time Bonaparte was appointed minister plenipotentiary of the French republic at the con-
gress of Rastadt for the settlement of the questions con-
cerning the German Empire. He now took leave of Italy and of the one army, who had become attached to him, and was attached to the other, while Italy had been marked by frugality, regularity, and temperance. There is no evidence of his having shown himself personally fond of money; he had exacted millions, but it was to satisfy the craving of the Directory, and partly to support his army and to reward his men.

On his way to Rastadt Bonaparte went through Swit-
zerland, where he showed a haughty, hostile bearing towards Bern, and the other aristocratic republics of that country. He had in mind the Swiss soldiers, and sent to them a letter, 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 triumph. He was made a general and commander-in-chief, with the title of Count of Monthyon.

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 the French from Italy, they gave them uneasiness; and Bonaparte warmly approved of a plan which opened to him the view of the prospect of an inde-

pendent command, while visions of an Eastern empire floated before his mind. He had in 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 ambitious inclinations; for he does not seem to have thought as yet of the possibility of his attaining supreme power. He had foreseen that the Directory might some time foresee that its government must undergo further changes.

The expedition having been got ready, partly with the

expenses of the French seized at Bern in their Invasion
of Switzerland in March, 1798, in which Bonaparte took no

part, and partly with the money he had himself

sailed on board the admiral's ship 1'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 secrecy: some men, chiefly from the army of Italy, composed the land force.

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 there-

fore without instructions of the Grand Master to surrender the island. It is well known that there were traitors among the knights in high offices, who were ready to receive a present of 20,000 frances, and his general and his staff passed through the triple line of fortifi-
cations, General Cassarelli observed to Bonaparte that 'It was lucky there was some one within to open the massive gates to them, for had the place been altogether empty they might have suffered heavy casualties; there was no such
tact the usual spoilation of the churches, the alberghi, and other establishments of the Order, the gold and silver of which were melted into bars and taken on board the French fleet, and Bonaparte left a garrison at Malta under General Varinois, and embarked on the 13th of July, on board the French fleet sailed by the island of Cialla it passed near the Eng-

lish fleet, which having been at Alexandria, and hearing nothing of the French there, was sailing back towards Syracuse. Denon says the English were seen by some of the French, who could not distinguish the ships of war from the merchantmen, and those which were seen by Nelson's fleet, owing to the hazy weather. On the 29th of June Bonaparte came in sight of Alexandria, and landed a few miles from that city without any oppo-
nition. France was at peace with the Porto, in charge of an ambassador from France on a mission to the inhabitants of Egypt, in which he told them that he came as the friend of the Sultan to deliver them from the oppression of the Mamelukes, and that he and his army were to be looked upon as his friends. On the 7th of July the army moved on towards Cairo. They were much annoyed on the road by parties of Mam-
elukes and Arabs, who watched for any stragglers that fell out of the ranks, and immediately cut them down, without mercy. In the Curch of St. Mary he was met by the French cavalry. At last, after a harrying march, the French on the 21st arrived in sight of the great pyramids, and saw the whole Mameluke force under Mourad and Ibrahim Boys encamped before them at Embabeh. The Mame-
lukes formed a splendid cavalry of about 3000 men besides the Arab auxiliaries; but their infantry, composed chiefly of Fellahs, was contemptible. The Mamelukes had no idea of the resistance which squares of disciplined infantry are capable. They charged furiously, and for a moment bordered one of the French squares, but succeeded no further, having no guns to support them. The volleys
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, in which, although they fought bravely, the barbarians were unaccustomed to 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 a part in the decision of the French government. He promised 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 denounced those religions which were not good for the peace and safety of the Egyptians, 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 soldiers, and would not probably have commanded the respect of the people. On 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. He gave the same day an issue of an indignant manifesto, dated 10th September, declaring 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, and the French were driven from the streets. Many 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.) Bonaparte, who was absent, returned quickly with troops; the insurrection was suppressed. The French 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 all resistance had been abandoned; 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 useless as well as unsavory, and that he could call them to account even for 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 the sheik of Mecca, which gave 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 Casas at St. Helena.

Meantime the Turks were assembling forces in Syria, and Djazzer Pacha of Acre was appointed scarrker or commander. Bonaparte received an order to join him. 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. The garrison had been sent to them, but they cut off the head of the boats that were sent to them, and the Turkish troops 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. Bonaparte received an expedition held 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 Arabs, the latter were put under a strong guard, but were supplied with provisions. After two days, on the 9th, this body of prisoners was marched out of Jaffa to 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 executioners of Spain. These General Bon, 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 said that General Bon was no more than 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 same severity. The massacre of Jaffa was not the only one, because done in cold blood and two days after their surrender. The motive of the act however was not wanton cruelty, but policy, in thus getting rid of a body of determined men, who would have embarrassed the French as long as they were in Egypt, and were at liberty. This is the only apology, if apology it be, for the deed. Another and a worse reason was, the old principle of Bonaparte of striking terror into the country which he was invading. On the 7th April, Russian, English and French ships of war attacked and destroyed some few war and merchant ships entering the port of Jaffa, and captured and brought to the French fleet. The French then sailed for the North Italian coast, and 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. Miot in his Memoirs has, it seems, made a mistake in the date of the capture of Jaffa. The French states he states 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 23rd, the Friess and the French 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.) Bonaparte, who was absent, returned quickly with troops; the insurrection was suppressed. The French 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 all resistance had been abandoned; 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 useless as well as unsavory, and that he could call them to account even for their most secret thoughts, as nothing was concealed from him.

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among the rest, who examined the monuments of Thebes, Dendera, Edfou, &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, by refusing to return to the reformation of the campaign, showed their intentions; they attacked 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 rallied, but in the attack failing into confusion 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 perished, either by the bayonet or in the sea, where they were driven from their boats. Bonaparte thought in the morning from the clouds that would appear covered with their turbans. Six thousand men received quarter, together with the pacha, whom Bonaparte condescended to praise for the courage he had displayed. This victory of Aboukir, fought on the 24th of July, 1799, closed Bonaparte's Egyptian campaign. It was squadroned, 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 which had beset Italy, the general dissatisfaction prevailing in France against the Jacobins, 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 month, and then, with 30,000 men, the rear-guard of the campaign, he embarked at Alexandria for Egypt, and landed at Frejus, September 12th. He took his seat at the council of war, and attended the French cruisers. He is said to have read during the passage both the Biblo and the Koran with great assiduity. On the 30th September the two frigates entered the gulf of Ajeolo; on the 7th October they sailed again, and passing unhurt through the Dardanelles, 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 of the various towns on his road to Paris, especially by those of Aix. In the spring of 1798 he had decided to make a revolution in the East with the object of abasing the Seid Pacha, and of removing from power a species of the house of Brusa. His first attempt was directed toward the Ottoman empire. At this time the Egyptian government, which had been established by Bonaparte, was threatened by a revolution, and the people were determined to remove the Seid Pacha. Bonaparte decided on joining the people, and giving him his military support; the day for attempting the proposed change in the constitution was fixed between them and their friends.

The French army retreated through Jaffa, burning every thing behind them, harvest and all. 'The whole country is on fire in our rear,' is Berthier's taciturn expression in his report of that expedition. The French and British troops before continuing their retreat from Jaffa, Bonaparte ordered the hospitals to be cleared, and all those who could be removed to be forwarded to Egypt by sea. There remained about twenty patients, chiefly suffering from the plague, who were in a desperate condition. Napoleon, who was principally behind the lines and would have exposed them to the barbarity of the Turks, Napoleon, some say another officer, asked Desgenettes, the chief physician, whether it would not be an act of humanity to administer opium to them. Desgenettes replied that 'the precaution will probably save them.' The French and British troops stayed there three days after the departure of the army. When the rear-guard left, all the patients were dead except one or two, who fell into the hands of the English. The operation of the war was continued by sea and were also taken, having heard something of the suggestion about the opium, propagated the report that the sick had been really poisoned, which was believed both in France and England for some time. But the result of the outbreak of the war on the Euphrates was the massacre of the inhabitants of the province to the north of the river, and the abandonment of their villages by the Turks.

On arriving at Paris Bonaparte found himself courted, as much probably by the Jacobins as by the Jacobins, with General Jourdan, Bernadotte, Augereau, and a majority in the council of 500, wished to restrain the power of the Directory, to turn out Barras, but to maintain the constitution of the year 12. Sieyes, one of the directors, with a majority of the Council of Edward, wished to strengthen the constitution, less democratic, of which he had sketched the outline. Barras strove to maintain the power of the Directory, of which till then he had been the most influential member, and was only small, but he was not without the support of 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.
mob of the capital. By another resolution General Bonaparte was appointed commander-in-chief of the military division of Paris, and charged with protecting the said removal of the councils. 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 levee. He immediately mounted on horseback, and invited 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 stubborn an enthusiast of the Revolution as himself,' (Bonaparte to Bernadotte, 25th December.) Bonaparte, 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 company of Grenadiers, and was received by Sieyes, 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 companions would resign. He wrote a letter to the Council of Elders that 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 Gohier, were 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 Bottot to endeavour to negotiate with the council of general notables, lighted by Mounier 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 prosperous and glorious? I left her at peace, and I find her by your means reduced to the state of aExamples, 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... Every act which you have done has been a new departure in spoliations and misery.'

Bonaparte 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 in that effect, and then set off for his estate in the country under an escort which Bonaparte gave him. [BARRAS.] Gohier and Mounier being thus left alone did not constitute the number required by the constitution in order to give to their declaration of duty which they had given to the National Assembly. Mounier was 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 them to the 24th of December for the next day. They separated amidst cries of 'The Republic and the Constitution for ever!'

Fouché, the minister of police, Cambacères, minister of justice, Talleyrand, and other influential men, seconded the view 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 assembling in 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 10th Brumaire (10th November) the councils assembled at St. Cloud. The republican minority in the Council of Elders complained loudly of the hasty and irregular organization of the preceding day. In the midst of 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 treating upon a volcano, that he and his brethren in arms were acting in a role not calculated to their advantage, 4, disinterested, 'and yet,' he added, 'I am calculusmated, I am compared to Cromwell, to Caesar.' This was uttered in a rambling, broken manner. Linglet, one of the mini-
The chief direction. It is well here to quote the words of Lucien, who after a lapse of thirty-five years, filled with statesman and consul, or to his 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 wait for the legal manifestation of the wishes of France, and we thought it was of no moment that the great battles 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; we hesitated because we had in view the sacredness of the constitution, and that the assembled men in 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 15th Vendémiaire, in which Bonaparte had acted, and that his action was denied to the constitution; after 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 was to be appointed, and among them, however belonging to the other council, 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 director and bureau. The question of the legal validity of members was drawn up, who were declared to have forfeited their seats in consequence of their violence and their crimes. By another, three provisional consuls were appointed, Sieyes, Duoss, 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.

Every thing was now quiet at St. Cloud, and Bonaparte returned to Paris with Bourrienne. After quitting the assembly, Bonaparte and the members who had spoken some nonsense while before the council, I had rather speak to soldiers than to lawyers. These fellows really put me out of countenance, I have not the habit of speaking before large assemblies. But the habit will come by experience, and in the evening of the following day, Bonaparte took up his residence in the Luxembourg, the palace of the ex-directors. The fall of the Directory Government, however irregularly brought about, was certainly not a subject of regret for the majority of the French people, who had neither respect for it nor any confidence in it. The profanity and dishonesty of that government were notorious. [Directoire Exécutif]

At the beginning of the three consuls Sieyes having said something about a president, Duoss immediately replied, 'The General takes the chair of course.' Bonaparte then began to state his views on the various branches of the administration and on the policy to be pursued by the government, and began to appoint. The council in conference with the commission appointed by the councils, framed a new constitution, which was called the constitution of the year VIII. The outline, with regard to the legislative power, was taken from a plan of Sieyes. It consisted of one-thirty-fifth of the number of the issues, or three consuls, each having a life, and enjoying a considerable salary, of a legislative body of 300 members,
tion, although he had greatly modified it by strengthening the executive to a vast extent. 'Napoleon,' thus he spoke afterwards of himself at St. Helena, 'was convinced that France could only exist as a monarchy; but the French people being more desirous of equality than of liberty, and the very principle of the revolution being established in the equalization of all classes, there was of necessity a complete abolition of the aristocracy. If it was difficult to construct a monarchy, it was without doubt more difficult to establish the very principle of establishing a monarchy was much greater. To form a constitution in a country without any kind of aristocracy would be as vain as to attempt to navigate in one element only. The French revolution undertook to solve a problem, in the nature of which, and by whose very nature, the ideas of Napoleon were fixed, but the aid of time and events were necessary for their realization. The organization of the consulate presented nothing in contradiction to them: it taught unanimity, and that was the first step. This point of view being quite different to the forms and denominations of the several constituted bodies; he was a stranger to the revolution; it was natural that the will of those men who had followed it through all its phases should prevail in questions as difficult as they were able to.

The wisest plan was to go on from day to day without deviating from one fixed point, the polar star by which Napoleon meant to guide the revolution to the haven he desired. (Memoirs of Napoleon, dictated to Gourgaud, vol. ii.) Napoleon was disposed to bring about a subsequent policy with regard to the internal administration of France. Towards the end of January, 1800, Bonaparte removed from the palace of the Luxembourg to the Tuileries. Of his public entrance into that royal residence another version is that of the multitude Madame de Staël has given a striking account.

The finances were left by the Directory in a wretched state: the treasury was empty; forced loans arbitrarily assessed had been till then the chief resource of the government. In the new minister of finance Bonaparte expelled the odious system, for which he substituted 25 per cent. additional upon all contributions direct or indirect. Confidence being thus restored, the merchants and bankers of Paris supplied a loan of twelve millions, the taxes were paid on their due dates. The domains were resold, and money was no longer wanting for the expenses of the state. Cambacères continued to be minister of justice. The tyrannical law of hostages, by which nearly 260,000 Frenchmen were placed out of the pale of the law because they happened to be relatives of emigrés or of renegades, and were made answerable for the offences of the latter, was repealed. About 20,000 priests who had been banished or imprisoned were allowed to return, or were set at liberty on taking the oath of fidelity to the established government. About 9000 men were set free. 'Opinions,' said Bonaparte, 'are not amenable to the law; the right of the sovereign extends only to the exaction of obedience to the laws.'

Submissions under government were filled with men from all parties, chosen for their fitness. 'We are creating a new era,' 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.' A great deal to this principle, Pouèhel was retained as minister of police. Berthier was made minister at war instead of Dubois Crancé, the minister of the Directory, who could give no returns of the different corps, and who answered all questions by saying—'We need the files.' The banks were no longer the possessors 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. The free exercise of the law of the church was restored, 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 surveillance of the police.

France was still at war with Austria, England, and the Porte. Bonaparte sent Duroc on a mission to Berlin, by which he confirmed Frascati in its neutrality. The Emperor Paul of Russia had withdrawn from the conference and the battle of Zürich, 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 Grenville, secretary of state, wrote back a favorable answer. But suspicion of the motives of Napoleon causes but dispersed doubts as to the stability of the present government of France, an uncertainty which would affect the security of the negotiations; but discriminating at the same time any claim to prescribe to France which shall be the form this government shall take to 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. Whenever he shall judge that such an opportunity may present itself, 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 new government will be directed; 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.)

To Congress the 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 organized, and he was afraid of the effects of the schism in the state.

(Cont.)

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mida in front of Alessandria. On the 14th of June Melas attacked the Bormida in three columns, and attacked the French. The Austrian army was defeated, 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 to the French, who were retiring on all points, and in confusion. At dark the French division attacked the advancing column, while the younger Kellermann, 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-in-chief, old and gallant 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 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 4000 only, 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. The other generals of the French army were present at the battle. 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, gave up 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 arrived on the 3rd of July, and was received with the greatest enthusiasm. His message to the French nation solidified 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 by sea as a condition of resuming the negotiation. At last, on the 9th of August, Egypt were then on the point of surrendering to the English, 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 having defeated the Austrians commanded by Archduke John, in the great battle of Hohenlinden, and advanced towards Vienna. The French in Italy drove the Austrians beyond the Adige and the Brenta. (For all this war of 1800 see Fréres des Eclanemmes Militaires, par Matheis.)

Austria was now obliged to make a separate peace. The treaty of Lunéville, 9th February, 1801, arranged by the two plenipotentiaries, Count Coblentz and Joseph Bonaparte, was mainly grounded on that of Campoformio. Austria retained 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, and who obtained for him the return of Pius VII, was likewise 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, 29th March, 1802. By this treaty the English were to withdraw, the King of Prussia would 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 sultan, the Cape of Good Hope to Holland, and the French provinces were to be restored to England. The Ceylon island was restored to England.

Bonaparte had shown at this period an earnest desire for peace, which France stood greatly in need of. Both royalists and republicans were dissatisfied with his dictatorship. Joseph Arena, a Corsican, and brother of Bartolomeo Arena of the Council of Twenty, tried to assassinate him in March, 1802, but Bonaparte was on the 19th Brumaire, Cercechi 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 conspiracy was discovered, and several persons, some of them Bonaparte's intimates, were on trial. Bonaparte, when he heard of this, 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 tremendous explosion of several barrels of gunpowder in a house, that was drawn up on the side of the street, 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 discovered the conspirators, who were former 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, that was drawn up on their confinement 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. Bonaparte, at the request of the Jacobins and Bonapartes, issued a new edict, by which 50 of the exiled Jacobins and Bourbonists. A law passed the legislative body empowering the executive to banish from Paris, and even from Franco, persons who should express opinions inimical to the present government. By another law, which was based on the model of the Code of Bonaparte, afterwards sanctioned by the legislative body, special criminal courts were established to try all persons accused of treason against the state. The secret police was now organised with the utmost skill by Fou/ché, and numerous informers from all classes were employed on that principle. 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 allegiance to the new French government; but 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 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, by which the pope was promised the promise of freedom 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 consol should appoint the bishops, subject to the approbation 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 the pope and bishops were to be approved by the civil 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 conditions it was proclaimed, on the part of the French government, that the Catholic religion was not 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 with offices only by the civil authority. The churches belonging to them should be restored to them. The total abolition of convents was also confirmed. This concordat was not agreed to by the pope without some scruples, nor without much opposition from several of the theologians and canonists of the Roman Church. (Consalvi, Etienne Charles, 1736 at Milan, 1824; and also Botta, Storia d'Italia del 1798 al 1814.) On Easter Sunday, 1802, the concordat was published at Paris, together with a decree of regulations upon matters of discipline, which were so worded as to make

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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 approbation of the government; no nuncio or apostolic commissioner to appear in France, and no council to be held there. The discipline under which the Gallican Church was to be placed later became a matter of dispute, and a few years after the Napoleonic Code was promulgated, several controversies arose against the abuse of episcopal authority and the exercise of the papacy, which the French government was determined to suppress. The concordat of 1801, while it was a compromise, was not without its difficulties, and the French government was not inclined to make a permanent agreement with the Roman see.

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 pope had invited the French king to the ceremony, but he said that he had left his court for the purpose of attending the levee of the first consul, which took place there at the time. The concordat was received with mixed feelings, and the French government was not satisfied with the terms of the agreement. The concordat was later modified by the Concordat of 1802, which was more to the liking of the French government.

Bonaparte established an order of knighthood both for military men and civilians, which he called the Legion of Honour. This order was intended to be a symbol of the glory of France, and it was designed to encourage the most decided members of the opposition.

In January, 1802, Bonaparte convoked the Constitutional Council of the Cisalpine Republic, and the constituent assemblies of the several towns and departments, and the national guard of the regular army, and of the chambers of commerce. The number of deputies amounted to about 500, of whom a commission of thirty members was selected, which was empowered to draw up the constitution 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 existence a constitution of the character and form of the French, and it ended by requesting that the first council would assume the chief direction of its affairs. Bonaparte then repaired to the hall of the deputies, and delivered a speech, in which he gave the main points of the constitution of the Cisalpine Republic.

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In 1803, the Swiss cantons re-established the neutrality of Switzerland, and the Swiss guard was re-established. The neutrality of Switzerland was recognized; no foreign troops were to occupy 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 assured the Helvetic league that little San Marino were the only Republics in Europe whose independence he maintained.

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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 Lycees 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-
lishments, known as the Liceo, gave first place among the military schools of France, and the parade and military manoeuvres were the chief objects of instruc-
tion at the Lycees. 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 grand college of the navy at Font-
ainebleau, the school of artillery and engineers at Mâcon, 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. He scorned at all such studies as ideology, and construed the notion of an idle and degenerate allion.

The provincial administration of France was now organi-
zated 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-
aparte. The mayors of the towns of 5000 inhabitants and
upwards were appointed by Bonaparte; those of the com-
touns under 5000 inhabitants, as well as all the members of the departments, were appointed by him and 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 whole of the government, and the whole of the state, should be in harmony with the key-note which was to in-
fluence 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.'

(1) This is the idea of the Russian treaty of March 25th, 1802. In this treaty, which was agreed on at Amiens, the
French government purchased the island of Elba from
Spain, and restored it to the republic of the Elbas, under
together with the dominion over all their islands, on
the condition of Spain ceding to France the island of
Sardinia. By this treaty Spain ceded all her territory
north of the Alps, and the kingdoms of Italy and
the south of France.

On the 18th of March a party of gendarmes from Strasburg crossed the Rhine, entered the Baden territory, surrounded the city of Tübingen, and took possession of the Rhine and the Rhine, at which Alexander openly expressed his displeasure, Bonaparte having no further reason to favour him, a Senatus Consultum appeared in September, 1802, definitively incorporating Piedmont with the

French republic, and dividing it into six departments, Po, Dora, Sesia, Stura, Marengo, and Tanaro. Emperor

on her side refused to deliver up Malta, as a Neapolitan garrison would have been a poor security against a sudden
visit of the French. Lord Whitworth had a long and
stormy conference with Bonaparte at the Tuileries on this

subject. The Emperor represented to him that the state of things which the treaty of Amiens had contemplated was completely altered by his enormous ac-
cession of power in Italy, Bonaparte peremptorily rejected
England's claim to interfere in his arrangements concern-
ning other states; he insisted upon Malta being delivered up to some neutral power; and at last, after a half of
almost incessant talking, he dismissed the English minister to prepare for the removal of hostilities. (See the instruc-
tions given by Bonaparte in his own handwriting to Talley-
rand concerning the manner in which he was to receive Lord Whitworth, and the last communication between them, in No. IV. Appendix to Sir W. Scott's Life of Napoleon. See also in the Mémories sur le Consulat by Thibaudeau, the real opinion of Bonaparte concerning the peace of Amiens, expressed by him confidentially soon after the conclusion of the second treaty of Vienna.)

The 22d of May, 1803, England declared war against France, and laid an embargio upon all French vessels in her ports. In retaliation for this, a decree of the 22d May ordered that all the
English of whatever condition found on the territory of France should be deported, and that in the public service of France was made any bookseller to publish any work until he had
submitted a copy of it to the commission of revision. Journals
had already been placed under still greater restrictions.

In February, 1804, the police discovered that a number of emigrants came to Paris; that General Pichegru, who, after his escape from Guillot, had openly espoused the cause of the Bourbons, was with them,
and that he had had some interviews with General Moreau.

The real purpose of the conspirators has never been clearly

It was said also that Bonaparte the Duke of Lorraine was to
make any bookseller to publish any work until he had
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emigrants came to Paris; that General Pichegru, who, after his escape from Guillot, had openly espoused the cause of the Bourbons, was with them,
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 joined himself to the party of emigrants, and 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 king. These charges were 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 a desire to have an interview with the first consul. 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 correspondence 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 établie à Vincennes, 30 Ventôse, An XII, formé 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 Chapatly le 2 Août, 1772.) Savary had orders from Bourrienne concerning the execution, which was done that very 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 and carried away to the Tuileries, where a special gendarme 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 am not to blame 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, as it was alleged. He seems to have believed in himself. (Las Cases and 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 strangle him. (Memoirs of the Royal Academy.) It is the plots 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 Bourbon house.

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 Britannia, was afterwards captured by the French, and sent to a prison, where he remained confined for some time, was allowed to leave the place. Wright is a man of being a painter, and of having been concerned in 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, scented as they were from all public responsibility, might, in their eagerness to serve their master, or rather themselves, have resorted to the means to which John Wright 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 inculpate Moreau, whom they recommended to the committee of correspondence. Yet dark rumours were circulated about Captain Wright having been put to excreting 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 says, ‘Fouché no doubt took good care of him.’ He says the man was interrogated amongst them. Memoirs, vol. i., where Napoleon speaks of the arbitrary tyranny which the minister of police and his agents exercised until by his decree on state prisons, 13th March, 1810, he stripped them of that terrible power of committing any crime in the king’s name on 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. Meanwhile a motion was made in the Tribunate, by one Curée, to bestow upon Napoleon Bonaparte the title of emperor, with the hereditary succession in his family. Carnott alone spoke against the motion, which however was passed by a great majority on the 3rd of May. The resolution of the tribunate was then carried to the Senate, where it was unanimously agreed to. It was then submitted to the votes of the people in the departments. Above three millions of the registered votes were favourable, and between three and four thousand contrary. It was said that in many places those who did not vote were registered as assentents, and that this was the case at Geneva among others. However, even before the votes were collected, Napoleon assumed the title of emperor at St. Cloud on the 18th of May, 1804. The decree of 13th of May, 1802, nominating the first generals marshals of the French empire. Deputations with congratulatory addresses soon began to pour in from the departments, and the clergy followed in the wake. The first decretals of the new sovereign were headed—‘Napoleon, by the grace of God, King of Italy, Great of the Great, Emperor of the French,’ &c.; but the name of the republic was soon after dropped altogether.

In the month of June the trial of Moreau, Georges, and the others concerned in the conspiracy, took place before a special court. A decree of the Senate had previously suspended, for two years, the functions of the jury in cases of attempts against the person of Napoleon Bonaparte. Twenty of the accused, with Georges at their head, were condemned to death; Moreau, with four more, to two years’ imprisonment; and a large number were condemned and ordered to be sent on coming out of court, and replaced in prison at the command of the emperor. Riviere, Polignac, and some others who had been condemned to death, were reprieved by Napoleon through the entreaties of his wife and his wife’s sister. These reprievations were announced, and 35 were executed. Moreau had his sentence of imprisonment exchanged for perpetual banishment, and sailed for the United States. The proceedings of the trial, and Moreau’s defence, were published in the newspapers of the time.

Napoleon had the order received for the execution of his coronation. After consulting with his cardinals, Pius VII. determined to comply with his wish, and came to Paris at the end of November, 1804. The coronation took place in the church of Notre Dame on the 2nd of December. The crown having been blessed by the pope, Napoleon took it himself from the altar and placed it on his head, after which he crowned his wife as empress. The heralds then proclaimed the accession of the high and mighty Napoleon L., emperor of the French,’ &c. &c.
Genoa, Durazzo, repaired to Milan with a deputation of senators, and expressed a wish on the part of the Genoese to be united to the French empire. A decree of Napoleon, 9th of June, united Genoa, but the public of Lucca was transformed into a principality, and given to Elisa, Napoleon's sister, and her husband Baciocchi, to be holden as a fief of the French empire. Thus two more Italian republics disappeared; San Marino alone remained under its ancient form.

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 preparations excited considerable alarm among his soldiers. 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. Bourrié, who was then still near Bonaparte's person, positively states that he did not entertain any serious view of landing in England; that he was fully aware of the difficulty and risk of such an undertaking; that even had he 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 that, 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 expected England to surrender, and by the campaign of 1812 to control 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 the enemy between his fleet and the coast of England 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 was the result of which could 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. (Las Cases, vol. i. part ii.) It must be observed that all this declamation applies to his preparations towards the end of 1809 and the beginning of 1810, when he was still first counsel and did not deliver a show of respect for the forces of the British nation, as O'Meara speaks of it. To O'Meara he speaks of the heart of England, his statesmen, his army. 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, dispirited, and loose characters, all the restless discontented, who abound in great cities, and as in the face of public order, insurrection, 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 of Spain and other countries, he did not say. Luckily, perhaps 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 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 Monteur answered them by taunts and jibes against the two sovereigns. By the treaty of Lunelville 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 arm. The declaration of war by Austria against France, 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 invasion of England. The arrival of the Russians, who were assembling on the frontiers of Galicia, matched 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 Neapolitans in 1798, was by some strange influence placed at the head of the Austrians. On the 27th of September, 1809, 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 interior of France, were ordered to march to the same quarter. He appointed Massena to command the army in Italy.

On the 23rd September, 1809, 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 they have hurried her into war. I sigh in thinking of the blood that this will cost Europe, but the French name shall receive a fresh lustre from your gratitude; your confidence in 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 has remained invincible; but you, Napoléon Bonaparte, Representives, 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 name of the brave, 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 latent on the continent of France, that Bonaparte served the purpose of creating in the German states, where great ignorance prevailed on political subjects, and where the press was sure not to contradict him, to create that spirit of bitter and deep animosity against England which continued to exist long after his death. It is curious to read the details of the attacks by which he accused, threatened, and accused, assertions and charges against England with which its columns are filled. (Règlement de decret, ordonnances, traités de paix, manifestes, proclamations, discours, &c. de Napoléon Bonaparte et des membres du Gouvernement Français depuis le 18 brumaire an 3 [November, 1795] jusqu'à l'année 1812 inclusivement, extrait du Monteur, 4 vols. 8vo. 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 provoke the plague in Paris and the Moniteur (the official journal) added, 'the English do not conquer us by the sword, they assail 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 step which 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 (Bourrière, in his account of the Egyptian war, shows how much Napoleon's letters and bulletins are written, as it were, to the public,) they constitute however a series of important historical papers.

We cannot enter into the details of the campaign of 1809, and must refer our readers to the professional statements of military literature, and above all to the magnum opus of Stutterheim's Campaign of Austerlitz; Rapp's Memoirs, &c. Suffice it to say that General Mack allowed himself to be surrounded 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 not far away the Austrians made only a feeble resistance, and Napoleon 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 told his soldiers that they were now going to meet the world, and that he had been born from the earth of the world by the gold of England. Alluding to the high character borne by the Russian infantry, he added:—"This contest is of much importance to the honour of the French infantry. The question must be now finally settled whether the French infantry be better or worse than the Russian."

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 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 Pressburg on the 26th of December. Austria gave up the Venetian provinces and Dalmatia to the kingdom of Italy, Tyrol to the electors of Bavaria and Styria, and the right bank of the Rhine to France, in consideration of a 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 a league of German princes and of all ranks 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 head 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 he being from the frontiers of France and from his reinforcements and supplies, the Russians, who were expecting reinforcements, in his front, Prussia wavering on his flank, Bohemia untouched, the Archduke Charles and the Hungarian insurrection in his rear, was extremely critical. By an act of contrition, this very war had 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; it was calculated, as the Jesuits said, and the fears of the Emperor Francis, and on his affection for the good citizens of Vienna; and he was not mistaken on this occasion.

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relations between

France and England. There was no

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 had

been more than a year in Russia, and his plan of

again 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

by the river Aller. They did not lose however either

canon or baggage, and they effected their retreat upon

Tilsit near the Russian frontiers. (Sir Robert Wilson's Sketch of the Campaign in Poland in 1806-7; and Geschichte der Feldzüge Napoleon's gegen Preussen und Russland in 1806-7, Leipzig, 1809.)

As Bonaparte and Alexander both wished for peace, an

armistice was agreed to, and an 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 obliged to give up the half of his former ten districts, 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 the Russian troops were to be reduced to no

more than 50,000. 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 9th of July Napoleon commandet to

St. Petersburg, 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 General Consulat suppressed the

Saxon customs at the mouth of the Elbe. The state of

Lauenburg, which had been under the necessity and urgency of affairs. (Las Cases, vol. 1.)

Necessity and the urgency of circumstances were mighty

words with Napoleon; they generally concluded all his

arguments on matters of morality and politics. Whether

there was an urgent necessity or not, their 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 in France. It had been previously reduced to one-

half of its original number. 'The Tribunate,' said Napo-

leon at St. Helena, 'was absolutely useless, while it cost

nearly half a million; I therefore suppressed it. I was

well aware that the influence of the Tribunate was

violating 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 Tribunate, 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; but that,

his manner was so magnetic that his influence had a

power to possess the strength of the Senate.'

War with Spain.

On the 29th of May the Congress of Vienna, held at

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

Scottish title, and the new prince and the queen of

Joanina, who took up his residence at Cassel. Soon after,

the Prince Regent of Portugal having refused to enforce

the Berlin decrees against England, Napoleon sent Junot

with 30,000 men across Spain to take possession of Portu-

gal. At the same time he published in the Moniteur that

France had entered Lisbon without opposition, November 30th,

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and Ferdinand, overwhelmed by insults and threats, renounced his claim to the crown of Spain on the 6th May. (Concerning the real sentiments of Ferdinand expressed in his interviews with Joseph Napoleon, see Baudez, "Mém. ann. 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, and deposed emperor of Leopoldina, Lord Marshal general, in the army and the navy,' to the latter post, 15th July. He appointed 'his dearly-beloved cousin, Joachim Murat, grand duke of Berg, to the throne of Naples and Sicily, which remained vacant by the accession of Joseph Napoleon to the kingdoms of Spain and the Indies.' This act was, however, one of the conditions imposed by Napoleon, and countersigned by the minister secretary of state, Marets.

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 unnecessary resistance of the Spaniards,—the atrocities committed by the French troops, and the various retaliations by the Spanish guerrillas,—the long, murderous war of seven years, from 1808 till 1814, in which the British army acted a conspicuous part,—all these may be read in the numerous works written expressly on the subject of the Peninsular War. For the military transactions, see Quarterly Review, 1808; Napoleon, 1833; and Vacher, Annales du Peninsular Campaign, by Captain Hamilton. For the Spanish view of the subject, see Count Torreno, Historia del Levantamiento, Guerra, y Revolución de España, Madrid, 1835; and Canga Arguelles, Obra de la Guerra de España, 1808-1814, de Claré 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 gives perhaps 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 espagnole, 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 200,000 Frenchmen were killed at one engagement, and 350,000 at 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 French after the peace of 1814, the number who perished during that war cannot 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 this long period, is beyond all 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 Denzig 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 Constantiople. 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 the Senate and 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 eagles on the ramparts of Lisbon.' Two days afterwards he left Paris 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 grand-children would bless his memory. He appointed 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 new Austrian war signs 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 new personal subject of complaint, except the 'alarm to universal peace, and the menace of its destruction.' She was at that time at the peak of her power, towards universal domination. The Archduke Charles commanded the Austrian army of Germany, and the Archduke John that of Italy. The Austrians crossed the Inn on the 9th April, and occupied Bavaria and the Tyrol. Napoleon quickly assembled his army beyond the Rhine, repaired to Augsburg, and by one of his skilful manœuvres broke the line of the Austrians, gained the battle of Eckmühl, and obliged the Archduke Charles to retire into Bohemia, leaving the road to Vienna open to the French. (For the details of this campaign see Government, 1812; and Sir John Inglis's History of the Peninsular War, 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, 1st May. Bonaparte was defeated in the day's fight; 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 withdrew his army into the island of Loban 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 over at the end of June. At 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 advantages were gained by Napoleon in Spain. The peace of Tilsit was concluded at Zaisn, and this led to the peace of Schönbrunn, which was not signed however till the 14th of October. Napoleon had entertained some idea of dismembering the Austrian empire; he had even addressed an invitation to the Tsar to come down and form a new government of the native ruder, but this address produced no effect. Germany began to be agitated by a spirit of popular resistance against him; bands of partisans 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 dubious 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 his opinion to the Emperor Francis, the Emperor Francis was part of Croatia, Salzburg, Cracow, and Western Gallicia, 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 confederates, however, crossed to France for the love of their Tyrol's Tyréd.)

Whether the subsequent marriage of Napoleon with a daughter of the Emperor Francis was in course of negotiation at the time of the peace of Schönbrunn has been questioned. After his return to Paris he is said to have been known to his wife Josephine his determination to divorce her. A painful scene took place on this occasion, which is well described by De Baussé, prefect of the imperial household, in his Mémoires Anecdotiques sur l'Intérieur. Napoleon seemed to be extremely 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 commission, a formal alliance was entered into on the 24th of May, and registered on the 16th of December, 1809. On the 11th March, 1810, Napoleon married by proxy the Archduchess Marie Louise, who soon after set off for Paris. The marriage ceremony was performed at Paris by Cardinal Fesch.

The years 1810 and 1811 were the period of Napoleon’s greatest triumphs. The Dictator, Count Montalivet, described 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 was under the government of Louis Bonaparte, who felt the weight of French dominion. As he did not enforce very strictly the continental system, as it was styled, against English trade. This led to frequent reprisals from his imperious brother, who at last resolved to enforce his own decrees himself 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,’ he said, ‘is in reality a continuation of France; it must be united with us, for an empire which enjoys the Rhine, the Meuse, and the Scheldt, which are the great arteries of the empire.’ And Champagny, minister for foreign affairs, in a report to the emperor said:—‘Holland is an emanation of the French empire. In order to possess the sea, we must reign in the sea as an emperor of the Zuyderzee.’ But even the Zuyderzee was not far enough. By a Senate Consulum, 13th December, 1810, Holland, Friesland, Oldenburg, Bremen, and all the inlets 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 Naples, for Napoleon had finally annexed Rome and the southern papal provinces to France. The pope lauded this emanation of independence, gave up all his rights, and was allowed to reside in Avona, by a party of gendarmes who eccabled 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’Entendement du Pape Pie VII. et de son Voyage jusqu’d Florence, par le Baron Radot, in the Appendix.) Radet was the colonel of gendarmes who seized the person of the pope and conducted him to Rome. A thousand departments of the French empire, called of Rome and of the Theresa, from 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; the kingdoms of Naples, and of the two Sicilies, of the two Carolinas, 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 Napoleon toward communication against Napoleon, upon which he was arrested in his palace on the Quirinal in the middle of the night of the 4th July, 1809, by a party of gendarmes who eccabled 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’Entendement du Pape Pie VII. et de son Voyage jusqu’d Florence, par le Baron Radot, in the Appendix.) Radet was the colonel of gendarmes who seized the person of the pope and conducted him to Rome. A thousand departments of the French empire, called of Rome and of the Theresa, from which last Perugia was the head town. Napoleon gave his ‘good city of Rome’ the rank of second town in the French empire.

In 1811 the first symptoms of coolness between Alexander and Napoleon manifested themselves. The complaints of the Russian landholders against the continental system and the 설치 of Napoleon’s empire were more pressing and urgent. The emperor of Austria, who had been consulted as 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 the power, and held Seily and Portugal and continued to do so. Napoleon’s great interest was to hold Europe at the beginning of 1811. In the month of March of that year Marie Louise was delivered of a son, who was saluted by Napoleon as ‘King of Rome,’ an omen tittle 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 court of appeal, one currency, one system of weights and measures. Am I to blame if the great power which would rule the Rhine is the French? Poland to assume the dictatorship of the world?' (Fouché's Memoirs.) And to De Pradt at Dresden he said, 'I will destroy Russian influence in Europe. Two battles will do the business: the Emperor Alexander will come on his knees, and Russia shall be disarmed. I will make Germany a great power. I shall 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 occasions. 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 bending 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 after step. The last effort wanting to arrive at it seemed so 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 discord within and attack from without, I would not 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 not hesitated to assume the required military superiority, I acknowledged neither masters nor laws.' (Las Cases, vol. iv., part i.)

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 Boutein, aide-de-camp to the Emperor Alexander; to the memoirs of Oginski; and to the Italian account of Captain Laugier, Gli Italiani in Russia. By consulting these various authorities, a sum of very correct information concerning that stupendous catastrophe is to be obtained.

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 postauditum. He was willing this time to let Spain retain her position under his own children, and 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, while General Macdonald was at Pontevedra and belonged to the French army on the 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 Kourakine, 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 the Confederation of Rhine. This 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 Kourakine his passports.

On the 9th of May he himself set off with his empire for Dresden, where he had invited the kings of his own creation, Bavaria, Württemberg, Saxony, Westphalia, and his other tributaries, to meet him. The emperor of Austria accompanied him to Dresden with his empire. The king of Prussia came too, having 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 Poles. Napoleon directed them to Wilna, where the emperor Alexander then was, to invite him to come to Dresden, but Alexander declined.

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 275,000 French, 80,000 Germans of the Confederation of the Rhine, 50,000 Russians, 24,000 Poles, 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 cross the Niemen and march to Posen, and then to Thorn, and arrive before the 24th and 25th of June Napoleon's army in three large masses, crossed the Niemen, and entered Lithuania without meeting with any opposing force. The Russian army, under General Baratay de Tolly, 120,000 strong, evacuated Wilna, few weeks before, with a view to accommodation for the 28th and 29th of June. Napoleon's 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 duky of Warsaw, entreating him to proclaim them king and independent of 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, Annales 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 met with great difficulties in obtaining victuals. The Russian nobility and the humbler classes, feeding their horses on the green corn, violating the women, and killing those who resisted such treatment. (Oginski and Segur.) Lithuania was a poor and thinly-inhabited country, whose population, which had been increased by the invasions of the invasions of the northern nations, was, in 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 Mohilow and Wittepsk, the Russians continued their retreat upon Smolensk, in the interest of Poland. Napoleon followed in the wake of his enemies, and on the 1st of August his troops were within 20 miles of Smolensk. 'Forward marches 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 keep on the move, or obtain provisions; or the army would become a glut, and would have to be discharged, and the officers to be sent back to their posts, as happened in 1810.' (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 Dvina, towards Riga. In a few weeks, the Russians had encamped near Smolensk, 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 overrunning or destroying the provisions, in order to allow the inhabitants to remove themselves, evacuated Smolensk, which their rear-guard set on fire. They continued their retreat upon Moscow, and Napoleon followed them. The French army was about 80,000 men. The corps of the French on the right of the river Moskva, was fought on the 7th September. There were 30,000 French, in the French line; 22,000 Russians, 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 Russian took hardly any prisoners or guns: 15,000 Russians, and about 10,000 French. The 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 French entered Moscow and found it deserted, except in the convents of the Kremilin, and the Emperor was one of the few who had two fires burning behind him for the sake of plunder. On the evening of this day a fire broke out in the coachmakers' street, but it was put down in the night. On the next day, 15th, Napoleon took up his residence in the Kremilin, the ancient palace of the Tzars. The next day he followed it by the fire, and spread the flames all over the city, and on the third day Napoleon was obliged to leave the Kremilin.
The burning of Moscow was not only destructive to the Russian war-chest, but also to the Russian war-organization. At Kaluga, where the Russian army was now posted, the French therefore could get no provisions, and they were obliged to live 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 Petersberg, 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. Marching to resist Napoleon, who was expected to find provisions, but the stout resistance he met at Malo Yaroslavets induced him reluctantly to turn again to the road by Varla and Viazma to Smolensk, by which he had advanced. He was closely followed by the Russians, but the weather was so bad that many of Cossacks under the Hetman Platoff. His rear divisions had sharp engagements at Viazma and at the passage of the Wop. (Of Italians in Russia.)

His army dwindled away space, through fatigue, privations, and the constant attacks of the enemy. He had lost his cavalry, 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 vanguard, which put an end to further resistance. The emaciated frames of soldiers and horses could not resist this fresh enemy, and they dropped by thousands on the road, where they were soon buried under the snow. The bitter frosty nights killed thousands more; but the winter only completed the destruction of the army, which had begun during the advance in the summer. The wretchedness and the sufferings of the retreat from Moscow must be read in the works already referred to. The French at last reached Smolensk, where they found their stores, which had come up so far. Many had died from hunger and cold. The army was so reduced that it was asked to leave three towns more. 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 Murat, and set off in a sleigh with Carbonary to return to Paris. He arrived at Warsaw on the 18th December, and his companion, De Taxis, whom he had left behind as his aide-de-camp, informed him that his first object was to suppress the revolt of Bavaria, which had been proclaimed by his rival. Continuing his route, he passed through Dresden on the 14th, and arrived at Paris on the 18th December at night. The remains of his unfortunate army were collected by Murat on the line of battle. At last, on the 23rd December, he reached Berlin, dated 16th December, gave a dismal picture of the state of the troops after Napoleon left them: "The plunder, subordination, and disorganization have reached the highest pitch. The loss of the French and their auxiliaries in this campaign is reckoned by Bouchoudin at 115,490 slain, 192,000 dead of fatigue, hunger, disease, and cold, and 153,000 prisoners, including 3,000 officers and 48 generals. The 'St. Petersburg Gazette' stated that the bodies burnt in the spring after the thaw, in Russia Proper and Lithuania, amounted to 305,000, of which a considerable proportion were Russians. In the Berezina (Glely's column) 30,000 troops are said to have been found. The French left behind 200 pieces of cannon and 35,000 wagons, camouflets, &c.

Napoleon, after his return to Paris, exerted himself to recruit his army by fresh conscriptions, by drafting the national guards into the line armies, by reviving all the old regiments, by releasing all men he could spare from Spain, and by sending the officers 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 the Austrians had abandoned Austria remained neutral; she offered her mediation, but Napoleon would hear of no cessation on his part, in either Germany, Italy, or Spain. He soon after repaired to Germany, where he fought and won the battle of Lutzen, 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 observed to him that the troops were very tired, the Poles at Marengo, Austieritz, or 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 dejected by the fire of a musket ball in his body, and his leg was entirely mangled. 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. 'Everything will be all right,' was his 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 and the fresh forces of mediation on the part of Austria. Austria proposed, as a condition of a cease-fire, that Napoleon should be evacuated by the French army, 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 conquests which he had annexed as far as Hamburg and Leoboch, 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 offered to restore to her the Illyrian provinces as the price of the cease-fire, and return the Emperor Francis to his crown. But to this 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 now high time that the浙江省 should be left to rest and to national independence. The conferences however were carried on at Prague, without coming to any agreement; and in the midst of the critic armistice expired 18th August, and Austria joined the allies.

The series of battles were fought about Dresden on the 24th, 25th, and 27th August between the Austrians and Prussians 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, was surrounded, and made prisoner with 8000 men at Cuin. Oudinot was on the 17th, and the Swedes and Prussians under Bernadotte, Ney, who was sent by Napoleon to replace Oudinot, lost the battle of Dannemoller 6th September, near Berlin. On the Katchbach, Silesia, Blucher routed the French opposed to him. The next day Blucher betrayed his companion, and Napoleon's armies losing ground and strength on every side. Bavaria made a separate peace with Austria. The Saxons and other German troops began to forsake the French cause. At last, after a painful struggle between Austria and France, the allies, on the 15th October, treated upon Leipzig, followed by the allies. At Leipzig he determined to make a final stand. 'One victory alone,' he said, 'and Germany might still be his.' On the 16th October the first battle of Leipzig took place. It was fought gallantly on both sides, but the allies now a
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 northward to meet this new army. But while his army was falling out of Leipzig by a long bridge, or rather a succession of bridges in the morning of 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 (as also Napoleon). The retreat from Leipzig was nearly as disastrous to Napoleon as that from Moscow. His army was completely disorganized. He was now too far from his native country to attempt a retreat down the Rhine, and passing over the 70,000 or 80,000 men, all that remained out of an army of 320,000, 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 Oeodeleben'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 nation, and send it to the Emperor, 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 as a condition the Emperor has taken, 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 treaty which bound him to the French citizens the rights of liberty, property, and security, and to the nation the 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 have been massacred. They have been killed in letters, in a violent and abusive 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 addresses were acts of sedition, that they should not thus publicly 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 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. The French army, reckless of numbers, was on the march 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. Mean-time conferences were held at Chatillon, 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 most uniformly displayed his talent for forming fortunate 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; at times severely checked him, his army, as in the latter part of the Operations of the Allied Armies in 1813-14. London, 1822, and Koch, Memoires pour servir a l'Histoire 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 on the north, and compelled him to retreat, leaving his son, Napoleon, and Joseph Bonaparte, after the battle of the 30th, quieted Paris also. Marshal Marmont asked for an armistice, and this led to the capitulation of Paris, which the emperor and the king of Prussia entered on the 31st, amidst the shouts of rejoicing and acclamations of the people. The hearing of the attack upon Paris had fallen back to the relief of the capital, but it was too late. He met near Fontainebleau the columns of the garrison, which were evacuating the city. His own generals told him that he ought not to fight, and that they would not fight; 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. The imperial sceptre was again to be held, consisting of Talleyrand, Bourronville, Dublitz, 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 meditated, signed the act of abdication at Fontainebleau, 8th March, 1814. The act of abdication first act there was a reservation in favour of the rights of the empress and of her son. By a second act however he 'renounced unconditionally for himself and his heirs the throne of France and Italy. The emperor Alexander proposed to him that he should remain in the time being as sovereign 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 not party to the treaty, afterwards acceded to it. On the 20th April, Napoleon landed at Porto Ferro, in the island of Elba, which was united to the state of Tuscany, and was assigned to 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. At first he seemed reconciled to his lot, set about making arrangements for improving the island, and some months after that, 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, attending so many splendid successes, he had formed, of course, many subalterns; men whose fortune was dependent on his; most of whom had lost their emoluments and prospects by his fall: the bold and aspiring, restless, saw no further prospect of conquest and new organization of fleets and armies. At Napoleon's disposal thousands of offices and situations with which to reward his partizans. The old soldiers, to whom the camp had become a home, regretted him who used to lead them from victory to victory, awarding them free quarters, a continual change of scenery, and good and honest remunements 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 lost the main prop of their power. On the other side, the restored Bourbons had committed fault, and had again 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 subsire at once to quiet and contented reposes. 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 Fleurie de Chablon'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 18,000 men, in garrisons, and landed at St. Then, he followed to Elba, and landed on the 1st of March at Cannes, not far from Frejus. At Grenoble, the first defence of the army took place: Colonel Labedoyere, commanding the 7th regt. of the line, joined Napoleon; the rest of the march to Paris was triumphant one. The Bourbons, were banished by the whole of the army in the Napoleonic victory of Jena and Auerstadt, 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. Angerau also kept the troops of Napoleon; but the Bourbons, no troops they could depose him, were 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 acclamations of the military, and the lower classes in the suburbs; but the great body of the citizens looked on 'astounded and silent; he was recalled by a party, but evidently not by the body of the nation.

The Congress of Vienna was still sitting, when Talleyrand said before them the news of Bonaparte's landing at Cannes. They immediately agreed to join again their forces, in order to frustrate his attempt, and to maintain the execution of the treaty of Paris, of the 30th May, 1814, made with France under the constitutional monarchy of the Bourbons dynasty. The Austrian, Russian, and English ambassadors had been summoned to resume their march towards the frontiers of that country.

Napoleon found, on his return to Paris, that he could not resume the unlimited authority which he had before his abdication. The republican and constitutionalists who had assisted him in his exaltation into the rank of the great Jamin Constant, and his other brother Lucien at their head, would support him only on condition of his reigning as a constitutional sovereign: he therefore proclaimed a constitution under the title of Acte additionnel aux Constitution de l'Empire, on the 3rd of May, 1815, in the name 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 their fidelity towards the new government, which was held, although 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 Austrian and English army was concentrating with others. He assembled an army of about 125,000 men, chiefly 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, having been placed Marshal Büchi, who was posted with 80,000 men at Ligny, 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; Ney, in his account, gives a description of the 17th, in consequence of Büchi'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 on la Relation de la Campagne de 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 the battle, which were advanced to nearly 10,000 men 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 French infantry and cavalry were repeated attacks, and cavalry upon the British line, gained some advantages, took possession of La Haye Sainte, but all the efforts of
ber; Napoleon refused: 'It would be the signal,' he said, 'of civil war.' The house of peers had adopted the same views as the lower house. There was but one man, it was openly stated, between France and Bonaparte — the man in abdication. That was the 22nd of June; but this time it was of his own accord, and against the advice of his intimate friends, Carnot, Lucien, &c. (Résponse de Lucien aux Mémoires de Lamarque.) The abdication was in favor of his son, Napoleon II. A provisional government was formed, and it was determined that Napoleon should leave France, and embark at Rochefort for the United States. General Becker was appointed to escort him to Rochefort, where he arrived on the 3rd of July. All this did not take place, however, without many violent altercations in the chamber, and much reluctance on the part of Napoleon; for, see Hoehouse's Letters from Paris during the last reign of Napoleon, and Chalouvin's History of the 100 Days. The allies, who entered Paris on the 7th of July, refused to acknowledge Napoleon's right to abdicate in favor of his son, and on the following day Lord XVIII re-entered the capital, and resumed the government. Napoleon at Rochefort, seeing that the whole country around him was submitting 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 Maitland, who commanded the English ship Bellerophon, to ask for leave to proceed to America, either in a French or a neutral vessel. The British republic on the spot 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 there, as he was in the position of a prisoner, and that as to his future disposal. (Captain Maitland's statement of the whole transaction.) This offer was made by Captain Maitland, in his second interview with Las Cases, on the 14th July, and Napoleon had already, the day before, written a letter, addressed to the Prince Regent of England, saying, that he came like Themsicius, to claim the hospitality of the British people, and the protection of its laws. Captain Maitland offered to dispatch General Gourgaud to England with this letter immediately, repeating at the same time to him 'that he was not authorized 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 Maitland stated to me, a certain officer whose name was not mentioned by the latter, that he could not intercede to put a stop to the embarkation of Napoleon, and 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 Maitland, that 'he had certainly made no conditions on coming on board the Bellerophon, that he had only consented to the requests of the captain, that the conduct of the captain, 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 Briars and afterwards at Longwood, of his alterations first with Sir G. Cockburn, and afterwards with Sir Hudson Lowe, we must refer our readers to the minute work of Count Las Cases.) He landed there on the 14th of August, 1816, 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 visit the island, and to make the necessary arrangements for 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 repeated with aggravation at every subsequent opportunity. One of Napoleon's great grievances was being being styled General Bonaparte, whereas he was a subject of 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 a guard, and 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 his prospects in the public mind in favor of the exile 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, Antommarchi, &c., without perceiving that there was a determination on the part of both to place 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 querulous and peevish. He seems also to have had, almost to the last, some latent hope of making his escape. In other respects the particulars of his life and conversations at St. Helena are highly interesting. He could be very agreeable towards visitors who were admitted to pay their respects to him, as we may infer from the conduct of Las Cases, &c., with whom he transacted. But he frequently refused to receive the 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 would not submit to the attendance of a British officer. In September, 1818, several men from 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 1819 he grew worse, and remained in a weak state until the following April, when the disease assumed an alarming character. Bonaparte said that he believed it was the same disorder which killed his father, namely a scirrhus in the pylorus; and he desired Dr. Antommarchi to examine his stomach after his death. He made his will, leaving large bequests to his friends and attendants (Testament de Napoleon), and on the 30th 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.' After the great alarm of March, one time, he breathed his last about eleven minutes before six o'clock in the evening. The following day the body was opened by Dr. Antommarchi, in presence of several British staff and medical officers, when a large tumour was removed from the stomach. On the 5th May his remains were interred with military honours in Sian's Valley, near a fountain overhanging by weeping willows. This had been a favourite spot with Napoleon. The procession was followed to the grave by the governor, the adjutant, Napoleon's 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 Les Lois de l'Empire and the Examinations of his ministers; for the state of the finances see the various Comptes rendus, or report of the duke of Gaudin (Gaudin); and also Brosson, Histoire Financière de France; for the military institutions and organization of the army, see Tableau Politique et Militaire, which precedes Forlaise's history of the Peninsular war. Also Mémoires sur l'Empire, by Thibaudeau, which is a continuation of his Memoirs on the Consulate, the duchess of Abrantes Memòires, and the numerous Memoirs of Napoleon's generals and ministers.
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 a wasting of the habit had early shown themselves. His physician advised a removal to Schönbunn, which had at first a beneficial effect, but a relapse soon followed, and after lingering for several months young Napoleon died on the 22d July, 1832, in the palace of Schönbunn, at

ended by his mother, who had come through Parma to visit him. He seems to have been generally regarded 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 in the model, Le Duc de Rohan, 1836). BONA'SIA (aemus) of the true Tetrao (grouse family), separated by Charles Lucien Bonaparte, Prince of Musignano, and thus characterized—

Lower portion of the tusks or shank and the toes naked; tall 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 Linnean name for the bird, and makes Tetrao the typical group of the subgenera, into which he divides the Linneian species, but, however, considerable doubt on the value of the types.

The Ruffed Grouse, Bonasia Umbellus of Bonaparte; Tetrao Umbellus and Tetrao toagus of Linneus; Tetrao Umbellus of Linneus and Swainson, is the Shoulder-Knot Grouse of Swainson. It is a common bird of the Northern States; Edwards; La Gelinote (petia) de Peninsulac de Brisson; La Grosse Gélinote de Canadac and Le Coq de Brugère of Buffon; the Pheasant of the Pennsylvanians, and of the inhabitants of the southern States; the White Feather and the Black Feather of the Mexicans, and generally, the Purpurogastre of the Cree Indians.

Audubon says that to the west of the Alleghenies, and on those mountains, the term pheasant is generally used to designate the bird, and that the same appellation is employed in those states and provinces, 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 any 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 very liable to the situation of the country; for even here they are far less numerous 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 Mississippi; and it is chiefly confined to the western mountainous regions, 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 specimens in British Columbia, the vicinity 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 says he has seen them in great numbers, throughout the whole of Tennessee 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 couches of more than four or fire together, and more usually in pairs or singly. They leave their sequestered haunts in the woods early in the morning, and seek the path or road to pick up gravel, and glean among the droppings of the horses. In travelling by the mountains, it was always able to furnish myself 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 readiness, with their broods, like the hare, as歌声' red.'

Audubon states that, although they are attached to the craggy sides of mountains and hills, and rocky borders of small streams, thickly mantled with evergreen trees and shrubs, they at times remove to the lowlands, and even enter the thickest cane-brakes, where they sometimes breed, and where hitherto none had been known; in the former, however, there were no hills nearer than fifteen or twenty miles. The lower parts of the State of Indiana, and also those of Kentucky, were amongst the places where he discovered them. The following is his account of their autumnal migrations, which he seems to have been the first to observe.

'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 perenegrations of the wild turkey, our little partridge, or the pinnated grouse, but they are such as are serviceable in the seasons when certain portions of the mountainous districts which they inhabit become less abundantly supplied with food than others. These partial movements might not be noticed, were not the birds obliged to fly over streams rivers, and mountains. These mountains, often, and frequently, divide the lands their groups are as numerous as those which attempt these migrations; but on the north-west banks of the Ohio and Susquehanna rivers, no one who pays the least attention to the manner's habits and habits of our birds can fail to observe them. These grouses appear in the Ohio in parties 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 in search of the danger to be incurred in crossing the stream. This usually happens at the beginning of the fall; when the majority of the birds make the best order for the table, and at this period great numbers of them are killed. It 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 abundant supplies of food. 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, 1829, I observed a larger number of ruffed grouse 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 this season, we observed a large number of them to be killed, and they were sold in the Cincinnati market for so small a sum as 124 cents each.'

Wilson says that the ruffed grouse is in the best order for the table in September and October. At this season they are plump, and particularly charming; and the little plump 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 tribute at this season the greater part of their food. During spring they are deep and are more abundant; and the bud of the 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 form is more light than usual, and, after eating off, paraking of the poisonous qualities of the plant, he has been asserted of the flesh of the deer, when in severe weather and deep snow it subsists on the leaves and bark of the laurel. Though, continues Wilson, 'I have myself eaten freely of the flesh of the pheasant, after emptying it of

*Kalmie.
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 deleterious, and even fatal. I am inclined to believe that in certain cases where this kind of food is habitually taken, and where digestion is impaired, and the system wearied, that the effect may be dangerous. Large 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, are very properly sustained by the heavy mortality 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 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. Husky, the pheasant-hunter, and his men, during the night, 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. "I and my fellow-naturalists," he says, "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, but, when 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 unemployment that they are likely to be poisoned by the leaves of these birds. 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 pinnaed 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, 'Carne bianca eccellente.' Audubon observes that they are brought to the market in great numbers during the winter season, for he has bought them in Pittsburg for four dollars a 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 alder, even fern buds, acorns, and seeds of various kinds, among which he detected the capsules, including the seeds, of the common small Canadian Cistus. At times lie has seen the crooked tree 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; chestnut and strawberry leaves, the leaves of the leaved *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 long and leisurely step, and makes its escape over the woods beyond reach of view, before it alights. With a good dog, however, they are easily found; and at some 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 stupefy them, so that they may be shot down one by one.

* In the article "Black-cock," "Darnto and Sedgmore in Devonshire" are given among the localities (vol. iv. p. 482). The expression occurs in both editions of Merion (who resided in Devonshire) and in Selby, but there can be little doubt that Sedgmore in Somersetshire, where the Duke of Monmouth was defeated, is the locality intended.

**Some parts of this account are appropriated by Audubon.**

**Early in April," says this indefatigable observer, "the ruffed grouse begins to drum immediately after dawn, and again towards the close of day. As the season advances, the drumming is repeated more frequently at all hours of the day; and where these birds are abundant, you may hear this tuneous sound at the extreme parts of the woods in which they reside. The drumming is the usual manner:—The male bird, standing erect on a protrusible
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, mottled and finely undulated with blackish-brown; the broad tips and a median 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 tertians, and outer edges of the secondaries, mottled with the same. Eye stripe from the nostrils whitish. Shoulder-tufts velvet-black, glossed with dark-green. Quills liver-brown, the outer webs barred near the base and mottled 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 dark brown-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.

**Females** have 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.**—A short crest on 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 halfway 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 Sulizim*, deposited in the Edinburgh Museum, they appeared to differ in no respect from the young of *Tetrao Bonasia*, (Bonasia), and that the bird which Mr. Douglas distinguishes 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 progress of natural history, found in the valleys of the Rocky Mountains and in the northern latitudes, 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 on the chain of lakes in the Upper Lakes, he found that the bird was entirely different. First, the northern bird was constantly one-third smaller, of a very light speckled mixed grey, having little of that rust colour so conspicuous in the southern bird;—secondly, the ruff consists invariably of only twenty feathers, short, black, and with but little in colour 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*.'

We cannot conclude his article without earnestly pressing upon the consideration of those who are interested in such subjects, the case with which the ruffe grouse might be added to the interesting list of birds described by Audubon. That, in England and Scotland there are thousands of situations properly 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 would be sufficient to render quails as common 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 canonized by the Pope, and raised to the shade without sufficient authority, that he studied painting under Lorenzo Sabbatini. 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 exact, that they are really the works of his own hand. His background is 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 the Caspar—he found the fault in a temperament, which, as we have said, is common to all who attempt the drawing of men. We can scarcely discover in this world the expression of his heads,—that his versions 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, Parmigianino, 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 scanty in notions. Many of his works are very scarce. (Malvasia; Lanzi; Strutt; Cumberland.)

BONASSUS. [Bison.]

BONAVENTURA, ST., was born at Bagnorea in 1211. At twenty-one years of age he became a friar of the Order of St. Francis, and afterwards one of the Augius of Paris, to Paris, and was the superior of Paris. He, as well as Thomas Aquinus, of the Dominican Order, became involved in contentions with the University of Paris, which denied the acaemical honours, as well as the exercise of public professorship, to individuals of the mendicant order; and to which end he engaged to, support the parties before him at Avignon. The mendicant orders chose Bonaventura and Albertus Magnus to plead their cause. The pope gave sentence in their favour but still the Parisian university refused to grant the laurea to Bonaventura and Thomas Aquinas, and Gerard of Abberville. A well-known story is that of the pope's strained against the mendicant orders. Bonaventura replied to him of the power of his pen, to the *Apologia Papuerum*. At last, in 1257, a sort of compromise took place, and Bonaventura received his doctor's degree. He had already been elected general of his order, in which capacity he enforced a strict discipline, laying down the first example of implicit adherence to the monastic rules and regulations. He wrote upon this subject: 'Epistola encyclics ad Ministro Provinciales et Custodes,' and 'Determinationes Questioum circa Regularum Sancti Francisci.' He then retired to the convent on Mount Carmel, and there he lived, as Bonafrancisci,* and also an ascetic work, 'Itinerarium Mentis in Deum,' for which last he received the appellation of the 'Seraphic Doctor.' On the death of Pope Clement IV. in 1268, the cardinals could not agree for a long time in choosing his successor, and the see of Rome had remained vacant for nearly three years, when Bonaventura succeeded by his eloquent exhortations in reconciling their differences and producing unanimity of votes in favour of Tedaldu Vescoti, afterwards Gregory X. The new pope appointed Bonaventura his secretary, and he was named Archbishop of Lyons. Bonaventura was actively engaged in the labours of the council when he was stopped by death in 1274. His funeral was attended by the pope, the cardinals, the patriarchs of Constantinople and of Antioch, and many other prelates. He was canonized the same year that he died, and was placed immediately in the calendar of the saints in canto 12 of the *Paradosis*. Bonaventura was afterwards regularly canonized by the church. His works have been translated into English by C. L. F. Abbeville. C. L. F. Abbeville wrote them in 6 vols. vol. 4 to 9. 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They are employed instead of promissory bond 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 default on the part of the obligor, though without fraudulent intent, is then a legal cause of action. Hence, voluntary engagements which are intended to be binding in law should be made by bond or covenant. Secondly, though the sum of money which a person is to oblige himself to pay is a debt already existing, or of which some legal consideration for its payment exists, and that a promise by word or by unsealed writing to pay it would be binding in law, yet a bond is a better security; for if the debtor dies before the debt, though due, is paid, the creditor, being, by virtue of the bond, among those who are called aufhebung in speciality, will be entitled to be satisfied out of the personal and real assets. [Assur's] of the deceased before creditors by simple contract (among whom, if he had only the verbal promise or promissory note of his debtor, he would be reckoned) receive any part of the debts of the deceased. (2 Bl. Com. 349. 511. Stat. 1 W. IV. c. 47. 3 and 4 W. IV. c. 104.) In order, however, that a bond debt may be thus payable out of the real assets of the debtor (the lands of which he died seized) before his simple contract debts, the debtor must, by the bond, have expressly bound himself and his heirs to pay the debt. A bond is not a bill of exchange or promissory note that an action may be brought upon it at any time within twenty years after it is due (Stat. 3 and 4 W. IV. c. 42, s. 3); whereas a simple contract debt is barred by the statute of limitations after six years. [Limitation.]

A bond, though thus a better security in many respects than a promissory note or bill of exchange, is inferior to them in one particular; for it cannot be assigned in law, so as to give the assignee the right of suing, in his own name, the obligor. But in Corporate Com. creditors of a corporation can enforce the equity, however, support, as far as they can, assignments of bonds to purchasers, and acknowledge and enforce the right of such assignees to receive the bond debts out of the assets of the debtors.

A bond is no good security for the payment of a sum of money, that it is often employed not only when a debt is to be established, but when a pecuniary penalty is to be provided. When a man is required to oblige himself to do or not to do any act, often enters into a bond for payment of a certain sum of money as a penalty, in case he departs from his agreement. A bond of this kind, which is called a penal bond, is always prepared as follows. It is a simple bond for payment of the penal sum, no time or event being mentioned when that shall be due; but a condition is added, that the bond be void and the obligor performs his duty; the nature of such duty being expressed in the condition. This may seem not to be the most accurate mode of securing a contingent penalty; but, construed by law, such a bond answers its purpose. For though, generally, when a bond for payment of a sum of money mentions no time of payment, an action may be brought upon it immediately; yet in this case the penal sum is not considered to be due or recoverable till the condition annexed to the bond fails of effect by the obligor neglecting or departing from the duty; the burden of the bond is residuary, not res revealable in operation by the liberal construction which the law puts upon the conditions annexed to them; often holding that such conditions take effect, and that their terms have been sufficiently observed, when, according to a more rigid construction, the bondee and the bondor have been both in the same fault. If it was intended to restrain obligees from taking advantage of the failure of such conditions, when they ought not, in justice, to receive the penalties. Even when the obligee in a penal bond is allowed to recover the penalty, he cannot, generally, except as a matter of it, be in a condition to recover for the damages sustained by him; and the amount of such compensation will be ascertained by the verdict of a jury. (Stat. 8 and 9 W. III. c. 11.)

The obligor in a penal bond being thus protected, it may seem that a pecuniary relief should be given to the obligee, when the penalty is not, as usual, greater than the amount of damage sustained by him, but less. However, it is a general rule, that the obligee cannot recover upon his bond any pecuniary compensation beyond the penal sum expressly secured. But the Courts of Equity consider the condition of every penal bond to be evidence of an agreement on the part of the obligor to perform the duty whose performance is to relieve him from the penalty. Thus a condition for making a bond void in case the obligee does or does not do any act, shows, in contemplation of equity, an agreement by the obligor to place the sum of money and the said sum, in case of default, then to pay it, and, 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 covenant to support the bond, and to make the bond 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 circumscribed.

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 payment of a penal sum, double the principal sum which is to be secured, and in case it is recoverable; thus a condition feasible upon the latter sum being duly paid with interest. The chief advantage of such a bond over a single bond was, that not any more money than was fairly due to the obligee could or could be recovered under it (for the stat. 4 and 5 Anm, c. 14, forbids that), but that full interest, up to the date on 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. A joint bond implies 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 title; where the principal rules relating to 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 bones consist of various parts, some hard and some soft; some disposed 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 such bones the proportion of carbonate to that of the compound of lime predominates, it constitutes the substance called shell; when there is a greater proportion of the phosphate it is called a crusta, as in the coverings of the lobster, the crab, and so on; but when the earthy matter constitutes 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 vertebrats. Even the lowest order of this, which comprises the Crustacean, while the highest class of animals, is wholly substitute of it; for it is not found in large tribes of fishes, the dogfish, the sturgeon, the ray, &c. In these, the less highly organized substance called cartilage is substituted, and accordingly these fishes are called cartilaginous, in contradistinction to the osseous; and these differences of the cartilaginous fishes, dense and inflexible substance, correspond with the several 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, is an appendage of the bones of the inferior animals; the inferior animals, however, have no bone; but in the higher animals the skeleton is always internal, and the soft parts, which are sustained by it, and which react upon it, are external.

The office of bone in 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 form and size; all these are either reduced to three classes: the long and round, the bone 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, expanded and compressed as occasion requires. But still the combination of organic and inorganic portions of their office, as is seen in the fin of the fish, in the wing of the bird, and in the limb 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 cord, the vesicular form is retained and modified by the addition of a thin layer of bone, as 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, the bone is cemented together, and formed, 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, disposition, and connexion of the individual parts of the vertebral column is composed perfectly of 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; by the bones of the vertebral column for the spinal cord; by the small bones of the wrist for the protection of the nerves; by 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 by assisting in the formation of joints, they aid and are aided in the performance of the functions in accomplishing the function of locomotion.

Bone is a complex organ, and the arrangement and combination of its constituent parts are highly curiously. It is composed essentially of two distinct substances, an animal and a mineral, which are complete in their 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 lamina, superimposed one on another, leaving between them interstices or cellular spaces, in which is deposited the earthy matter, phosphate of lime.

This structure of bone is rendered manifest by subjecting it to certain chemical processes. If a bone be placed in a current of fire, that bone is gradually burnt, as 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. In this case the membranous matter is wholly consumed by the fire, while the earth is left unaltered. Over the surface of the bone, when thus 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 form 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 diluted 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 dimensions of the animal bone, and it possesses all the characteristic 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 tied in a knot. By the first process the earthy matter is obtained, deprived of the animal constituent; by the second, the membranous matter free from the earth. In the bone both are combined; in every constituent atom of it there is an earthy in intimate combination with an animal matter. The first gives it hardness; the second tenacity; the first is sufficient to resist any action, and the second is capable of combining with the first in those fatal changes which are caused against 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 earthy part of the bones.

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. In bone of a bird, the structure 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 part of the bone: the compactest portion of the bone is at the ends, and it is seen to have a scarcely any visible arrangement, without apparent fibres and lamina; 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 canals (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 that they are merely different degrees of the same kind of matter. 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 any trace of even 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 their office, there is a specific design, which is 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, long bones of the limbs; on the other hand, in the bones 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 movement, or for the accommodation of more muscular fibres, and consists principally of compact but little spongy matter, while the extremity or head of it is principally composed of spongy matter, with only a thin crust of compact substance. The principal mechanical property required in every bony part is to resist the forces that act against it, to withstand the resisting 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 following form: The body of bone, after the phosphate of lime has been removed, consists of a jelly-like substance which behaves in all respects like that in which the fat is deposited (Adipose Tissue), do not communicate with each other. The pores and canals of bone also contain a kind of oily matter, which is supposed to differ from marrow only in possessing a greater degree of fluidity. This oily matter is deposited 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 oily matter, is not well understood. Without doubt it serves the same purpose in the economy as the other oily secretions.

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 that of the bone by firm fibrils, in which the bone itself 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 distributed to the bone 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 general structure. From the earliest 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 extend from the internal and external periosteum, and unite in a 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 extend from the internal and external periosteum, and unite in the result of successive depositions of calcerous matter, forming one layer after another, in union with a corresponding deposit of animal membrane. But the subsequent changes which occur show that the constitution of bone is totally dissimilar to that of flesh; for no portion of the shell that is once formed and has 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 differs also from flesh in being an integral part of the system, partaking of its changes, modified by its powers, and undergoing continual alternations of shape, and even renewal of substance, by the actions of the living vessels.

It was the whole of what takes place in the formation of a bone, the process would not perhaps differ very materially from that which has been already described. Were we to examine the whole of the living substance, we should see the result of successive depositions of calcerous matter, forming one layer after another, in union with a corresponding deposit of animal membrane. But the subsequent changes which occur show that the constitution of bone is totally dissimilar to that of flesh; for no portion of the shell that is once formed and has 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 differs also from flesh in being an integral part of the system, partaking of its changes, modified by its powers, and undergoing continual alternations of shape, and even renewal of substance, by the actions of the living vessels.

Thus the first animal matter that forms the basis of bone appears to be jelly, for jelly undergoes a highly organized substance, is soon substituted; as the process of ossification advances, the proportion of jelly gradually diminishes, while that of albumen increases. The first deposition of bony particles takes place in cartilage; this cartilage, and a few particles of the bony particles, does not remain as a permanent part of bone, but is carried away by the absorbent vessels as the ossaceous matter continues to be deposited, and this first-formed cartilage is replaced by a totally new deposition of animal matter, namely, the membrane 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. Rogat, that as sculptors, before working upon the marble, first execute a model of a lesser and more plastic material, so the first formation of bone takes place by the deposit of a jelly-like matter, not 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 hardness and firmness, 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 unable to sustain the strains to which the body is exposed, and if the osseous column was to be so far developed 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 assists the architect in finishing his 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 a few particles of jelly and bone 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 calcerous phosphate; these are laid down in definite order by the particles of bone, but along irregular 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 centre of union to form a series of circumferences. The deposits of bone produced 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 pertaining to that bone only, and not extending to the adjacent bones. These pieces unite with each other as 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 a bone, the process would not perhaps differ very materially from that which has been already described. Were we to examine the whole of the living substance, we should see the result of successive depositions of calcerous matter, forming one layer after another, in union with a corresponding deposit of animal membrane. But the subsequent changes which occur show that the constitution of bone is totally dissimilar to that of flesh; for no portion of the shell that is once formed and has 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 differs also from flesh in being an integral part of the system, partaking of its changes, modified by its powers, and undergoing continual alternations of shape, and even renewal of substance, by the actions of the living vessels.
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 the osseous patches, or for all the ossesous fibres and laminae are rigid and unyielding, and in this respect retain an analogy with similar animal epidermis. They are not removed except in no other way than by the actual removal of such parts of the young bone as had occupied the situations where vacancies 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 bone is unbroken homogeneous. 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 a new layer of internal bone, the marginal processes, 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 over 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 a pleasing shade of deep brown or black; this fact was accurately observed experimentally by Mr. Bolehier, who gives the following account of the circumstances that led him to notice it. Happening to be dining with a calico printer on a leg of fresh pork, he was surprised to observe that the bones, instead of being white, but of a deep brown colour; and on inquiring into the circumstances he learned that the pig had been fed upon 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 physiologists, and many experiments were undertaken to ascertain the time required for bone to be dyed to this extent, 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 pigeon 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 soft parts, and especially in those parts which were in a state 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 a longer time, the bone became quite a deep tint 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 has been demonstrated from 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 exquisitely sensible. 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 earthy salt? Yet on a careful examination of this subject, as has been forcibly urged by the late Mr. Buchan, we will be fairly led to point out any essential difference between the earthy 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 merely as much absorbed as are the third 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. 'We should be inclined therefore,' says this physiologist, 'to say that the bones are a consequence of the process of absorption, and the animal substance is alive, because the bone is so generally; but the phosphat 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 expired from the lungs or the mucus which is expelled from 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 given by physiologists, that the earthy 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 earthly particles have an affinity for each other, and perhaps for the membrane by which they are combined in a form that begets 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.'

It has been observed by some physiologists that the 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 a considerable 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 manure were made long before their use was so much talked of in general. They were not attended with a very favourable result, for consequence of the bones not being broken into sufficiently small pieces, or being put upon the land in too fresh a state. But since mills have been erected to crush them to a small 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 inestimable. By means of bones large quantities of fertilizing material have been made, 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 proportionally less effect in the soil. This, however, does not seem to be the case from the comparative experiments which have been made on decomposing oil and bones, 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 excellent manures. How is this to be explained? It appears, from the results 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 united with the bone, and being contained in cavities of the cells, may remain a long time in the earth in that condition. 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, afforded, on analysis, more than 15 per cent of animal matter, or as much as in the decayed parts of bones, as fresh bones would have done. Bones analysed by Poureroy and Vaquelin were found to consist of
Solid cartilage, gelatine and oil
Phosphate of lime
Carbonate of lime
Phosphate of magnesia

100
51
37.7
16
1.3

It would seem, then, that the great effect of bones, as a manure, must depend on the phosphate of lime; and the effect of bone-ashes seems to strengthen this opinion. But a close comparison of the bones and bone-ashes, let us see. If we examine the ashes we shall find that the bones themselves are not burnt, but that what is burnt is the gelatine, a highly vegetable substance; the ash, or the bones, is pyritic, or iron pyrites, and this is difficult to be resolved into its original substances, as the 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 gelatine dissolved in it, forms the food on which the plant has thriven. The more the bones have undergone fermentation, the more soluble the gelatine will be. In its fresh state, it is only soluble in very warm water, and the oil repels the water for a time; but after a certain interval, when sufficiently heated, the 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 gelatine dissolved in it, forms the food on which the plant has thriven. The more the bones have undergone fermentation, the more soluble the gelatine will be. In its fresh state, it is only soluble in very warm water, and the oil repels the water for a time; but after a certain interval, when sufficiently heated, it will be almost invariably found that the bones have undergone 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 ready prepared and dissolved, and kept it that they may not be in 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 has been a most valuable manures 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 still clay the pieces of bone may be observed to be continually pervading their decomposition; and in very wet soils 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 be much more easily decomposed and dissolved, and the oil will not be so liable to be washed away. The bones are therefore more completely used; for the fermentation will extract and decompose the oil and a great part of the gelatine, 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 boiled; for the bones have undergone fermentation. 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 gelatine, 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 brick bones; they should then be boiled in water, the water kept as hot as possible; 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 portable soup, 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 cool-ashes. In this case, they may be ground at once to the size called half-inch; in the other, they may be passed again through the mill after having been boiled by a machine made for the purpose, which is an addition to the common grinding machine. This is the most ap-
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 drilling machine, and is described under the word Drill.

BON (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 Geronio, De l'Educacion des Sourds-Muetts, tom. i. p. 312.) 'Great knowledge and uncommon learning,' says the translator of De l'Epee'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 Reduction 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 em-
The other works of Bonet attest his industry, but are of less utility: 'Memoriae Compendiosa Indici et Medicinae Practicae,' Geneva, 1638, fol.; 'Medicina Septemtrionalis Collatissima,' Geneva, 1685, 2 vols. fol.; 'Polyalthis,' 3 vols. fol. Geneva, 1690, 1691, 1693. This is a bulky commentary on 'Johnstone Syntagma Nosocomiae.'

Bonet being a Jesuit, was declared dead on the 29th of March, 1639, in the seventeenth year of his age. He possessed a great knowledge, and was distinguished for his modesty and affability. (Eloy, Dictionnaire Historique.)

BONFADIO, JACOPO, was born in the beginning of the sixteenth century at Florence, near Sulpis, on the banks 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 in 1589, elected Bishop of Cardinal Ghinucci, 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 Nemesceschi, who 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 chair of philosophy, and to be the companion of his son Torquato. 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 Colonola, a villa of his learned friend Marzio Antonio Flamminio. He has praised, in the brief that he spake, his residence in Padua, as the beginning of his eminence, and the beginning of 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 Martino Aligre and other noblemen of Brescia to countenance his project. Having accepted in 1564 the professorship of philosophy in Brescia, he was commissioned to write the history of the republic. He began it from the year 1525, where Foglietta had closed his narrative, and completed it till the year 1560. The work, which is written in Latin, is entitled Annalium Genetantium Libri Tres, and it was published in Brescia in 1565. It was translated into Italian and published at Genoa the same year. Both the text and the translation were published at Brescia, 1759. In describing the original changes effected in the constitution by Andrea Doria in 1528, the conspiracy of Pisiti, and other then recent events a passage of several individuals connected with those factions in a tone which probably offended their relatives, who were still powerful at Genoa. However this may be, he was arrested in the year 1550, beheaded in prison, and his body publicly displayed at Padua. Of the life of Bonfadio, his work, and his work, and that of the other great men of that time, are related in his Letters. It has been interrupted, and the history of the republic is continued to the year 1667, 2 vols. fol. The second volume is dedicated to the Duke of Mantua.

Bonfadio, the Genevois Annals, are generally admired for their style, which in many passages reminds the reader of Saliceti and of Bonfadio's Letters. The text of the Annals has been collected and published by Mazzuchelli, Brescia, 1946. They are considered among the best specimens of Italian epistolary composition, and are also interesting for the descriptions of places, manners, and incidents. He also wrote Carmina, 12mo., Verona, 1740; Rima, which are praised by Cresciimeni, and are found scattered in various collections; and an Italian translation of Cicero pro Milone.

Bonfadio I. was elected bishop of Rome, after the death of Zosimus, a.d. 419. Part of the election was supported by Synamachus, prefect of Rome, elected Eulalius, but the Emperor Honorius, who was then at Ravenna, confirmed Bonfadio's election. Several letters from Bonfadio to the bishops of Gaul, concerning matters of discipline, and to the bishops of Africa, who would not allow of appeals to the see of Rome, are in Constant's collection, and give a favourable

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able opinion of his character and learning. He asserted the authority of the Roman see over the churches of Illy-
ricum, upon which contested point there are letters extant from Boniface to Rufinus, which were written between the two emperors, Arcadius and Honorius. Boni-
face died a.d. 423, and was succeeded by Celestine I.

BONIFACE II. succeeded Felix IV. in 530. It is
recorded that he, although a native of Rome, he was the son of a bishop, and also a disciple of the
Roman clergy assembled in the Basilica Julia chose
Dioscorus, while the rest met in the Basilica of Constan-
tine for the election of Boniface. The Council lasted only
twenty-eight days, when Dioscorus fell ill and died. Boni-
face succeeded in his place, but was deposed in the fol-
lowing elections of bishops, and he also condemned the practice of a bishop appointing his own successor. Platina, *Vita Pontif.*
He died in 532, and was succeeded by John II.

BONIFACE III. was elected in March, 607, and died in
November of the same year. He obtained of the Empress
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 dedi-
cated 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 has been canonized by the church of Rome. He
was succeeded by Bedevidit, who was himself succeeded
in 619 by

BONIFACE V., a Neapolitan, who died in 622, and was
succeeded by Honorius I.,

BONIFACE VI., a native of Tuscany, and son of the
Bishop Adrian, succeeded Formosus in 895, and died fifteen
days after his election. He was succeeded by Stephen VII.

BONIFACE VII., Cardinal Francesco or Francone, was
elected in a popular tumult, when Benedict VI. was seized
and driven from Rome in 974. Boniface himself was expelled from
Rome in the following year, having incurred general de-
testation 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 X., in prison, where he died
of hunger, as 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 X. 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 cir-
cumstances. Boniface interposed between Charles II. of Anjou,
kings of Naples and Sicily, and the Pope, and 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 in-
trigues and threats of Boniface, who launched his excom-
xunions 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 con-
ting the pope granted him the investiture of the crown of
Sicily.

In the contest about the succession to the German em-

BONIFACE IX., Cardinal Pietro Tarcelli, a Napo-
leonian, was elected in 1316 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 VIIth, who held his court at
Avignon. Clement having died in 1354, the ear-

BONIFACE XIII. succeeded Nicholas in 1277, by
the name of Benedict XIII. Boniface however continued to exer-
cise the papal authority at Rome, regardless of the Avignon
popes and conclaves. Endeavours were made by several
souvenirs 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 the civil wars of the West, and was often compelled to resign his temporal rights. He first favoured the claims of the Angevin to the throne of Naples, 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 1318, but his quarrel with them, by being addicted to a worldly policy, having seised upon the ecclesiastical revenues for temporal purposes, and enriched his brothers and nephews. [BONIFACE, SAINT, a native of Denmark, was born about A.D. 680, and became a monk, and resided for a time in a convent at Southampton, where he acquired reputation for learning and piety. Thirty-six years of age he set out for Rome, where he expressed to Pope Gregory II. his wish to preach the gospel to the heathen nations of Germany, which were then under the dominion of Willibrod, from Northumberland, as well as the Irish, and had proceeded. The pope having sanctioned his vocation, Boniface joined Willibrod in Frisia, from whence he repaired to Thuringia, Franconia, and other parts of central Germany. There he preached the gospel to the heathen, and in a short time converted many, and established monasteries and churches, which were not only well established in converting and civilizing the rude natives, and were more fortunate success than the apostles of the Roman Church. He built up on a firm foundation the ecclesiastical system of the Franks, and was succeeded in his work by his disciple, St. Wibert (or Wilfrid), who continued the mission of the apostle.

Boniface, as a missionary, was a splendid success. He was the first to introduce the gospel to the heathen, and in a short time converted many, and established monasteries and churches in the region of the Rhine. He built up on a firm foundation the ecclesiastical system of the Franks, and was succeeded in his work by his disciple, St. Wibert (or Wilfrid), who continued the mission of the apostle.

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 virgins consecrated to God; without his proceedings, without the penalties which he decreed, I would be the atteritic in this country to abolish heathen ceremonies or idolatrous sacrifices." (Epitola S. Bonifaci, quoted by Dunham in History of the Germanic Empire, vol. ii.) In reading the regulations of Boniface for the behaviour of the clergy, it is impossible to escape 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 injunctive and example must have had on the people at large. In 743 Boniface visited Friesia, 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 dispersed the congregation. Boniface, who was not there, was killed. (Vita S. Bonifaci in Mallon, tom. 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 41° 29' N. lat. and 9° 10' E. long.

BONIUS, a town in Sardinia from Corsica. The narrowest part between Longosardo and the southernmost point of Corsica, E. of the town of Boni- facio, is about 10 m. wide. At the E. entrance of the Straits are several clusters of islands, the principal of which is the Las Palmas, which lie in the south of Sardinia. North of the 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 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 by N. by E., extending from 27° 44' N., lat. as far as the southwards of 26° 30', and probably running much farther in that direction. In longitude the kwn portion is comprised between 143° and 144° E. long. The only account of them is from the visit of the Blossom in 1827, and Captain Beechey observed of a description of a group called Yelas del Arzobispo in a work published many years ago at Manilla (Navigacion Especial y Pratico, as to leave no doubt of their being the same. They had been expunged from the chart all but three, called Vela, Volcan, and Kruekenstein have passed to the N. and S. without seeing an island among those; 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, called the Baily's Group, consists of larger islands, 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 Beechey had not time to examine them. It appears that in a whaling ship commanded by Mr. Coffin anchored among the southern group, and for several days communicated 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 climate of the islands is: 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 islands are surrounded with sharp rugged rocks, and are often visited by violent storms. The sea is 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 were in the country of the E. Indians, who preferred remaining. The islands abound in the cabbage and fan palms, the former of which is an excellent vegetable, arrows, 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, plover, rails, snipe, wood-pigeons, crows, and small birds: also a species of vampire bat, some of which measured three feet across the extended wings, with a body eight feet long. Beechey, in his Voyage to the Pacific and Behring's Straits, 1826, on 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
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, 78 churches and other places of worship, 11 public buildings, and 13,900 Berlin houses, or 72,800 imperial quarters. Wine and tobacco are also raised. The population was 35,202 in 1816, 38,922 in 1825, and 42,447 in 1831, and is present about 44,400. Exclusive of the chief town and university, the circle contains 37 villages and hamlets, 12 Protestant, and forty-four Roman Catholic national or elementary schools. In every forty inhabitants there is not more than one Protestant. The burgomaster 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 Bonna, a word which Arndt derives from the Celtic Bough, a spot containing productive fields, and an emporium or 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 attached to the second of the Seven Provinces, or Batavian auxiliary army (Germ. 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 numbers were slain during the confusion by the arrows of the Roman troops. Bonn is 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 after this time: it is affirmed by some, though scorned by others, that the Rhine is more than 500 feet broad at Bonn. The date of the introduction of Christianity in the 8th year 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 Minster 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 Verona in 755 Charlemagne crossed the Rhine at Bonn, in his second expedition against the Saxons; and in 881 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 to the 16th century it was the constant residence of the archbishops of Cologne. The Emperor Charles IV. was seated 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 force 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 by it the prince of Orange and Montecuccoli, and surrendered after a slight resistance. They having regained possession of it fifteen years afterwards, they extended their ground on the southern and western sides of the town. In 1689 it was taken by Frederick III., elector of Brandenburg, after a three-months' siege; and in 1703 was captured by the duke of Marlborough, the operations of the siege being conducted by the celebrated Marshal de Coehorn. The fortifications were raised in 1717; and in 1777 Maximilian Frederic, 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 desolate state until 1815, when it was re-established on a more extensive scale by the Grand Elector Frederick William, 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. The town of Bonn has the Rhine on 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 river also regular and harmonic design, is delightful; and the gardens all round it, is cheerful and pleasing. The air is at times bleak and cold, in consequence of the currents occasioned by the heights that hang over its low site, which is placed at the point where the Rhine emerges from between those heights; the evaporation from the river also renders it very damp, and produces 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 moderate walk. It contains above 1,100 houses, built in a sub-urban style, and containing about 8000 inhabitants; and besides the churches and chapels, nine mills and manufactories, five gates, and a population of about 12,000 (1789, 9560; 1809, 8883; 1811, 9167; 1823, 10,860; and 1828, 11,526), besides the garrison, and between 700 and 800 students. The inhabitants derive the principal means of their subsistence from the university, from its field, 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 so disposed, under the direction of that gentleman whose name is most distinguished (Mr. Harms) (commission), as to be ornamental to the town. Among 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 well-known public building at Bonn, the church of St. Catherine, 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 hasso-nikievi in white marble, and the Davids crystal of the 12th century. 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 of a most commodious nature, but has a double flight of stone steps in front. Bonn has also a gymnasticum; is the seat of the superior board of mines for the Rheinish possessions of Prussia, of two tribunals for civil and criminal affairs, and of a central department for taxes and crown revenues. In the liberal arts, it possesses an academy of naturalists, styled the Leopold-Caroline Academy (which was first instituted at Schweinfurt in 1552), received extensive privileges from the emperors Leopold I. and Charles VII., was afterwards re-establihed by the electors of the house of Hesse (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, Frederick-William, the present king of Prussia, appropriated the town to the new foundation, which had the most liberal and demical purposes; in 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 Rheinish University of Frederick-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 a theological seminary (theologische Institutionen), and four seminaries, viz., one for students of Protestant theology, and another for students of homiletical catechetical Protestant theology, a third for philological students, and a fourth for the natural sciences. It has a library of about 80,000 volumes, a medical institute for clinic, and another for poly-clinic, with which an establishment for the cure of invalid students is combined, a clinicum for surgery and diseases of the eye, another for obstetrics, an anatomical theatre and museum, a cabinet of surgical instruments, botanical garden, a mineralogical 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, Clementina, near the village of Poppelsdorf, which contains the collections in natural history, geology, &c., the chemical and
Bonney, The p. preached Bonner two proceedings and proceeded. There mineralogical minutes, contained in an excellent library of scientific publications and a mineralogical collection attached to the board of mining, and several benevolent institutions. The agricultural institute, with an area of 120 acres devoted to its purposes, and a museum of agricultural and horticultural specimens, is situated at Poppelsdorf. Bonn lies in 50° 44' N. lat., and 9° 44' E. long.

BONNEFOY or BONFIDIUS, EDMUND, a writer on Oriental law, or law of the Eastern Empire, was born 20th October, 1536, at Chabellin near Valence, in France. Having applied himself to the law, he was early appointed colleague to the celebrated Cuicarius, in the chair of law, in the university of Valence, in which situation Cuicarius thought so highly of his virtues, and also of his talents and acquirements, as in one of his works to declare that, were he 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 Cuicarius, according to the Oriental custom. Having been appointed to a 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 'Juris Orientalis Institutiones,' which was accompanied by a Latin translation by the author, and was meant to comprise the laws civil and ecclesiastical of the Eastern or Greek empire. The first book contains the constitutions of the emperors of the East, from Constantius to Michael Palæologus; the second contains 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, 8th 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 'bomo et sed simplex.' (De Thou, Hist. lib. 59; Verder, Bibl. Française, tom. vi.; Senebier, Litt. Hist. des Gaules, tom. ii. p. 7; M'Crie's Memoirs, vol. 1, p. 45.)

The 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 Frosham, who afterwards married Edmund Bonner, a lawyer at Hanley. Stryte, who wrote in 1721, states that with the Bishop's consent he had ordained him as his authority Baron Leblem, 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 extract from the picture of him in Fox's Acts and Monuments, whispering to him, says,

'Nemo nee matrix, nec ferti pater.
Qui patre Savage natus, falsa quoque Bonner.
Deo requiescit, accipiat quos vos amat.
(Facsimile of picture)

In the year 1512 he was admitted a student at Pembroke College, Oxford (then Broad-Gate Hall), where in 1518 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 1525 he was admitted to the degree of doctor, and had acquired a high reputation as a canonist, so that Cardinal Wolsey made him one of his chaplains and master 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 Sir John Walsh mounted his horse to escape with the cardinal, Wolsey's arrest, the cardinal and his household were at dinner in the hall at Cawood, and his great cross fell on the head of Bonner and drew blood; wherewith Wolsey said, shaking his head, 'Malum omen'; and saying grace, withdrew from the table, exclaiming: 'I must needs be taken for a sign or token of that which followeth.'

Soon afterwards we find Bonner chaplain to Henry VIII., incumbent of the livings of Blydon and Cherry Burton in Yorkshire, of Ripple in Worcestershire, and of East Dord-eham 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 made bishop of Hereford, and served for several years at that see, and then at Marseilles, to appeal to a general council against Clement's decree of ecxommunication against Henry VIII. on account of the divorce; and Burnet says that Bonner delivered the threatenings that he was ordered to make with so much vehemency and fury, that the pope took him by the arm, and throwing him into a cauldron of melted lead, or burning him alive; and he, apprehending some danger, made his escape.' In 1535 he was made bishop of Hereford whilst he was on an embassy to Paris, and before his consecration he was translated to London and took his commission from the king in 1540.

Thus far Bonner not only concurred in, but zealously promoted the Reformation, and the separation from Rome. But when death had removed the despotic whose ungodly temper seems to have obtained submission even from men of virtue and of ordinary finenes, Bonner's complicity ceased; he protested against Cranmer's injunctions and lollies, and scurried to take the oath of supremacy. For these offences he was committed to the Fleet, from which however upon submission he was soon after released. From this time Bonner was so negligent in all that related to the Reformation as to draw on himself, in two instances, the censure of the priy council; but as he had committed no offence which subjected him to prosecution, the council, according to the bad precedent established, was compelled to do an act extraneous from his ordinary duties, knowing that he would not reluctant to perform it. They made him preach a sermon at Paul's Cross on four points. One of these Bonner omitted, and commissioners were accordingly appointed to the touch and to hold a commission, but the said commissioners were caused to do it, and so forth. At the end of October, 1549, he was committed to the Marshalsea, and deposed of his bishopric. What he said during his defence is characteristic of the man and of the times: 'Where I preached and affirmed the true body and blood of our Lord Jesus Christ, thereupon the altar the self-same in substance that was hanged and shed 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 shed upon the cross.' At another time he said to one of his accusers that he spoke like a goose, and to another, that he spake like a woodcock.

After the death of Edward VI. Bonner was restored by Queen Mary. His first acts were to deprive the married clergy in his diocese of their benefices, and to pass an act before the queen's ordinance to that effect. It would be tedious to follow him in all the long list of executions for religion, which make the history of that reign a mere narrative of bloodshed. Fox enumerates 125 persons burnt in the English fire; and yet his suitors in this reign have been given up, or have procured mercy 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 twenty-two heretics who had been sent up to him from Colchester. These persons were restored by the influence of Cardinal Pole, who checked Bonner's sanguinary activity.

When Queen Elizabeth succeeded to the throne, Bonner, with the other bishops, went to meet her at Highgate (19th November, 1558), 'who kneeling (saith Fox) to the queen, said, she very graciously accepted, giving to every of them her hand to kiss except Bishop Bonner, which she omitted for sundry severities in the time of his authority.'

In May, 1559, he was summoned before the privy council, and on the oath of supremacy being tendered, and his refusal to take it, he was deprived a second time of his bishopric and indicted for a presbure. He escaped the penalties attached to this charge, but he was confined for the rest of his life in 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 guility of toadyism in his conduct is not without its life. He was taken to the Marshalsea 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, ' kneve 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 'Athanas Oxonienses' and the 'Biographia Britannica' contain valuable notices of Bonner: the article in the latter is written with great care (Dr. Kippis's edition).

**BONNET**, a name applied, in permanent fortification, to a work consisting of two faces forming with each other a salient angle, on the plan. It was employed to cover the angle of a rarelin where the faces only of the latter were protected by literature. A batterie de terre, for the fire from the terreplain, defends the fronts and salient angles of the salients, and the faces of the former work are reciprocally defended by those of the latter. (Tenaillon.) When the parapet about the salient angle of any work, as a bastion or rarelin, is made a principal face of the work, the elevated part is now called a bonnet.

**BONNET DE PIETRE** was a term in field fortification, applied by the French engineers to an indented line of perpict having three salient points, on account of some supposed resemblance to the object from which it was named. (Redan.)

**BONNEVILLE, or BONNESTABLE**, a small town in France, in the department of Sarthe, on a cross-road from Mortagne and Bellême to Le Mans, 17 miles N. of Le Mans. It was the birthplace of Francis and Blanche, the famous commanders of Bonneville, who commanded the French armies in the war of 1813, and who were the last of the line.

**BONNY**, a name often given in Scotland to a certain species of wheat, from which it is supposed the name of the town Bonny, in Ayrshire, was derived. (D-da. of the Force.) There is a castle, built in the fifteenth century by Jean D'Hercourt, planked by round towers. The inhabitants in 1832 amounted to 3872 for the town, or 5841 for the paroisse. It is a resort for gentlemen, and there are great quantities of cotton goods, and masonry: the market is well supplied with grain and cattle. The corn-market appears to have been considerable in the early part of the last century.

**BONZY**, a species of grass, found in the Kumaun, between 5° and 30° N. lat., and near 7° E. long. It was long considered a separate river, ed. so is represented on our maps. But it seems much more probable that it is one of the numerous branches into which the Quorra river divided the eastern peninsula of India. At least it is certain that there is a water communication between it and the upper course of the Quorra. (Journal of the London Geographical Society, vol. ii.)

**BONOCINI, GIOVANNI** (a name which once rivaled the name of Bononcini, now changed through the medium of Swift's epigram), was, according to conjecture, born about the year 1560 at Bologna, where his father, Giovanni-Maria, followed the profession of music, and in 1673 published a book, *Il Musico Pratico*, from which we are inclined to infer that he was a very sound musician nor possessed of much good sense.

When the Italian opera, under the title of *The Corporation of the Royal Academy of Music*, was established in London by a party of nobility and gentry, who subscribed 30,000l, for the establishment of which S. H., who contributed 1000l, the managers engaged Handel, then living at Cannons, Bononcini, who was sent for from Rome, and Ariosti, who came from Bologna, to compose for the theatre. Handel's productions displayed every great quality: Bononcini was marked by tenderness and elegance, but wanted invention and vigour: Ariosti seems to have been a good musician without genius, whose name would soon have been consigned to oblivion but for his connexion with the other two. The first new work presented by the academy was *The Empress of China*, a work of which a great part was composed by the three, furnished the first act, Bononcini the second, and Handel, as youngest of the party, the third. The comparative merits of the two last composers were judged, not by critical rules, but party feelings. Handel was patronised by the court of Versailles, and the court of the Emperor; Bononcini had the command of the opera of Vienna; and, strange as the fact appears, Handel was the favourite of the Tories, Bononcini of the Whigs. The public generally however were on the side of the former, who gained a complete ascendancy and maintained it; but his rival continued on the establishment till 1727, though he produced little, and then retired, after which he confined his services to the duchess of Marlborough, who had previously taken him into her family, and settled on him a pension of £300 a year, which he quitted 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 be composed several operas, now entirely forgotten; and in 1721 he published a volume of *Canzette e Duetti*, dedicated to George I., at a subscription of 7l each. The work was not successful, and it is calculated that he gained 1000l. These were engraved on copper, end 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 Woolwich Academy, Woolwich, where he died May 15, 1831. He was born at Whitby in Yorkshire, and entered at the age of nineteen. His wife dying soon after their marriage, he became tutor to the sons of a noblemen, and, by paying their expenses, was able to continue his studies, and within a few years obtained a situation 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 said to have been a good scholar, and much attached to the English language.

Bonnycastle 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, algebra, and on the geometry of their kingdom, 'Elements of Algebra,' are a very excellent performance, and shows great knowledge of the state of the science. He never entered much into principles, but his management of the mechanism of algebra, and his most singular felicity in separating the most striking and powerful parts from the rest, render his work very useful to the reader.

Bonnycastle passes for the translator of Bossuet's 'History of Mathematics,' but the work was never published. (Tenaillon.)

**BONPLANDIA**, a pug, meaning a kind of fever berk called *Anguilla* [Gallina].

**BONUS HENRICUS**, a kind of wood, formerly supposed to possess medicinal properties. [Chenopodium.]

**BONZES**, in Japan, a name given to a class of Buddhist missionaries. These men, called *Boni-naga, or 'long-haired men.' The highest rank is that of the dairi, or spiritual sovereign of Japan, who resides at Misco. Till towards the conclusion of the twelfth century (A.D. 1185) the power of the dairi in Japan was nearly absolute; since he resided at the capital of Kamakura, where he was vested in the dajin, 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. (Itsinagh, *Historia Japanica*, vol. iii. p. 115.) The dairi is said to be seated in the palace of the nobles, and is attended by a,F. Scheber, London, 1892, etc. 3p. 300, 301.)

The Bonzes are under a vow of celibacy, and form a large corporative of male and female ecclesiastics. They are divided into two sects, hostile to each other, and externally called *Boni-naga, or 'long-haired men.' 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 missionaries, Gaspar Villena, who attended several public meetings of the natives, in high terms of the eloquence of the preachers whom he heard, and their impressive and dignified mode of delivery. Even the female Bonzes are said occasionally to preach.

The Japanese priesthood comprises individuals of all ranks. The sons of high birth, even the sons of kings, are known to be priests. The Bonzes, or religious mendicants, are the majority to 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 of the holy 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 abstention from spirituous liquors.

The weaving is carried on by the same 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 confirm steal to the rule abstain from meat and fish, as well as from wine and 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 are rich avail themselves of that privilege.

BOOBY (zoology), the English name for a genus of Pelecanidae, Diphoropus Illiger. Morus of Vieillot, Les Fous of the French, separated, with good reason, from the true pelicans by Brissoin under the name of Sula.

The Boobies or Gannets are thus characterized:—the bill strong, longer than the head, conically elongated, very stout, the nostrils, like those of the mountains, sit near the back, the eye, which is encircled by a white ring, directed forward, and to the left, which is slightly curved; edges of both mandibles somewhat serrated; nostrils basal, long, linear, almost hidden in the furrow of the bill;* face and throat naked; feet short, robust, very much drawn up into the abdomen; three toes being behind, one in front. The bill is armed inwardly, all connected by a single membrane; the tail of the middle too serrated; wings long, the first primary longest, or of equal length with the tail; nail or wing-shaped, composed of twelve feathers.

The species is particularly applied by navigators to that species (Sula fusca of Brissou) which inhabits the desolate islands and coasts where the climate is warm or even temperate throughout the greater part of the globe. The ancient stupidity of the boobies is proverbial; calmly waiting to be knocked on the head as they sit on shore, or perching on the yard of a ship till the sailor climbs to their resting-place and takes them off with his hand, they fell an easy prey to the most artless bird-catcher. Even Byron's shipwrecked wretches, though

*Sleeping on the sea.

They lay like corpses.
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 narrations of the frigate per-
secution, and indeed it is difficult to believe that so many
eye-witnesses should be mistaken.

Feulisse says, 'I have had the pleasure of seeing the frigates give chase to the boobies. When they return in baus towards evening from their fishing, the frigates and I
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
then leave to pursue their route.' Leguat, in his voy-
age, thus writes: 'The boobies come to repose at night
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 in the approach of the latter
very high in the air and dash down upon them like a falcon
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, raising, dares
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 sentinels
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 pro-
tion. They dwell not much the rest of their species, and
whether they were excluded from their society or had sepa-
rated 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 Alcarnes), which from time to time banded
sorties to procure booty. The man-of-war bird that sur-
pised 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 per-
secution 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 darted with
such celerity that he seized it before it reached the water.
Catesby and others mention similar encounters. The
booby 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, which with a keen eye
deserting its humble vassal at a distance, pursues him
without intermission, and obliges him to fly to the
fouled waters, where, he is sometimes seen by the
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 qualling is heard more particularly
when they are pursued by the frigate, or, when the bird
may have been mistaken to be a predatory and
hidden pirate.'

Their nests, according to Dampier, are built in trees
in the isle of Aretes, though they have been observed in
other places to nestle on the ground. They always associate
in numbers in the same spot, and lay one or two eggs. The
young are able to fly about the second or third week; and
when twelve weeks old, they are said to roam for
years of the Southern States. The flesh he describes as black and unsav-
your.

GANNETS OR BOOHHIS OF COMPARELLY COLD CLIMATES.

The Gannet of the English; the Solan* Goose, or
Solan-Sol, of the Scotch and English; Sula of the Faroe
Isles; seems to be the only recorded species of this division.
This bird, the frigate pelican, or moucook, of its species,
which is the best known to the English, is found in the
French; the Soland-Gans, or Schotten-Gans, of the Ger-
man; Jan van Gent of the Dutch; Can and Cans of the
ancient Britains; and

Fou Telgel of Meyer; Le grand Pou and Le Pou
lachet of Buffon; Anser Baissins of Sibbald, Gesner, and
others; and Anser Scoticus, Sula Bassana, and Sula Ma-
lor of Brisson; Sula Hoier of Clauseus; Sula alba of Meyer;
Pelecanus Baissins of Linnaeus; Pelecanus Basians and F.
maculatus of Gmelin; and Gannet Coronvair of Pen-
man.

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 marine birds which is found on
each side of the Atlantic, though in its migrations for food
it is said to 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
scarcely seems 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 hear your next
neighbour. The sea all round is covered with them, and

[Sula faina.]

* These may have been the species known in the island by the name of
Chase-haun, apparently reference to Sula candida, Brissieu, and Pelerus Pin-
sius, described by Megasthenes, Author of the Travels of Alexander, in
his Tents.*

† Nutall observes that these separatists were probably the males after
incubation.

* Martin says that 'solan' is derived from an Irish word expressive of
quantities of cut off. The common account of its origin is for the reason
that it is said to be the same as the wild birds of the New Holland and New
Zealand, but he gives no authority.
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 Boves the hawks, when they became captives, and the breath from their excrements were in such quantity, that they gave a tincture to the sea, and at the same time sufficed 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. Audubon, from the 2nd day 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 of living fowl is frequently 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 organisation, 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 Mr. Owen are, and Yarrell differ in some particulars from his, it will be proper 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 he has no reason to doubt that the peculiar arrangement of 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, "our attention was chiefly directed to the skin of the body, which is the most extensive division. We commenced by a gently 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 presented a pale colour, which was especially that which is situated in front of the os furculare. 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 separate the various parts. The communication between the lateral air-cells of the same side of the body from the os furculare to the side of the pelvis; but the air-cell in front of the os furculare remained still tensely inflated. The lateral air-cells had a free communication with the cavity of the chest at the axils, 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 space being, from the bottom of the arm, filled up 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 a statement made by Descriptive Zoology. (Cuvier, p. 92). As none of these proceedings had any effect on the air-cell in front of the os furculare, 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 in the other parts of the body, and not from any intervention from this air-cell to see its shape and extent: this required to be done with great care, as it adhered pretty closely to the skin and roots of the feathers; it was of a globular form, about four inches in diameter, and communicated with the throat of its own trachea. 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 furculare. 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 necessary for seizing the 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 of the fish 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 observation made by Pennant:—"About four years ago* one of these birds flying over Penzance (a thing that rarely happens), and seeing some pilchards lying on a flir-plank 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 plackard to a board and leave it floating, and the gannet is decoyed to destroy its own destruction. Peter Fidlar has immortalised this mode of bone-catchino in the droll lines with which our readers are doubtless familiar.

There are some parts of Aristotle's description of his sarcopterygii (cassatraces) (Hist. Anim. ii. 17. ix. 12.) that are well in line with our birds, and the very name accorded with its habits. Both Ari-.
The number of eggs is 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 haunt and fish by turns, and that the fisher comes back to the nest with five or six herring in its gullet, all entire and undigested, which the hatcher 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 dainty. Our readers will remember that the relishing Solan goose, whose smell is so powerful that he is never cooked within doors, formed part of Mr. Oldbuck's dinner, though the state in which the 'odoriferous offering' was presented exempted 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.

Old birds at the age of three years. Summit of the head and occiput of a clear ochraceous yellow. The rest of the plumage milk-white, with the exception of the quills and the bastard wing, which are black. Bill of a shading black 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 black. Iris yellow. Legs dusky (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 external quills have the end of the bars 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 varied with ash-colour. Bill, naked parts, and iris brown. The tail banded.

One year old, and during the moult. At this age the bird is already partially 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 are the Grey major of Brisson, Pelecanus maculatus of Gould, Le Grand Pou and Le Pou tacheté of Buffon, and the Great and Spotted Boo (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 nearly all mechanical operations, we cannot but 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 the utmost accuracy the effects of joint adventures and foreign exchanges, we cannot hesitate to admit that 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 the utmost accuracy the effects of joint adventures and foreign exchanges.

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, in all of which the true principle is laid 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, have greatly simplified the practice of their predecessors, and by 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 very 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 day 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 always be 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 hard statement which a perfect balance-sheet will present. 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 open account and a systematic communution of 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
adapts 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 familiar with the general principles involved, and if the general principle is understood and kept in view, details may be safely trusted to experience. It will be more useful to lay down general rules in such a way as to answer the double purpose of illustrating the true character of perfect book-keeping, and of affording a guide to the man who 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 origin 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.

The book itself is nothing more simple 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 one under another, so as to be easily cast up in a column, at the side, and the total results, with the sum remaining, 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 single item, with a posting column also to show 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 unalterable rule 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 his 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 principles which are contained in the book-keeping sense of the term, as 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 connected with the events 'Outwards' on the other side.

The book-keeper is 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 set upon the concern in direct opposition, who, being payable 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 clear that the entries here will be of two kinds: bills which the bill-keeper calls in, and bills which the bill-keeper is called on to deliver. The sum received 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 idea takes place universally with these bills, and accurately record their mutual dealings their books must be counterparts of each other, exactly detailed at every point of their connexion. It sometimes happens that a man's own acceptance is remitted to him, in which case the bill is termed 'accepted,' and the 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, indeed, sometimes is positively discourageable.

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 enquiries, and readily identified when occasion arises.

The book debtor is subject to occasional demands 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 summar 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 goods paid for, and includes 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 held for the purpose of retail sale. The method here, as in the other classes, throughout the entire range of book-keeping, is simple. Each description of goods, bought or made, should have a place of its own, either a book or a page as the case may require, for an accurate register of the dates and quantities 'inwards,' on the one hand, and of the dates and quantities '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 connected with the cost at which the deposit was made, and the quantity taken 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 discharge must be specific. When the accounts with persons, the discharge must be specific 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 should, if correctly kept, be as follows, to indicate in the most explicit manner how that quantity was disposed of. By charging his 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 person at whose expense the cause, just as he would have done if his cash had been deficient.

There is one mischievous error in some of the most ancient treatises on book-keeping, which is that the influence of which the youthful student should be sufficiently apprised. 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 imagination 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 treatises intended for the use of schools, to divide book-keeping into two kinds, under the names of double entry and single entry. This fallacious representation of an important subject cannot be too speedily exploded, 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 defect in their education.

This is this in the matter 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 register, for personal accounts, and all consecutive to it. The one or the other, or both, is the price of the book-keeper free from the control of principle, that matters the most distinct in time are frequently jumbled together, bills receivable and stock being confused with cash, and the day-book being pervaded, from its only proper purpose, into a receptacle for all sorts of congruous transactions.

But here the similarity ends, and here begins the superiority in power and beauty of double entry, historically called the Italian method.

This method, grounding 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 side. It arrives at this ultimate result by exacting, in each of its transactions, the exact difference 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 presenting a perfect picture, whereof all these separate parts are collected together as a whole.

It effects this purpose by resorting to every original entry, whether that entry relates to the delivery of goods inwards or outwards, or to cash, or to bills, or to wages, salaries, wages, insurance, deer-creditors' observations, or to any of the numerous labors which are comprised in the ground of debt from man to man. For these original entries too many treatises unskilfully refer the learner to one general waste-book; but the true theory of a waste-book is, that in 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 handwriting, for the debits recorded by every one within 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.

So double entry these 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, 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 stock for them, and finds the exact difference of the 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 the debt to each source separately.

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 purpose of the purchase of iron to complete the 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 incidently or ignorantly satisfies itself by carrying 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 'sundries' being an abbreviation for 'sundry accounts.'

<table>
<thead>
<tr>
<th>Dr. to Iron</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jany. 500 tons</td>
<td>£60</td>
</tr>
<tr>
<td>Thompson 24th</td>
<td>£15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dr. to Carpenter Co.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 3rd</td>
<td>£456.6.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dr. to Chengar Co.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 14th</td>
<td>£50.10.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dr. to Sundries</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jany. 31st</td>
<td>£15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dr. to Carpenter Co.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1st</td>
<td>£345.6.0</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 first of his ledger, the book-keeper 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 has 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 debits 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 folio the ledger where the entry is gone to, in conformity with an irrevocable 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.

<table>
<thead>
<tr>
<th>Dr.</th>
<th>Cr.</th>
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</thead>
<tbody>
<tr>
<td>Iron 31st</td>
<td>£3174.15.0</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Dr.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jones &amp; Co. 1835</td>
<td>£1000.0.0</td>
</tr>
<tr>
<td>Jan. 1st</td>
<td>£157.10.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dr.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith &amp; Co. 1835</td>
<td>£975.8.0</td>
</tr>
<tr>
<td>Jan. 24th</td>
<td>£150.0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dr.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenter Co. 1835</td>
<td>£456.6.0</td>
</tr>
<tr>
<td>Jan. by Premises</td>
<td>£345.6.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dr.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chengar Co. 1835</td>
<td>£50.10.0</td>
</tr>
<tr>
<td>Jan. by Sundries</td>
<td>£43.14.0</td>
</tr>
</tbody>
</table>

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 conjunctions of business, such a delay might be highly inconvenient, especially in cash and bills; but the 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 commercial transactions. He considers his '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 bankers', travellers', and other personal accounts of that nature. The results are collected into the summary ledger from the subsidiary books at convenient periods, whether weekly, fortnightly, or monthly. According to this method the debts contracted, by the suppression 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, and the bought ledger may 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 transactions of the business, and to keep these accounts and means of comparison, and appears without delay in its proper place, namely the personal account to which it relates.

The summary journal, in registering these purchases, throws away all consideration of particular persons, except the business itself, the source of a balance, by raising a single account comprehending them all under the general name of 'bought ledger,' thus—

Dr. to Bought Ledger.

Jones, Iron 200 lbs. 5 0 1000 0 0
Smith 806 4 17 6 1967 0 0
Thompson 14 6 14 0 957 5 0

Premises.

Carpenter & Co. 621 15 0 665 6 8
Stable. 63 14 10

The severance of these personal from the impersonal, with a separate ledger allotted to each, will be found extremely valuable to those book-keepers to whom the concern may be new, and after a short experience they will feel they are forming the profession in their professional ledger to be possessed of a method which, without surrendering one jot of scientific certainty, carries forward the business of the day to immediate completion.

With respect to the skill required in journalising, that is to say, the skill of drawing the boundaries of the separate account and to its proper account, it may here be remarked, that if motives of convenience or advantage are in any particular case sufficient to outweigh the evils which always follow upon too minute a subdivision, the Iron account might be split into pig-iron and bar-iron, with a separate space in the ledger for each description of goods. So also the Stable expenses, instead of forming a separate head of account, might be made to take their place in the ledger as part of a more general account under the name of Trade Liabilities; or on the contrary, they might themselves be distributed into a variety of heads such as hay, straw, oats, farriery, the ultimate effect upon the profit and loss being of course the same, but the means of watching and controlling the progress of particular outgoings being greatly facilitated.

After having posted his journal, the book-keeper avails himself of the first leisure to ascertain that his work is free from error, and with that view extracts all the balances from his ledger—technically called a balance-sheet. If he finds the totals there extracted each have a sufficient number of figures set apart with the total amount of all the creditor balances, he has a presumptive though by no means a conclusive proof that his books are correct, since one or more errors on one side may happen to be precisely equal in amount to one or more errors on the other side, however, there is any difference between the totals, he is sure that error lurks somewhere.

The young accountant should propose to himself nothing short of absolute truth as his standard, and should be, at his very outset, strongly imbued with the feeling, that as his art is perfect in principle, it only requires fixed and watchful habits of accuracy to render it perfect in practice.

The Balance Sheet, however useful to the book-keeper as a test of his accuracy, is far more important to his employers as a bird's-eye view of their affairs.

If, for example, the journals given already are properly posted into a ledger, they will result in the following balance sheet:

Dr. Cr.
Iron, 60 lbs. 3745 15 0 Bought Ledger 3600 18 4
Premises 423 8 6
Stable 63 14 10

3600 18 4
3275 15 0

Upon the face of the balance-sheet, double entry speaks at once to the eye. The information it affords is not only of the amount of debt incurred, but the means of discharging it, by showing the property divided into proportions of saleable (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 steady and strong light it sheds upon the vital question of profit or loss.

Suppose, then, that the conductor of the business has sold out 4000 £. consols at 292 4s. 4d brokerage—that he has paid the proceeds directly into his banker's hands for the use of the business—that he has effected sales of 356 tons of iron at 25s. per ton, to a vessel bound to New York, and that he has received out of these accounts cash to the amount of 750 16s., and 18 bills, amounting to 2233 12s., besides allowing 12 12s. in abatements and discount—that out of these cash receipts he has paid taxes 24 10s., other charges to the amount of 285 16s., and 750 16s. mortgage, and that he has settled Chandler and Co.'s demand by a check on his bankers for 631 14s., paying 10d. that he has drawn checks for salaries and other charges to the amount of 551 17s. 5d.—that he has accepted a bill addressed at his bankers at 2 1/2%, and 750 16s. mortgage, deducting 2 ½ per cent. in discharge of their demand—that he has accepted a bill (No. 2) at 6 months to Smith and Co. 1267 16s., and another bill (No. 3) at the same date and rate to Thompson and Co. 957 5s., and another bill (No. 4) at 2 months to Carpenter and Co. 571 14s., and that this bill (No. 4) has been 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 284 14s. 6d. for 16s. in the pound, which he has received in the form of a settlement, and has afterwards paid further that of the 18 bills receivable, No. 8 had fallen due and been received in cash, value 81 14s., and that six others, namely, 1 4 5, 12 13, 16, amounting to 980 17s. 4d., paid short into the banker's, had fallen due and been regularly accepted, and that bill (No. 5) at 1/2% per annum, by the acceptor, except Mr. Alister's, who, requiring the assistance of 551, had 251 lent to him out of the cash, and a bill receivable (No. 7) for 30l. Suppose also a horse to be bought, by check 35l. The original entries recording the above transactions would be as follows:—The same are the consols and disposal of the proceeds would first appear in the summary journal—the sales of iron would be stated with particulars of price, person, quantity, and price in the sold day-book, according to the order and distribution, and after passing 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 books of trade would show to 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 journalised at convenient periods in the summary journal. The bills payable book would show the date, name, 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.**
Dr. to **Consols.**
£305 at 61, less Brokerage.
£305 0 0

**Sold Lenders.**
Dr. to **Iron.**
Amount sold, as per Day Book, page 1 to 29: 650 Tons.
650 0 0

**Cash.**
Dr. to **Bills Receivable.**
£78 16 0
78 16 0

**Bills Receivable, No. 8.**
Dr. to **Cash.**
£8 14 0
8 14 0

**Bills Receivable, No. 10 to 15, as per Bills Book.**
Dr. to **Discount Outwards.** particular lost Sold Lender, 15.
15 0 0

**Bills Payable, of £28 14 6.**
Dr. to **Cash.**
£372 11 3
372 11 3

**Bills Payable, as per **Bill Payable.**
**Bills Payable, No. 1.**
Dr. to **Bills Receivable.**
£975 0 0
975 0 0

**Chandler & Co.**
Dr. to **Bills Payable.**
£147 6 8
147 6 8

**Horse.**
Dr. to **Chandler.**
£33 0 0
33 0 0

**Chandler.**
Dr. to **Horse.**
£151 19 9
151 19 9

When these entries have been properly posted in the summary ledger, and added to the accounts already there in the ledger, the general effect will come out in the following balances:

**Bankers.**
£305 0 0

**Cash.**
£41 6 0
41 6 0

**Bills payable.**
£1474 13 0
1474 13 0

**Bills receivable.**
£1253 6 8
1253 6 8

**Sold Lender.**
£195 2 9
195 2 9

**Iron.**
£317 6 6
317 6 6

**Premises.**
£63 14 0
63 14 0

**Horse.**
£25 0 0
25 0 0

**Charges.**
£91 0 0
91 0 0

**Discount Outwards.**
£12 19 2
12 19 2

**Bad debts.**
£13 1 2
13 1 2

£3049 15 10

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 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.**
Dr. to **Sundries.**
£30 0 0
30 0 0

**Discount Inwards.**
Dr. to **Profit and Loss.**
£3 0 0
3 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 bankers', 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 ledgers, 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 making the speedy 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 there cannot be without either error 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 per ton, the consequence would be the following journal entry:

**Iron.**
Dr. to **Favour and Loss.**
101 tons on hand this day. 
£5 0 0
101 0 0
Less Balance of iron account, charged Ledger 15 0 0
£49 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 21l. 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 2 per cent, these matters would be thus recorded in the journal:

**Profit and Loss.**
Dr. to **Sundries.**
Ledger Balance. 
£35 0 0
35 0 0

**Premises.**
Valued this day at. 
£40 7 0
40 7 0

**Stables.**
Ledger Balance. 
£41 6 0
41 6 0

**Consols.**
Half Year's Dividend due on £4000. 
£60 0 0
60 0 0

The effect of all these entries, when posted in the ledger, appears in a new balance-sheet, which now represents 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 discovers that sort of ignorance in which Hogarth exposes and satirizes, for the benefit of other artists, in his celebrated picture of "False Perspecti ve."

**NEW BALANCE-SHEET.**

**Bankers.**
£305 0 0

**Consols.**
£255 0 0

**Cash.**
£41 6 0
41 6 0

**Bills payable.**
£1474 13 0
1474 13 0

**Bills receivable.**
£1253 6 8
1253 6 8

**Sold Lender.**
£195 2 9
195 2 9

**Iron.**
£317 6 6
317 6 6

**Premises.**
£63 14 0
63 14 0

**Horse.**
£25 0 0
25 0 0

**Charges.**
£91 0 0
91 0 0

**Discount Outwards.**
£12 19 2
12 19 2

**Bad debts.**
£13 1 2
13 1 2

£3049 15 10

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 £1897 5 6

Out of which his bills payable will require 2174 15 0

To which he adds his iron. 
£306 10 6

And finds a free disposable fund of £527 10 6

Having thus marshalled the floating against the floating accounts, he compares the fixed with the fixed, and finds the premises, horse, and stable to constitute a Total of. 
£158 8 6

more or less unavailable, from which deducting the Profit: 
£230 19 0

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 227l. 8s. 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, each partner being debited or credited in his personal capacity, regardless of the others, 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 examining this new balance-sheet, the reader will find that the balance-sheet, as a complete account, represents 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, and the creditor side exhibiting the nature and amount of the various liabilities. The debtor's side is 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 that he is the debtor not only of the whole stock of profit and loss standing at the debtor or the creditor side of his balance-sheet; since on the debtor side it indicates the absence or destruction of property, and on the creditor side it indicates the absence or destruction of obligation.

The principal street is fantastically adorned; 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 accrue, and would be got by less labour of that kind, but at the same time expenses and other imports 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 does not take the pains not only to ascertain the actual state of a concern, but to know what that state ought to be by virtue of all its transactions, will immediately see the impossibility of arriving at that complete knowledge by single entry. One example will serve to illustrate the point. Those who would find it 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 without a doubt, 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 an exercise in guess-work, a matter of guessable undoubtedly 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 closes in such certainty as human fallibility admits of. Whatever may become of the property in a concern, the matter of account is subject to no possible exception. Not a single atom can be admitted into its sphere without being registered and accounted for, and the account, to the conclusion of one side, is a debt of the other. Not a thing 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 Brussels, which is much facilitated by the navigation of the Rupel and the Scheldt. The town is a property of the state of Brabant, and is surrounded by a wall, which is the whole length of four miles. 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 other manufactures. The town supports two communal schools, in which sixty five boys and eighty girls are taught. (Die. Gog. der Prov. Anvers, par Van der Meulen.)

BOOM-DEE. [Hyrax.]

BOONDBE, a principality in the S.E. quarter of Rajpootana, under the protection of the Anglo-Indian government, between which and the Rajah of Boondee, Biaben Sing Behauder, a treaty was concluded in February, 1816.

The territory of Boondee formerly comprehended the petty state of Kotah, and with it occupied that division of the province of Ajmeer (Rajpootana) which is known as Harasoutee or Haravatti, a name derived from the ruling family, who are of the Hara tribe. The boundaries of Boondee are Kotah on the S. and E., the frontier being about five miles from this town, belonging to Jajoo; Jeyoor and Conjara on the N., and Jajgbur on the W.

The Rajah of Boondee having brought upon himself the enmity of the Maharatta chief, Holkar and Scindia, in consequence of the aid afforded by him to the British army of General Lord Cornwallis, he was obliged to sell his dominions, one half 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 to insist upon the adjustment of the purchase-money, a sum exacted, that portion which was paid to Holkar by the Rajah of Boondee was remitted to the latter, together with certain pargannahs, of which Holkar had taken possession. By another article of the treaty of 1816 the Rajah of Boondee was required to pay a yearly rent of 7500 Rs. to the British government, and the proceeds, amounting to 30,000 seca rupees (9000/- 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 2500 sq. m., including the town of Patan. (Rajpootana, 1822, 555.)

(Mill's Brit. India; Report of Committee of House of Commons on the Affairs of India, 1832, political section.)

BOONDBE, the capital, in 25° 28' N. lat. and 25° 42' E. long. Properly speaking, the town consists of two parts, the older and the new. The older 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 con- nected with the old town by a square gate, 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 statues; 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—the one the property of the Rajah, and the other the property of the British government. At 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 7 miles long, and at three spots is defended by batteries. Near to one of these batteries is a summer residence of the Rajah, and some Hindu temples. Adjoining the second battery is the cemetery of the Rajah's family, containing many huge ornamented tombs, with figures of elephants and war-horses. (Hyrax, by G. Rot.)

BO'OP'S, a genus of fishes of the order scaphopodorygi, and, according to Cuvier's arrangement, belonging to the fourth family of that tribe called spiridoe or sparidoe. 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.
Booos salpa (Sparus salpa of Linnaeus) is of an oblong-ovate form: the ground colour of its body is bluish, on which are several longitudinal yellow stripes.

The city of Candia, large and flourishing, is the capital of the province of Candia, on the N.W. bank of the Tuypte River, 29° 19' N. lat. and 76° 18' E. long. This city is one of the best built in the southern part of Hindustan: the houses are generally constructed of brick, and are all of the same form: 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 any exception to this remark. It is of gray stone, with an extensive façade supported on arches, and it has two handsome minars of an octagonal form: in front are a fine terrace and a reservoir of water.

Booroapane, which had been the seat of government for the Souub or Viceroyalty of Candia by Aurungzabe, has been taken together with the rest of the Souub, by the Maharattas, about 1760. 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 Maharattas, Dowlut Rau Scinda, 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 Bohra, who call themselves Jemadud from one of the flowers of Mah- mouda, which they 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 best houses in the city: they are highly ornate and cemeteries about two miles from Booroapane.

The Tuypte 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 through every street. The grapes, which grow on the hill-side of them, are so fine and large, that their esteem is equal to 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 best houses in the city: they are highly ornate and cemeteries about two miles from Booroapane.

BOORO, an island in the Eastern seas, situated between the S.E. coast of Celebes and Ambonya, 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 214 m., and breadth 115 m.; its area about 46 miles. The inhabitants of the coast, who are Mohammedans, acknowledge the authoritative of the Dutch settlers, but are governed immediately by their own chiefs, or onar cayoos. The inhabitants of the interior, which consists for the most part of very fertile land, are the Tuypte, they subsist upon wild fruits and the produce of the chase. The south side of the island was formerly much infested by the Papusas, and was in consequence deserted by the natives.

At Cajalli or Booro bay, at the N.E. end of the island, is Fort Defence, 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 come here to trade. The interior of the island is a native of Booro, and its product, known in Europe as Cajuput oil, may be obtained in considerable quantity.

(Stavrovian's Voyages, vol. 1.; Forrest's Voyage to New Guinea: Porters' Tropical Agriculturist.)

BOOTAN, or BOODOTAN, a name formerly employed to designate an inoffensive 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 at the N. of Assam, as it is supposed, across the Himalayas. As the region of latitude round 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 2780 sq. miles, which is 110 sq. miles.

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 exceeds 1600 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 plains must 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 enormous masses of rocky debris, 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. Different 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 which would seem to suggest that the height of these mountains-ranges is in some measure due to a continued lowering of the surface of the earth. At least, the table-land of Tibet, the highest of all elevated plains of great extent, is bounded on its southern border by the highest mountains of the globe, the Himalaya range. The mountains rise in their lowest parts at least 10,000 feet 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 to 25,000 feet.

Bootan includes the southern declivity of the Himalaya range, and here on the boundary of Tibet stands the Chaimalari 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 great plains on the western border of Chaimalari, and according to the calculation of Berghaus, derived from the Thomsonian observations of Saunders, is 15,744 feet above the level of Calcutta. This is far more than the elevation of the famous Neehtee Pass in Kumaon, which according to Webb rises 16,569 feet above the same level.

The northern parts of Bootan, which belong to the Alpine region, extend southeastward from the boundary of Tibet and are bordered more than 5000 feet above the sea, and in many places less. The valley of Tassissudon, according to Berghaus, is 4811 feet above Calcutta, and that of Panukka is still much lower. This rapid descent constitutes the char-acter of the northern districts of Bootan. Summits which rise nearly 20,000 feet above the level of Calcutta and 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. Further down, the hillside make the most conspicuous figure on the slopes, and give way in some places to open plains, while the scanty covering of vegetation is frequently interrupted by steep bare rocks, on which here and there a fir stands from a crrove. The valleys are so narrow and deep, and the mountains which bound them so steep and high, that the rays of the sun are often cut off, and can be seen only at intervals 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 rapids and falls, and sometimes the river descends from the contiguous heights with the quickness of an arrow. The spray rising from the numerous water-falls
loads the atmosphere with vapours, and renders the air extremely, even in summer. In September or October the frost, by its evaporation, elevates the temperature of the entire unhabited for four or five months of the year. In summer however they are visited by numerous herds of chowtyailed cattle and their herdsmen, as they offer abundant pasture. As the approach of winter, the cattle are removed to a few deep gullies.

Contiguous to this inhospitable Alpine region is the most pleasant and best cultivated part of Bootan, 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 10,000 feet, and they descend with gentle declivities. These, as well as their summits, are clothed with high trees, especially pines and firs; and the height of the highest range of mountains, over 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 range-road mountains, but the slope of the valley 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, besides being situated on the banks, and descending the hills and along the banks of the rivers. The climate resembles that of the southern countries of Europe. At Tassindun, in summer, the thermometer never descends below 60° nor rises above 80°. The summer is the rainy season, and there is no danger of floods, as the small rains, such as accompany the south-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 Tahsan-techen, where snow is very scarce. In truth, it is said that 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 Daeb Raja, or sovereign of Bootan, has chosen Panukka for his winter-residence, though this place is forty or fifty miles further north than Tassindun, 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 are the same sorts of trees as in the lower country, 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 too steep to admit any kind of vegetation upon 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 botanic Botan. The Robins, or river-plums, 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, but the climate is said to be very healthy, and the inhabitants are said to be in no danger from fevers. The swelling of the neck called in Switzerland goutre is more frequent here than in other parts of Bootan.

To the south of this mountain-region, and only divided from it by a few miles of gently sloping ground, extends the Tahsan, noted all over Bengal for its forests and its unhealiness. It belongs partly to Bootan. This region, which runs along the whole extent of the Himalays range from the Brahmapoota to the Ganges at Hardwar, with the exception of places where the average level is above the reach of the river, which consequently becomes stagnant and forms a remarkable expanse of flat marshy and 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 lothiest timber of the forest. From this expanse of water, 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 infested by tigers, vipers, and wild buffaloes; but the exhalations from which 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 thinly inhabited, and by a very miserable class of people. Goires are frequent among them.

Travelling in a country like Bootan 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 roads, but pathways or tracks, which purpose the Tungun 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 interrupted by mountains, which had 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 ingenuity and judgment. They are generally about forty to fifty feet wide, and the materials 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; but over very deep streams, 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 fixed at some distance above the river, and a ladder is made of wood and rope, and fastened to the 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 tremendous abyss. (Turner.)

The most considerable river of Bootan is the Tshom-techen, which traverses the whole country from north to south, rising in the mountain-range between the Chamalai and Mount Ghassa, and running by Tassindun. Being several miles higher down the country, it is called the Tahan, and by the Bootanis in the lower country, the Ta-pothen, which rises near Paro and the Hachtechen, 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 is seen at length into the plains a few miles east of Buxadawar, and finally joins the Brahmapoota, not much below Rangamatty, under the name of Gahdahr. Its whole course may be about 150 miles. Parallel to the Tehin-techen, but farther to the east, runs another river, called Chas-tenchien, which is but little known. Two rivers, which rise in the neighbourhood of Mount Ghassa, the Ma-techen and Pas-techen, unite at the castle of Panukka, and run to Andipore, or Wandipore, where they are joined by a third river, the Tahsan-techen, and the united waters are called Chas-ten-tenchien. Farther down the course of this river is not known, but it is sup
posed, after having descended from the highlands, to flow through the flat surface of the district of Bijnee, 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 either 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 rolls descend. The slopes are cut into by a small number of river-places, except where 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 mostly dressed. Besides rice, they cultivate wheat, barley, and a species of flax. A small jet of Linnam, which is boiled and consumed, is also grown. 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 mystic words. Besides this there are long walls, commonly about three feet 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 mystic words cut in relief.

The import of these goods, 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 ecclesiastical chief as well as their civil ruler. They believe that the Lord, the incarnation of the divinity, 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 stoto council. This council consists of eight persons, without the assistance 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 the rules established by 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 exclusively from among the children of the upper class, and are not permitted to流传 the ground; but they may enter into trade, and accept public offices.

The Bootees do not kill any animal, but they eat the meat of those which have been killed by others, or have died of starvation. No man has a birthmark. They have 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. Children of the upper classes are considered as belonging to the eldest brother. Thus we find in Bootan both polygamy and polyandry. Women abandon themselves to a depraved life up to their twenty-fifth or thirtieth year, after which they marry. The dead are burned, and the gylongs officiate on such ocassions; 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 particularly with those that have trade with Bengal and Tibet. The commodities for Bengal consist of Tangan horses, linen-cloth, moschus, cowries, oranges, walnuts, and mungit (a kind of red colour): they are brought to Rungpor, where they are exchanged for wollen cloth, coarse cottons, indige, sandal-wood, assails, and specks, all which articles are consumed in the country or sent to Tibet. The same commodities are sent to Nepaul 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, fish, and fowl, bone, ivory, silver, and gold. A small quantity is also sent to the Court of Teshoo Lama, p. 90, &c. The fortresses are all always built on very advantageous sites, generally at the confluence of two rivers.

The natives of Bootan, called by the Hindus Bootees, or Botiyas, belong to a very extensive nation, which occupies the higher regions of the Himalayas range westward to the valley of Cashmere; in Bootan alone they are in possession of the whole mountain-tract. The structure of their body and their features prove their belonging to the same race which is spread over the south of Eastern Asia, and comprehends the Birmans as well as the Chinese.

The Bootees are Buddhists; but in their religious ceremonies they differ widely from other nations. Their temples consist of a small circular temple or place of worship, which is surrounded by a wall, and is never opened. They are never opened, and the whole divine service of the people consists in processions made round the temple, accompanied with the mystic words, 'Om mani pad me hum!' They uncover their heads when they pass a temple, and bow before a picture of Buddha. They consider no one before you is equal to me. The very fine and most beautiful houses are usually built in the towns, near the temples, and near the places where are the principal shrines in the Bootan. They are generally small temples, with a square or circular ground, and are divided by a stone wall.

The Bootees are absolutely without writing. They have no alphabets, and no books. They have only a few diagrams, and a kind of ideography. They have no calenders, and no idea of time, or any other size which is spread over the south of Eastern Asia, and comprehends the Birmans as well as the Chinese. The Bootees are Buddhists; but in their religious ceremonies they differ widely from other nations. Their temples consist of a small circular temple or place of worship, which is surrounded by a wall, and is never opened. They are never opened, and the whole divine service of the people consists in processions made round the temple, accompanied with the mystic words, 'Om mani pad me hum!' They uncover their heads when they pass a temple, and bow before a picture of Buddha. They consider no one before you is equal to me. The very fine and most beautiful houses are usually built in the towns, near the temples, and near the places where are the principal shrines in the Bootan. They are generally small temples, with a square or circular ground, and are divided by a stone wall.

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but it is as frequently called Arctophylax by the antients, which means the guard of the bear. Aratus calls it by both names.

"Arctophylax, vulgo guiet dictur eae Bootes," is the version of Cicero. Both Aratus and Hyginus place Arcturus in or under the girdle; but it is usual to draw it between the legs of the figure. Mallanius also uses both names. The constellation is connected mythologically with the fables of Arctos, Icarus, Lycacon, and others. The Arabic translators of Ptolemy rendered Bootes by bellouer or roosterer. According to the old figures attached to Hyginus, he is represented as a man with a spear in the right hand (pointed from the back—Bayer) and a scythe in the left. The modern figures represent a man with a club in the right hand (viewed in front), and in the left the string which holds the two dogs (Canes Venatici). I know how to be probable that the Great Bear was originally either an animal or instrument (an ox, an ass, or a waggon), and Bootes the driver.

The stars in Bootes are as follows:

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In the preceding, we have availed ourselves of the edition of Flamsteed's Catalogue, just printed by the Admiralty, under the superintendence of Mr. Baily. We have entirely followed his magnitudes so far as they go; and the query attached to the former indicates the letters as having 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 Piazzi's: those in [ ] are Baily's.

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 1631, and educated at Westminster by the famous Dr. Bushy. 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 Pampillus in the 'Analecta' of one of the curious school exhibitions. 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 one 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 Bettermen heard of him, and was prevailed on 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, 1658. His first appearance in Dublin was in the part of Othello, 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 obtained from Lord Chamberlain a recommendation. With this letter and the kindness 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 'Satyr.' He was in the highest estimation; he 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 it was admirably accomplished by the company. There were fifty guineas in the boxes during the performance, as a slight acknowledgment of his honest opposition to a perpetual detour, 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 the great success in his talents has had up to the play; and shortly afterwards Queen Anne, at the request of Lord Bolingbroke, granted a special licence recalling all former ones, and nominating Mr. Booth joint manager with Wilks, Cibber, and Dogget. Declaring, on attaining the age of 72, that he was attacked by a violent fever, he continued to last 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 alienation of his property, Betterton 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 1719 without issue; and, secondly, in 1721, to Miss Hester Savage. His wife was a 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. He had acknowledged to 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 less important one of the host in 'Hamlet,' a performance, says MacKlin, who has never been imitated successfully. His tone, manner, and gait were so solemn and unctuous, that the audience appeared to be under the impression that a positive speer stood before them. The soles of his shoes were of gilded leather, covered with red tiles, on 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 deportment bearing the impress of great grace and a manly 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, so was noble in his designs, and happy in his execution. He was an amiable, good-hearted man, a lively companion, and diffident 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 country, that his death was an irreparable loss to the nation, not a nobleman in the kingdom, says Chetwood, who had so many sets of horses at his command. The clarion and six of some one or another was sure to be waiting for him every night to take him, after the play, to Windsor, where the character was received with applause, and to bring him back the following day in time for the theatre.

BOOTHIA. [N. West Passage.]

BOOTON, an island of the eastern seas, lying off the S.E. extremity of the island of Celebes. The 5th parallel S. and the 132d meridian E. intersect the another but middle of the island. Booton is about 85 m. long from N. to S., and its average breadth is about 20 m.: it is separated from the island of Pagensane, 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 Booton.

The island is mountainous and woody, but is well cultivat-
and the usual variety of tropical fruits. Fowls and goats are reared for food, and buffaloes are pretty numerous.

On the east side of Booton is a deep bay, called by the Dutch De咆, 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 they can only get out again at the ebb. In 1819, 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 sea-coast speak the Malayen language. The island was ceded by the Dutch East India Company to the British, in 1817, which cession was confirmed by the treaty with the king of Booton, 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 Dutch officer thus employed resided under the appropriate title of the Extirpator. (Stavrovins's Voyages; Forrest's Voyage to New Guinea.)

BOPaul, or BHOPAL, a small independent principality in Central India, lying between 23° 33' and 23° 43' N. lat. and 78° 37' and 78° 47' E. long. It is about 34 m. E. from E. to W. is 196, and its extreme breadth from N. to S. 60 m.; its area is computed at about 5600 sq. m. This principality is bounded on the N. and W. by the dominions of the Maharaj Chief Dowlut Rao Scindia, and on the S. and E. by the jurisdiction of the Native States of the British East India Company. The river Betwah forms a natural boundary through the whole extent of the S. frontier. Bopaul is one of the native states of India under British protection; but the Company's government has not found it expedient to reside there, which adds to its fertility.

A hilly tract, forming part of the Vindhya mountains, passes through the centre of Bopaul from E. to W. The soil is generally fertile, especially in the valleys, where it consists either of a loose, rich, black loam, or of a more compact clay. The chief products of the soil are wheat, maize, peas, and some other grains (gram, jowary, &c.) peculiar to Central India. Rice is not largely cultivated, but sugar, tobacco, cotton and ginger are raised in quantities beyond the needs of the inhabitants, and are exchanged for salt and manufactured goods. Bopaul is well watered, having, besides the Nerbudda, numerous smaller streams, of which the Betwah is the most considerable. This river rises on the N. slope of the Vindhya mountains in the N.E. quarter of the province of Malwa, passes the town of Bheet, in Allahabad, and falls into the Jumna below Lucknow, on its way to the Ganges. The Betwah is not navigable at any season. On the S.W. side of the town of Bopaul is a large tank, 43 m. long and 18 m. broad, formed by an embankment at the confluence of several streams. The river Nees issues from this tank and flows to the N.E. for 34 m., when it falls into the Betwah, 1 m. N. of the town of Bilsa in Scindia's dominions. On the E. of the town of Bopaul is a smaller tank about 2 m. long from N. to S.

The town of Bopaul, which is the residence of the Nabob, is situated on the S.W. side of the tank, and 27° 27' E. long. It is surrounded by a stone wall, and on the S.W. side has a fort built on a rock, but it is in a dilapidated condition, and indeed the whole town exhibits the appearance of decay. In 1830 the population contained 4150 individuals, of which 7400 landholders and only 2400 of note besides the capital are Asha and Islamangur. Asha is near the western frontier, and 40 miles S.W. from Bopaul. Islamangur is a fortified town, 5 m. N. from Bopaul, and was considered by the Company as the chief place to which it was intrusted it had been delivered up to Scindia, but the operations of war having given the British possession of some territory desirable to Scindia, he was induced to take the same in exchange for Islamangur, which by the year 1818, was made over as the N.W. frontier of Bopaul. Islamangur stands at the confluence of three streams, forming a natural defence on three sides, and on the fourth side the fort is protected by a morass. The principality of Bopaul was founded, at the beginning of the eighteenth century, by Dost Mohammed, an Afghan adventurer in the service of Aurungzebe, by whom the territory was assigned to him. The government remained in the family of the founder for nearly a century, and was then usurped by Vixier Mohammed. This prince was attacked in 1812 by the confederacy of the Afghans and the Raja of Jaipur, and the latter was defeated and made a successful defence, but was reduced to such distress as repeatedly to solicit aid from the British government. This was long withheld from the dread of offending Scindia, notwithstanding the claims which the Nabob bore upon our gratitude for his services rendered under another occasion 'when he had sold all his jewels, that he might be able to maintain troops in aid of our exertions.' In 1816 the power of the Pindaries had grown to such a height as threatened destruction to Bopaul, and the British government, on deliberation, gave their sanction. At the close of the war with the Mahrattas in 1818 permission was given to some of the chiefs of Pindaries to reside in Bopaul, and pensions were assigned them by the British government, the payment of which was made to depend upon the peaceable conduct of the chiefs. Since that time the principality has enjoyed political repose, and the government being administered with a due regard to the interests of the people by making a settlement of the revenue upon equitable principles, the country is under tranquillity, and seems to be improving in all respects. (Mill's Hist. Brit. Ind.; Origin of the Pindaries; Rennell's Memoir, &c.; Rep. Com. H. C. on India, 1832, general appendix.)

BORACIC ACID, formerly called Homberg's sedative salt 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 boricite of soda. From this salt, boiling with water, a host of salts of boracic acid, termed borates, 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. Owing to the superior affinity of the sulphuric acid for the soda, sulphate of soda in contact with 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 purify it entirely from the 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 scalene brilliant colourless crystals, or radial masses, the greatest diameter of which is modorous; its taste is not strong, and scarcely at all acid. It reddens litmus paper but slightly, and turns turmeric paper brown, so the alkali down. Water at 60° dissolves about 1-26th of its weight of this acid, and boiling water nearly one and a quarter. The fusion point is about 260°. The process of crystallization is entirely expelled when it gradually heated to redness in a platinum crucible. If the crystals are suddenly heated, a portion of the acid is carried off by the vapour of the expelled water. When fused boracic acid cools and becomes solid, it splits, and during this operation it is luminous in the dark; the light is probably electric.

Boric acid in crystals has a specific gravity of 1.48; when fused it is 1.83. It is soluble in alcohol, and the solution burns with a green flame. Although it acts weakly as a base, it is not volatile, and dissolves the alkaline carbonates with savourness, and at a red heat it expels most of the volatile acids from their bases.

Boracic acid is composed, according to Berzelius.

3 equivalents of oxygen 24° 03' 2 equivalents of oxygen 16 1 do. borax 10° 91' 1 do. boron 8

Equivalent = 34° 94'

Boracic acid is sometimes 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 boricite 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 Phýlos chrysocholla. Geber in the seventh century mentions borax: its nature was pointed out by Geoffrey in 1732 and
Baron in 1748. It is said to be brought from Persia, Ceylon, and also from Tibet, from a lake entirely supplied by springs, fifteen days' journey from Tsesbo Lumbo the capital. Tincal as imported is mixed with a fatty matter, which may be separated by acids.

The crystals of tincal 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 rhomboic prism. Tincal is purified by solution in water and crystallisation, and is then sold as borax.

Borax has rather an alkaline and sweetish taste, acts like alkalis 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 tawny yellowish glass. It is composed of, according to Berrillius,

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\begin{align*}
2 \text{ equivalents boric acid} & = 69.88 \\
1 \text{ do. } \text{soda} & = 31.32 \\
10 \text{ do. } \text{water} & = 90.10
\end{align*}
\]

Borax is also prepared, both in England and France, from soda and the boric acid imported from Tuscany. This salt is a 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 rhomboic 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 monopetalous 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 characterised by their flowers being arranged in a gyrate manner before they expand. The common borage 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 soft white hairs, which communicate a peculiar asperity to the skin, whence these plants were formerly calledasperula, 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 alkanet. Anchusa tinctoria, Lithospermum tinctorium, and some kinds of Oenoma, are the best known for this quality.

BORA/SSUS, a kind of palm-tree, called Tula in Sanscrit and Palmira by the English, in imitation of the Portuguese, who name it Palmeira brava. It is defined by Roxburgh as having diminutive hazel-like 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 recognised is called Borassus flabeliformis. This plant grows all over India both on the continent and in the islands, where it is esteemed one of the greatest sources of dye-stuff, and of the vinous sap and the sugar which are extracted from it. Its trunk is from twenty-five to forty feet high when fully 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 spring at the 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

![Image of Pulmonaria angustifolia and Borassus flabeliformis]
BOR A. T. Thomson states, that when bifurcate of soda and honey are mixed in equal portions, a chemical union takes place, by which a deliqueous salt is formed. This likewise happens when the bifurcate 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 suppurative cases, particularly of the mouths 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 that borax simply, 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 rosarium) 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 the best drugs. Menstruation is regulated, and the female may be said to be in the way.

It is also very useful application to inflamed piles, and also to chilblains. (Geiger. Magaz. für Pharmac. vol. xxii. p. 26.)

BO'BORUS (Ipheroeres of Latrellise), a genus of diplopods, 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 concave in front and reflexed towards the mouth: the antennae 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 larva reside; they are always abundant under cucumber frames, and are of a brownish colour: most of the species when expanded would scarcely measure a quarter of an inch.

BO'RBONUX (Pheroceros of Latrellise), a genus of diplopods, 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 concave in front and reflexed towards the mouth: the antennae 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.

BORDA, JEAN CHARLES, born at Dax, May 4, 1733, of an antient 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 chemist's profession. 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 Hastembeck 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. He was afterwards employed at several places in France, and finally entered the secret service. He was at the conclusion of the war, and afterwards employed in the most important military offices. He was not only versatile in his applications, but of the greatest sagacity, and possessed the most original genius. He died at the age of 64.

BO'RBORUS, a compound of boracic acid and soda. It is quite insoluble in alcohol. It is precipitated from its solutions by all mineral acids and alkalis, and most alkaline and metallic salts. These are therefore incompatible with it in prescriptions.
positions by compass-bearings. He served under D’Estaing 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 close of his mission, very far from land. He defended himself stoutly, enabled the rest of his ships to escape, and was then obliged to give up his own vessel (the Solitaire) a perfect wreck. On reading this extraordinary account of a single ship defending itself for three hours against a squadron, in the midst of which it was 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 Solitaire fell in with the squadron of Sir F. Hugues, and of counsel endeavoured to capture 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 notice the very great superiority of the French. Borda was honourably treated, and allowed to return to France on parole. From that time to the end of a very useful life, he was mostly employed on the great measurement of the meridian. He died February 19-20, 1779. The present volume is a continuation of the larger work in the fourth volume of the Memoirs 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 1767 Mayer had proposed a whole circle of refraction to find the latitude of the equinoctial by the account of his own improvement of the idea, so well known, in 1787, under the title of Description et usage du Cercle de Reflexion. The repeating circle (a further modification of the idea of Mayer) was not described by himself, but adopted in practice in 1791 by a circle of observers employed in measuring the base of a fort under his inspection, and he was in fact the inventor of most of the original instruments employed. It has been said that he had a scheme for estimating the length of the pendulum by measuring the time of its vibrations. This was published in 1791, under the title of Tables Trigonometriques Decimales, &c. (An. ix.) with revision and an explanation, by Delambre. Borda was a quick and lively tourist. 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 at- tended to the study of logic and dialectics. BORDA’RII, one of the classes of agricultural occupiers of land mentioned in the Domeday 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 conjectured, the name being by Sir A. Hurd (An. i. ed. 1828) 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. xlv., considers them as cottagers, taking their name from living in holes of clay, the so-called ‘clay-holes’ of the present time, refuted by Domeday itself, where we find them not only mentioned generally among the agricultural occupiers of land, but in one instance as ‘circa aulam manentem, dwelling near the manor house; and even residing in some of the large quarters of the town of Huntingdon, at the time of forming the Survey, as well as in kind 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. (Domed. Book, tom. i. fol. 203.) In Normandy there were 450 bordarii, and 20 are mentioned as living in Thetford. ( Ibid. tom. ii. fol. 116 h. 173.) Bishop Kennett says, ‘The bordarii often mentioned in the Domedasie Inquisition were distinct from the servile and villeins, and seem to have been less servile condition, who had a lord or master and a household, and were permitted to live among 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 of Brownfield in his ‘History of Norfolk.’ Brady says ‘they are drudges, and small midgets of the servile class, 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.’ (P. R. Hants.) Borda, as Bishop Kennett has already noticed, was a cottage. Bordarii, it seems, were cottagers merely. In one of the Ely Registers we find bordarii, where the breviate of the same entry in Domeday itself reads colatii. Their condition was probably different on different manors. In some entries in the Domeday Survey, ‘bordarii servantes’ occur. At Evesham, on the abbey demesne, 27 bordarii are described as servientes curiam. (Domed., tom. i. col. 172.) On the demesne appertaining to the castle of Ewiss, there were 12 bordarii, who are described as performing personal labour on one day in every week. (Ibid. fol. 186.) At St. Edmoundsbury in Suffolk, the abbot had 118 homagers, and under them 52 bordarii. The total number of bordarii and bordarii servantes is given in the Domeday Book as 92,634. (Ellis’s General Intro. to Domeday Book, ed. 1833, vol. i. p. 82, ii. p. 511; Heywood’s Dissert. upon the Ranks of the People under the Anglo-Saxon Governments, pp. 305, 376.) BORDEAUX* (Annot. BORDEAUS andBORDEAUX), one of the most important cities in France, in the department of Gironde: 371 miles S.S.W. from Paris by Orleans, Vierzion, Chateauroux, Limoges, and Perigueux; 376 by Chartres, Vendome, Tours, Angoulême; and 378 by Orleans, Blois, Tours, and Angoulême. It is in 43° 50′ 25″ N. lat., and 0° 33′ 35″ W. long. Bordeaux is on the left or western bank of the river Garonne, 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 over a narrower space as they approach the extremities, the whole anomaly of the place is restored in the crescent moon. The bend of the river is so great, that a straight line 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, which is the case of the city of Bordeaux. It is the quietest and smallest of the towns of its size, being situated on a plain and of very small extent, of not more than twelve miles in length, and four miles in width. It is about three miles below its confluence with the Gironde. The river of Bordeaux has the same name as the town towards the open country, more than four miles and a half: the greatest breadth from the river towards the country, drawn by Wilson, is 1.5 miles. Bordeaux is a very ancient city. It was an important place in the time of the Roman Empire, which was called Aquitana. In the Geography of Strabo it is mentioned as the lupercolis (emporium), or chief trading-place of the Bracii (in Latin Bituriges), who were surranged ‘toresoi (Iosci) according to Strabo, Ubisci or Vibisci according to others, or Vibiscus accordine to others. It is the chief city of 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 Aquitani. Strabo describes the town, which he calls Baodias (Bourdigala), which is probably to be transferred to a distance, which means 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 former seems to have been more usual; B. Anville himself gives some reasons for preferring ‘Bordeaux.’ Derieuze, the Benedict in his History of Bordeaux, contents for the one, but says that custom has established the use of ‘Bordeaux.’—It is observable that Vergil says this is an old form, more ancient indeed than that of Bordeaux; and in a very ancient map of France in the British Museum (Vendome, 1590) it is written Bourdeaux.
The shaded parts of the map are the limits of the Roman Burdigala, and the portion enclosed nearest the river is the ancient port of the town.

B. Le Palais Galerie or Amphitheatre.
C. The Vaux Devin.
D. Hôtel de Ville.
E. Château de Pau.
F. Castle of Ha, now a prison.
G. Port Ste. Croix, or St. Louis.
H. The Bridge.
I. The Custom House.
J. The Exchange.
K. Royal Building Yard.
L. Place Royalle.

A. N. Place Dauphine.
0. Courbe XII. Mars.
A. Allee d’Angoulême and de as.
R. Rue Chapeau Rouge.
K. Place Levass.
L. Palais de Château Royal.
T. Principal Theatre.
U. Chanoine.
V. Public Cemetery, formerly Vicryard of the Charronais.
W. Collège Royal, or High School.
X. School for the Deaf and Dumb.
Y. Hôtel de l’Académie Royale.
Z. Foundling Hospital.

the Latin writers give Burdigala and Burdega. The importance of Burdigala is shown by the circumstance, that it was 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 Clarus Urbis, or Ordo Nobilium Urbium, from which we take the following extract:

Impia landamund condemno silentia, quod te
O patria, insigne Baccho, solienique, unique,
Marina, Alexandri sollem, procerum sacra,
Non litter primas memorat: quod consules urbis
Eiusque, immemorae dubiis contineere laudes.
Nee pudor ble nobilis: Nee sublimi Barbara Rhai
Ors, nec Arcto domum est gloriae in Hemo.
Burdigala est nativa; solus: elementa coeli
Multa nubis, et ruitque larga indigentia terrae,
Vt longum, brumoseque breve, hujus hortus subest.
Pomati squamis imita fuerit metus
Qua quarta numerus species, sic turribus alis
Adesta, ut series lentiss fatis ignea
Distincta inter usus amure, demorat
Dispositum; et late hortae seruare platos:
Tum respondentes directa in complis portas
Per mediocres orbis fontam domini alium
Quem pater Oceanus reduc cern impleuerunt adust
Addabat totum spectabile clausum sequor,
Clerus 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 shame do I feel for this reason. Not mine the barbarous bank of the Rhæus, nor is my leg dwelling in the northern Æmon, 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 [distincta, 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 compls] 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-floating 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 Divona. 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 fifteen years since. Of the walls and towers some remains it is probable exist still. The stones used in the foundations of the wall were of a great size. Two Roman edifices survived the various devastations of the city, and came down to modern times.

* As the country on the west side of the Garonne is flat, we must suppose the poet to refer to the hills on the opposite bank.

† The vale lies up the Garonne considerably above Burdeaux.

‡ Called the Divina (now La Devise): of the dock which was formed in its channel (now covered over) no vestiges remain. See Elias Vineta, Commentary on Ausonius.
days. The ruins of one of these, the amphitheatre, or, as it is called, Le Palais Galien, 'the palace of Galienius,' yet remains, though much dilapidated; the other edifices, the Palais Tuteur, the chapel of the Pagans, and the demesne of the monks 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 demolished, and upon the site is now occupied by the grand Palace of Louis XVI. The edifice remained distinct from the Palace of Galienius, but we think this has arisen from some misconception on their part.

The amphitheatre is in the outskirts of the town, or rather in the Faubourg St. Surnin, just to the left of the road to Meaux. It was a construction of their power, 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 property, and the area fenced with a parcel 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 brick-work and of small square stones. When Vinet published his L‘Antiquité de Bordeaux (1574), this building was in much better preservation. He has given an engraving of it in his work. Le Palais Tuteur is supposed by some to have been the refectory of the Cloister of Obermalt, the grandest of the monasteries of the city. It consisted of a basement about 95 English feet long by about 70 wide, and 23 or 24 high, upon which had been erected twenty-four Corinthian pillars, eight being presented at the side, and six at the front. Upon the upper part was a temple, of which the small imposts, and an attic, having open spaces corresponding in number to the spaces between the columns. The pilasters between the spaces of this attic were adorned with caryatid figures on the front and back. In the basement was an apartment nine feet high, occupied at a later period as a wine-cellar. (Stuart’s and Revett’s Antiquities of Athens, last ed. 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 in the Musée du Midi de la France; Devienne, Histoire de Bordeaux.

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 in other historians, supposed that the Romans occupied the site of Bordeaux, or that the site of the Roman Burgundia was on the right bank of the Garonne; 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 river.

Under the Romans Burgundia was not the scene of any important historical event, except the assumption of the purple by Tetrins (one of those commonly but inaccurately designated 'the thirty tyrants'), in the reign of Galienius, in the third century; it derives its reputation rather from the zeal with which literature was cultivated. Aesopus 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 were admitted to the Orders of the Church.

Early in the fifth century (412) the Visigoths first attacked Gaul and possessed themselves of Burgudila and other places. Being obliged to withdraw into Spain, they burnt part of this city. After some years they became masters of it again, and it continued in their possession part of their kingdom, of which Tolosa or Toulouse was the capital. Under its new masters Burgudila declined; and the persecution of the Catholic Christians by the Arian Visigoths is represented as one cause of its downfall. After remaining, however, free, and built upon the plan of its predecessor, for a century, it came into 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 early Visigoths, the inhabitants of Bordeaux were frequently involved, and on the death of King Hunilda in 625, 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 725 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 we have no account that Burgudila suffered by these revolutions. In the eighteenth century it had lately sustained to be an object of ambition to either party. Under Charles-magne it was under a count of its own, and began to recover from its downfall. Its prosperity was advanced by its being incorporated by Charles de Chasteau (the Balif), in 660, united to the city of Bordeaux, 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; Burgudila, or, as we may now call it, Bordeaux, was taken by the Normans, and underwent a more complete destruction than any which it had yet experienced. The houses were almost entirely destroyed, and the unhappy Bordelais 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 disposed of ravaging the rest of France; and Bordeaux was rebuilt and repopulated, and became again the residence of the dukes of Gascony, who built here the castle or palace of their family, and the town of Burdegala, or Bordeaux. In the time of Louis VII. of France (le Jeune) espoused Alienor or Eleanor, heiress of the united dukedoms of Guiane and Gascony. The divorce of this prince, and her subsequent removals by the site of Bordeaux, has been already given. The Normans never resided there; but the town was not left deserted, for the dukes of Gascony continued to hold it, and permitted it to be occupied by their vassals. In the twelfth century, the duchy of Gascony was divided between the houses of Burgundy and Aquitaine; and the right of succession to the Burgundian part of the duchy of Gascony continued to be disputed by the houses of the Valois,}
Guipue to the French, upon a promise that it should im-
mediately be restored. This was intended to satisfy the in-
ordination 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
in the New World, it remained until ten years after the
that the king of England re-entere
to the possession of this part of his inheritance. Edward
son and successor of Edward I., having quarrelled with
Charles IV. (1264) of France, lost all Guipue except Bordeaux,
for which the Frenchman had got up by
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
decision of the war which had been
the principal states of the crown of England: this connec
tion, which was declared to be inseparable on any ground what-
ever, was formed by the desire of the municipal authorities.
In the war between France and England which has
signalized 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 it he conducted Jean II., king of France, who was taken
prisoner in that memorable engagement. This was a period of
splendour to Bordeaux; and that city never ceased to retain the
principality of Guipue, which Edward III. formed in
favour of his valiant son, from the provinces of Poitou,
T方案, Agenois, Perigord, Limousin, Quercy, Bigorre,
the territory of Jaure, Angoumois, Rouergue, and all that
was comprehended in the province itself, and
inhabited by the English. Edward
year brought railways for the 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
Guipue would be lost, the limits that had been
before the elevation 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. They
retained their attachment to the English; and when
Robert de Brigue, count of Guipue, and Duke 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 murdered 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
downfall of the English power in the country,
connexion was lost. In the fifteenth century
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 support them. The civil
disturbances were now 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 was enabled to erect the
Château Trompette on the Castle of
Ha. This was an event which preceded and accompanied the submis
sion 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 excited by the oppression of French
effects of the great taxes that were imposed upon the city. In the year 1458
the people rose, and being assisted by the country folks of
Guipue or the neighbouring provinces, committed great excesses; and when the tumult was quelled, the brutal
Montomérency, envoy of the French, inflicted terrible severe
rities 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
authorities of Bordeaux were a considerable part, and several
buildings were burnt by their order. The new opinions
however spread, and in 1567 there were about seven thousand
of the Reformed in this city. When the religious animos
broke out into open warfare, the Protestants, in 1563, endeavoured
on the Château Trompette, but
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 blood
was shed in its suppression, which was effected by the reso
march on the city and activity of the Due d'Epernon, governor of
Guipue.
In 1649, during the minority of Louis XIV., new troubles
broke out between the local authorities in the parliament* of
Bordeaux and the Due d'Epernon, son of the one just
mentioned, governor for Guipue and Trope, which was
followed by various disturbances and hostilities endured both by land and sea. The court
supported the Due d'Epernon: the parliament of Paris
supported that of Bordeaux. The commandant of
the Château Trompette having fired on the city, that for
men attempted to march on the town, which was
resisted by the Bordeaux. A short peace was only the prelude to new
troubles between the parliament and the court, at which Cardinal
Mazarine was then paramount. Bordeaux was besieged by
the royal forces; but peace was concluded in the autumn
of 1649 or 1650. When the war of the Fronde broke out, on the return of Cardinal Mazarine to France in 1652,
the Bordelais took part with the Prince of Condé against the
Cardinal; and their city was consequently blockaded in 1653.
The troubles were concluded by a treaty agreed to the same
year; and the power of the Bordelais, was executed; the other chiefs escaped by flight or the
intercession of those who had influence at court. New troubles
having swung up in 1657, the parliament of Bordeaux was
removed from that city by a royal edict; part of the city
was burnt; troops were quartered upon the
inhabitants; and other measures of severity were
enacted to bridle the population of a city which had given so much un-
seasiness to the central government. In 1669 the parliament,
which had been transferred successively to Condom and La
Garde, was re-established at Bordeaux; and the city enjoyed
a century of peace until the outbreak of the French Revo
(1734). Bordeaux continued to prosper, and
in 1751, the town was recorded to have had
five thousand inhabitants, out of which were
seven Frenchmen, a hundred and
eighty Englishmen, a hundred and
thirty Swiss, one hundred and
fifty Irish, and one hundred
Dutchmen. It was about the time
of the Glorious Revolution, that the
first occurrence of a fire in the town
of Bordeaux had taken place. The
fire lasted a week, and the loss
was estimated at a million of
francs; but it was not the source
of much inconvenience. The
fire was no sooner extinguished
than the citizens of Bordeaux
were engaged in the
reconstruction of their city, and the
improvement of its harbours and
interior communications. The
Bourgeois de Bordeaux had only
been about four hundred
years established by
royal grant.
When the municipal freedom of Bordeaux was restricted
by the advance of arbitrary power under Louis XIV., the
city had not by any means reached its present extent. Bo-
delois, with the word of their parlement des seigneurs, fallen
into the hands of no one and turned into the
state of property of the crown of France,
when the former possessions of the Huguenots
were treated as old and strengthened here and there with square
and round towers, were the Fauxbougeois la Chartrons (on the river just below Bordeaux), St. Seurin, St. Eulalie,
St. Julien, and Ste. Croix. The three forts, Château Trom-
pette, Ha, and Ste. Croix, or St. Louis de la Gabourie, were
put to the service of the crown as garrisons in case of
attack from without, and to protect the city from foreign attacks, and to restrain the move-
ments of the citizens. The erection of the first and second
by Charles VII. has been already noticed; the third was
ordered by order of Louis XIV. after the suppression of the disturbances of 1650. The fort was
placed on the bank of the river at the entrance of the port, and was
between the city itself and the suburb of Les Chartrons. Louis XIV. caused Vauban to strengthen it by
new works; and it remained entire till the Revolution; after which its
advantages were in some measure utilized by those
who opened between the Quai des Chartrons and Quais of the city.
It was intended to remove the whole building, but its
existence was prolonged under the empire of Napoleon.
Upon the restoration of the Bourgeois the citizens desired
and obtained peace with the territory of streets of
plantations and walks now occupy the space not long since
covered by barracks, or else quite vacant. The Castle of
Ha was towards the land, and was suffered to fall into decay under the monarchy. There only remains of it one
ward, occupied by the prior and his
priests. The former of these
buildings, Ste. Croix, has almost disappeared. It stood near the river at
the opposite extremity of the town to the Château Trompette.
The walls have for the most part been demolished, and the
turrets of the ancient palace of l'Ombrière are hidden by a
triangular niche cut in the
work of the towers of the
Château Trompette.
Although the disasters of Bordeaux in the seventeenth
century deprived it of the power of resistance to the
monarchy, yet in local affairs the city appears to have been
the enjoyment of some degree of freedom. The
city and the municipality were allowed to possess
and six jurats: these jurats were elective officials, and chosen,
two each, from the nobility, the body of advocates, and the
merchants. These authorities possessed, under the mo-

* The parlements of France were courts of justice of high authority; they
were composed both of laymen and ecclesiastics. They registered the royal
taxes and transmitted them to the lower courts.
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 reductions. The Palace of the Duke of Berri, the Place d'Albatre, and the Château Trompette, and called formerly Place de Louis Seize, and now Place de Louis Philippe Premier. This is open to the river on one side, on the other it is crossed by the Cours Douze Mars,* beyond which the Place is enclosed by a range of houses forming a crescent. On the sides are plantations of trees, forming the Allées d'Angoulême and de Berri. This Place or square, including the Allées, is about a quarter of a mile in diameter each way. The most magnificent street is that of the Chapeau Rouge, which is improved, and its six lanes and breadth may be compared with Portland Place. There are several Courts, public walks, or streets lined with trees, some of great length: the Cours d'Albatre is nearly half a mile long, and the Court de Tourny and the Jardin Public form together a line of three-quarters of a mile. The Jardin Public itself is partly planted, and partly open, and occupies a space about equal to that of the Place Louis Philippe Premier, but is more irregular in form. The Allées de Tourny consisted of three rows of trees, forming a charming promenade, frequently in summer evenings: these trees have been destroyed. (Millord's Observations during a Tour, &c., Lond. 1818; Mathews's Diary of an Invalid, Lond. 1820; Malte Brun; Bulli; Plan of Bordeaux, by the Society for the Extension of Christian Knowledge.)

The public buildings are numerous and splendid. The Bourse or Exchange, and the Douane or Custom House, form the sides of the Place Royale. The Bourse is a square building, inclosing a square court surrounded by a portico; this court is paved with marble, and inclosed with a verandah, in the middle of which is a light glazed dome, which, according to one writer (Malte Brun), is remarkable for its beauty and lightness; while according to another (M. Millin) it injures the effect which the building would otherwise produce. The height of the building is about 300 feet, and the space which it covers is ninety-eight feet by sixty-five. The Entrepôt or store for Colonial Produce on the Place Lainé, which opens on to the Quai des Charrons, is remarkable for its extent and beauty; and there are various other buildings for the purposes of commerce. We leave the notice of the traveller. The ship-building yards are towards the southern extremity of the line of quays, and the Victualling Office is on the Quai de Béacalan at the northern end. Ships of war are occasionally built here; a frigate of 12 guns, and two brigs of 12 guns each built for France, on the occasion of one of the expeditions fitted out against the colonies of South America. The Hôtel de Ville, or Town hall, is of Gothic architecture, and has no particular beauty to recommend it. The Palais de Justice has in its open court a statue of King Henry II., in chariot drawn by four horses. The Palais Royal is an extensive and handsome building, with a good garden at the back of it: it was formerly the residence of the Archbishop, and was converted to its present use at the restoration of the Bourbons. There are several theatres: the principal one is in the Rue Chapeau Rouge, but fronts the Place de la Comédie, and is on a scale, both as to extent and magnificence, which renders it equal to most in Europe. It was built in the reign of Louis XVI., and is capable of accommodating 4000 persons. Its front has an ornamentation of the French order of the Temple, its frieze is adorned by a balustrade adorned with twelve statues. (Malte Brun; Bulli; Reichard; Mathews, &c.)

The bridge over the Garonne is of stone and about 351 English yards long. It has seventeen arches; the seven in the centre are of the same height, the remaining eighty-seven are feet high; the arch nearest to the bridge on each side is of sixty-eight feet span. The breadth of the bridge between the parapets is fifty feet; the roadway is nearly level. This bridge was begun during the reign of Louis XVI., but was not completed until after the Restoration in 1821. The road from Paris to Bordeaux passes over it; and after crossing the bridge the traveller enters the city through the Porte de Bourgogne (Gate of Burgundy), which was erected on occasion of the birth of the Due de Bourgogne, grandson of Louis XIV.

* The 19th of March, 1794, was the day on which the municipal authorities surrendered the keys of the town to the English, and embarked the party of the Bourbons.

+ Expiery, in his 'Dictionnaire des Galeries et de la France' (1798), speaks of the Château Trompette as a "splendid edifice," and depicts it as "a still earlier date, spoken in the same manner."

2 A 2
Bordeaux has some fine hospitals, Le Grand Hôpital de St. André is near the cathedral. It is spoken of by M. Millin (Paysage dans les Départements du Midi) as well managed, but in too close a situation. There are a lunatic asylum and a prison. The River Garonne is navigable for boats of 268 ft., in the south quarter of the city; the building is very extensive and commodious; and many hundred children, from infancy up to twelve years of age and more, are sheltered and brought up in it. In 1814 there were 709 children in it, and 2900 out-pensioners under its care. The town is the seat of the Départ de Médoc, and of the state of the wretchedly poor in the 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, and the arrondissement of Bordeaux comprehends 1668 square miles, or 1,065,520 acres, and is consequently larger than the county of Kent, but much less populous; it is subdivided into 18 cantons, or 135 communes. It had, in 1822, 245,348 inhabitants. Bordeaux is also 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 Basse Pyrénées.

The diocese of Bordeaux is doubtless very ancient. 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 proof. There were however bishops in Bordeaux in the year 260, and the see was presided at the first council of Arles, held in 314. When the diocesan was raised to the rank of metropolitan is not certain. The archbishops took the style of Primates of Aquitaine, but this dignity was disputed with them by the Archbishops of Agen, Angoulême, Condom, Luçon, Périgueux, Poitiers, La Rochelle, St. Lô, and Sarlat. At present the diocese is co-extensive with the department of Gironde; and the archbishop has six suffragans, namely, the Bishops of Agen, Angoulême, Poitiers, La Rochelle, and Sarlat.

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; Berquin, the author of the 'Idylles,' 'L'Ami des Enfants,' &c.; and Gensonne, one of the eminent men of the early period of the Revolution. Montesquieu was born at the Château de Brède, about ten miles from Bordeaux.

BORDELOIS, or BOURDELOIS, the district of which Bordeaux was the capital. It included several subordinate districts, such as those of La Rochelle, of St. Martin de Gare, of Les Landes de Bordeaux, and many others; and extended on both sides of the Garonne, the Dordogne, and the Gironde. It was bounded on the N. by Saintonge, on the E. by Périgord and Barédois, on the S. E. and S. by Les Graves, and on the S. by Basses Pyrénées, the Bassins, and the land of La Rochelle.

It is included 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, no 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 streams which cross it. The streams which flow toward the sea being prevented from reaching it by sand hills, form the estuary of Bordeaux. It is a very extensive estuary, and forms part of the Bordeaux is a mere sandy heath, and in the midst of this are several marshes. [GIRONDE, DEPARTMENT OF.]

BORÉ, a phenomenon which occurs in some rivers, near their mouth at spring tides. Bore is probably an Indian word, but we cannot suggest any etymology unless it come from the Hindustani 'bor,' 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 for a distance of from 15 to 30 miles. Some suppose the cause to be the sudden subsidence of the banks of the river, or the sudden subsidence till they have almost reached the limit of tide-water. As this swell does not occur in all rivers where there is a tide, it is evident that it must be caused by some conformation of the banks or bed of the river, or by both combined. It is only occasional. In other cases there must be a bore, that the river should fall into a 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 quickly enough into the bay. The greater force the narrower the estuary becomes, and when 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.

In England the bore is observed in some rivers, more especially in the Trent (Stark's Gatherborough), Wye, in Solway Firth, and probably in other rivers and estuaries also, in which the water rises suddenly a few feet, and then rushes on against the current of the river. The bore is called by the parts of England for instance, in the Trent and Severn, the Engre or Hyrire (Gibbon's Cen- den, i. 268; Stark.) The most remarkable bores hitherto described are those of the Ganges and Brahmapootra. In the Hooghly branch of the Ganges the bore is so quick, that it takes only four hours in travelling from Fultah to Nia-seri, above Hooghly town, a distance of nearly 30 m. At Calcutta it sometimes causes an instantaneous rise of five feet, which would occasion great damage among the smaller vessels, if it did not run along one bank only, so that the barges, on hearing the noise which precedes it, can be safely brought to the other side of the river, or to the middle, where the swell is indeed considerable, but not so sudden as to endanger vessels which are skillfully managed.

In the channels between the islands at the mouth of the Megna or Brahmapootra, the height of the bore is said to exceed 31 ft., and to rush on with a velocity equal to 7 miles an hour. It is dangerous to drop the anchor unless at low water, as the channel is frequently obscured, and the vessel may be left dry. The tides are only perceptible 75 m. from the sea.

The bore of Alexander experienced these dangerous tides in the Indus (Alexander, vol. 1. p. 31), and his historian, Arrian, is the first who has described them. (Anna. vi. 19.) On the N. coast of Brazil, especially on the shores of the provinces Pará and Maranhão, a similar phenomenon is observed in some rivers, and in the channel which extends from the mouth of the river Solimões to the mouth of the river Madeira; but it does not occur at the mouth of the Amazon river, as is stated by M. Brun. This phenomenon, which is called by the Indians pororoca, is particularly strong in the Anguari river, which runs into the sea near the city of Le Marin. It is represented by a kind of wave which is called Capina, which also in the river Marajo in Maranhão.

The description of the pororoca does not differ materially from that of the bore of the rivers in India; except that it rises to 16 feet, and forms three or even four swells, which rise in rapid succession, and it is so strong as to be dangerous. It also said that some of these rivers being obstructed by shoals, the pororoca is only observable on one side of them. It is supposed that this phenomenon serves as a check to the barge-batteries which are used in these places, where they are only exposed to a strong agitation of the waters. (Rennell's Hindostan; Ayre's Corografia Brasileira; and Eschwege's Brasilien.)

BORAGE, 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 rank and bitter taste are not disfigured by the hardening of the leaves during the winter, and the round or ovoid form of the plant is preserved by sowing the seeds at intervals of about a month, commencing at the end of March, and ceasing with the beginning of August. As they are apt to produce long naked stems, it is usual to earth them...
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. The bridge is so placed as to favor 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 without some Romanesque features. Its very fine spires are the finest monuments of this kind of architecture in France, it owes its origin to the English, though a church stood upon the same spot prior to their domination. It is irregular in its architecture, owing to the various dates at which it was built or repaired, but commands admiration by the boldness of its arched roof and flying buttresses, the number and elegance of its spires and the richness of its ornaments, especially its altar. The nave is about 85 English feet high. 53 wide, and 193 long from the end of the church to the base of the spires. The height of the length of the church is about 413 feet. It is adorned with painted windows, sculptures, and bas-reliefs, and is dedicated to St. André, or Andrew. The front is adorned with two spires upwards of 150 feet high; they were restored in 1810 after having become much dilapidated. Near the cathedral is a tower built by one of the architects (Pierre) in 1446, and commonly called St. Pey-Berger. The staircase by which it is ascended has 200 steps. It is now used as a shot tower. The church of St. Michel, built by the English in 1378, is a specimen of that style of Gothic architecture than the cathedral. Its tower, built separate from the church in the fifteenth century, after the expulsion of the English, once remarkable for its height, has suffered much from the weather. The church of St. Étienne, the most remarkable of his buildings in the place of Montaigne. Eleven Catholic and three Protestant churches are mentioned in Reicbard'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 or monastery of the Carmelites, now the church of St. Seurin, is very magnificent. The church formerly attached to it is richly decorated. The vineyard of this Chartreuse is now converted into a public library, like that of Père l'Echaise at Paris.

As a place of trade Bordeaux is eminent. Its commerce in the eighteenth century was very considerable, and Martinière (Grand Dictionnaire) enumerates among the articles of trade dried plums, resin, vinegar, and especially wine, of which in time of peace 100,000 casks were exported annually. This wine was the produce not only of the vineyards of Bordeaux, but of the district of Medoc 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 Bordeaux to supply the south of France with colonial produce almost as cheap as the Mer- suilles. The loss of St. Domingo was injurious to Bor- deaux, with which that colony had many important con- nexions, and to which much of its produce was consigned. But of late years this injury has been more than repaired by the commerce of the city in sugar, tobacco, sago, coffee, cocoa, and other articles, from the French West Indian colonies; tin, lead, copper, coal, hardwoods, timber for ship building, masts, hemp, hides, horns, salt beef, and salted salmon from England, Holland, Northern Europe, and America. Many vessels built, and many hundred workmen employed in the vast building yards which extend along the Garonne. There are at Bordeaux two large fairs, one of which opens on the 1st of March, the other on the 15th of October. (Malte Brun; Balli; Dictionnaire Geographique, par Robert; Mascoulle's Dictionary of Commerces).

The shipping belonging to the port of Bordeaux amounted in 1833 to 78,015 tons; in 1831 it was as much as 98,737 tons, including 15 steam-vessels of the aggregate burthen of about 300 tons. The total number of vessels that entered the port, exclusive of coasting vessels, in each of the three years ending with 1832, were as follows:—

![Table of shipping](chart)

The coasting trade during the same three years to and from the town of Bordeaux was—

![Table of coasting trade](chart)

Very few of the vessels belonging to Bordeaux are engaged in the coasting trade, and the whole fishery. Between one-fourth and one-third of the French colonial trade is carried on by the merchants of Bordeaux.

The quantities of wine and brandy exported from the Grondé in the same years were—

![Table of wine and brandy](chart)

About a twentieth part of the wine and a tenth part of the brandy were sent to this kingdom.

The population of Bordeaux in 1832 was 106,562 for the city, or 109,467 for the whole commune. The population of the town in 1810 was 95,598, and in 1826, 96,207. The patois of the country is spoken by the Jews, by the unmixed classes, and the population of the outskirts; the other inhabitants speak French.

This city has numerous establishments for education and the promotion of science. It has an Académie Universi- taire and a Collège Royal, a high school; schools of archi- tecture, medicine, 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 pupils, chiefly young; the establishment was in high re- sonable. There are several learned societies, as the Académie Royale des Sciences, Arts, et Belles Lettres; La Société Royale de Médecine; La Société Médico-Chirurgicale, &c.

The public library contains 110,000 volumes, among which is a copy of the Bibles of Elzevior and Estienne, and 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 museums of antiquities and a gallery of pictures, which occupy 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 Académie Royal. In the museum of antiquities are the inscriptions and bas-reliefs dug up in the city and its environs. There is an observatory. (Balbi; Malte Brun, &c.)
up, when full grown, so as to prevent the wind from blowing them over.

Besides the use of borage for oiling, the fresh leaves are often employed for garnishing other dishes, for which some of the latter are much esteemed by some of the gay colours with which the leaves are variously

gated. A variety called the Buda mail is also blanched for winter and spring use by putting a flower-pot over the leaves, but it is inferior to sea kale, and more troublesome to pro-

Borecole, like all other cabbages may be increased by slips of its stem, without the necessity of raising it annu-

BOREL and BORELLI. Our object here is to prevent
two contemporaries being confounded, who have the same
Latin name, Borellus.

Pierre Borel, of Castres, born 1620, died 1689, was the
author of the treatise, De vero Telescopii inventore, Hugge, by
1655, a work often cited. He was a physician by pro-

Giovanni Alfonso Borelli, of Naples, born 1668, was also
a physician. He wrote, Eusuedice Restitutus, 1692, dis-
covered and translated the lost books of Apollonius [Apollonius
Pergaeus], and also wrote the first theory of Jupiter's satellites, entitled Theoricae Mediceorum Planetarum ex causius physicus deductis (published in 1666; the title is from Weidler). Weidler and Lalande unite the names, as if the suspicion, that they were after the notion of attraction in this work. But as Lalande has evidently copied Weidler's words (compare Montucla, iv. 235, and Weidler, p. 313) and as the latter speaks from his own old notes, not having the work before him, we rather incline to Weidler's opinion (At. Med. ii. 333), who evidently writes with the work before him, and says In

1683 he published his Principes Mechanices, and was elected a
fessor's chair at Pisa in 1656, where he lectured with great
applause. The fame of his abilities procured him the fa-
vour of the Grand Duke Ferdinand and Prince Leopold, who obtained him the honour of being elected a member of the society of Sciences for its own account. It was not long before
he first conceived the design of employing mathematica-

being supposed to have favoured the insurgents at the
revalt of Messina, to which city he had returned, he was
obliged to quit the place. Christina, queen of Sweden, who
was then residing at Rome, invited him thither, and lie

pplication and the patronage till the termination of his
life. Whether from poverty or other motives he spent the
last two years of his life in teaching the mathematics to
youth at the convent of St. Panteia, called the pious
schools, where he died December 31st, 1675, in the seventy-

The first volume of his work, De Motu Animalium, which
appeared in 1688, Rome, 4to., is dedicated to Christina, and
was printed at her expense; the second volume, which
completed the book, came out the following year. There
are some very curious parts of this work, such as those of
Leyden, 1685, 2 vols. 4to., with plates: Leyden, 1711, 2 vols.
4to., with the dissertations of John Bernoulli on the move-
ments of the muscles, and on effusiveness; Naples, 1724, 2
vols. 4to.; at the Hague, 1743, 4to., with the same dis-

is on it this work that the medical reputation of Borelli
depends. In the second part indeed, where he endeavours to
explain the action of the heart, lungs, liver, and other viscera
on mechanical principles, he is as much mistaken as the other
physicians of the time at the mathematical school; but in the first
part he successfully applies the principles of mechanics to the
explanation of the active and passive movements of the
body. He shows that the hones are true levers, and that
the muscles attached to them may be considered as their
weights; that the length of the lever, and the distance at which
the muscle or power is inserted from the extremity of the limb, or centre of articulation, in-
fluence the quantity of force required for the contraction of
the muscles, and the execution of the motion: just as in
mechanics 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 of muscles in numbers, he fails where success
was probable, and is obliging, where it was not. He in-
vented the method of determining the power of the heart
by 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 medicines were supposed to
be explicable on mechanical principles.

Borelli invented an apparatus by which persons might
get 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 (Latelle), a genus of insects of the order
neuroptera, and family panopidé. This genus, of which
only one species is known: (B. hyemalis), is not only remark-

BOURGES, an Italian family originally from Siena,
where they ranked among the patricians of that republic.
In the early part of the 17th century, Marc Antonio
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 second son, Giovanni Battista, born in 1549, of
Virginia Lanti of Pisa, by whom he had Marc Antonio Borr
gese, 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. Marc Antonio
began

of the line of the noble Neapolitan family which still continues.
His son Paolo married Olympia Alberabrandi, 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 Sulmona and Rossano, duke of Pamphilia, was ambassador of Philip V, of Spain at 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 he had imposed at Pamphilia, and for which his widow, Marc Antonio Borghese, was made viceroy of Naples for the emperor in 1721. Another Marc Antonio, a descendant of the viceroy, 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 works of art and other antiquities, with which he enriched his fine villa on the Pinelian 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 widow of General Leclerc. 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 Turn, 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 thirty millions of francs, the amount of which he received in demesne estates, and also to the state, sister of Napoleon, which Napoleon, 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 especially by French officers. As they left no issue, at a time he did not neglect his Roman residence, and he replaced in great measure by fresh acquisitions of statues and reliiefs for his villa, the former collection which is in the museum of the Louvre. Prince Don Camillo died in 1822; his wife Pauline had died in 1819. As they left no issue, his brothers, who till then went by the title of Prince Aldobrandini, has assumed the title of Prince Borghese.

The House of Borghese has estates throughout the Papal territory, in this kingdom. In the immediate neighbourhood of Rome alone it is possessed of 45,000 acres of ground, besides the estate of Paleombara in Sabina. The vast town palace Borghese at Rome has a rich gallery of paintings. Besides the celebrated villa on the Pincine Mount, the Angiolata, now called Belvedere, at Frescati, and other mansions on their various estates. The villa Borghese or Pinciana at Rome has been described in several works. (Montelatoli, Villa Borghese fuori di Porta Pinciana, con gli studiamenti, figg. Sc. Rome, 1772, and Della Patria della Villa Borghese, and lately by Visconti, Rome, 1821.)

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. (Touron, Etudes Statistiques sur Rome; Moretti's Dictionary; Valery, Voyages en Italie, Sc.)

BO'RGIA, or BORGIA, a family originally from Valencia in Spain, the name of which is derived from the proper name of Calixtus III. One of his sisters married Geoffroy Lenzi, likewise a Spaniard, who assumed the name and arms of Borgia, there being no male heir of that family. Geoffroy had two sons, one of whom became Pope of Rome and the other, Rodriguez, 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, the wife of whom was a sister of Caterina Sforza. When his father was elected pope, in 1492, Cesare was studying at Pisa. He immediately went to Rome, where he was soon after made Archbishop of Valencia in Italy, and afterwards cardinal. Cesare was early noted for his proficiency in his studies and abilities, and his father, the younger brother Geoffroy having married, in 1421, 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 Borgia to accompany him to Naples. A part of his father's treasure in that city had not gone further than Velletri, on his flight from the French camp and return to Rome, when both he and his father turned against the French, after whose retreat from Italy they renewed their connexion with the Aragonese crown, so as to make a common cause against Ferdinand (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 through the French ports, and his brother Cesare was taken by 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 'Duo Valentino.' In May, 1499, he married Charlotte of Savoy, sister of the Duke of Orleans, and his wife Charlotte, having again crossed the Alps and taken the Milanese, Louis XII. sent a body of troops under Yvon d'Alegre to join those of Cesare Borgia, who was then waging war against the petty Lords of the towns of Romagna, who opposed to his dominion, with valve to the pope of Rome. He began by taking Imola, and afterwards besieged the castle of Forli, which was bravely defended by Caterina Sforza; but the place was stormed, the garrison massacred, and Caterina sent prisoner to Rome, where she was liberated through the intercession of the papal conclave. By this time the Duke of Savoy was recalled to Lombardy, Cesare returned to Rome, which he entered in triumph in February, 1500, when the pope created him Duke of Romagna and Gonfaloniere of the Holy See. He then turned his arms against Giovanni Sforza, whom he besieged out of the city, in which he received a mortal wound. He died at 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 should be received as hostages. He then turned his arms against the States of Savoy and Gascony. He next accompanied the French army in its invasion of Naples, under d'Albigny, and was present at the taking of Capua, where the greatest atrocities were committed by the invaders. Borgia seized upon a number of women who, 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 Vitelleschio, Oliverotto di Fermo, 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 affected a reconciliation with the revolting condottieri, and induced them to repair to Sinigaglia, where he went himself, accompanied by a troop of men. He there seized upon their persons, except Pietroci of Siena and Baglione of Perugia, who were generally laden with gold and precious stones, and delivered them to some of his brothers, the Duke of Gandia and the younger brother Giovanni, with many of their followers. Sinigaglia was plundered on that occasion. Maebiavelli, 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 Borgia was expelled from Romagna, his eldest brother Giovanni, and 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-
nance 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 the assassin and was murdered by order of his brother Cardinal Della Rovere, who was elected pope, and was an old enemy of the Borgia, arrested Cesare and obliged him to give orders to his lieutenants to deliver up the fortresses they held of him. Borgia took refuge at Naples, where he offered his services to Gonzalo of Cordova, who, however, on learning that he was Cesare, arrested him, 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 Pampolna. (Tommaso Vitruvio Borgia.)

**Borgia, 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 Cesare having returned to the marches. In 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 1506, Alfonso was assassinated on the steps of St. Peter's Church by a party of assassins, and stabbed in several places; he was carried to the pontificial palace, where he died two months after. Cesare Borgia, as usual, was suspected of the crime. Lucrezia then retired for some time to Naples, but 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 *Disseration 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.* Toward 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 Habsburgs*, assures us that the negotiations for 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 his successor, an assumption perfectly gratuitous, as the negotiation did not begin till nearly a year after her 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. (Mazzuchelli: art. Bembo and Lucrezia Borgia.) Ten autograph letters of Lucrezia 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 Duchesse de Este long after he had left Ferrara and Lucrezia. Bembo's letters are full of respect and respectful friendship. Lucrezia was the mother of three sons by Alfonso, who had a high opinion of her, and in trusted her with the care of the government while he was absent in the field, in which capacity she seems to have conducted herself so 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 marriage with Alfonso was a fortunate one at Rome, in as much as her father, who had been the subject of much obloquy, which seems to rest however chiefly on inferences from her living in a flagitious court, where she witnessed the most profligate scenes. Still there is no individual charge substantiated against her. The enmity which, besides, Roscoe has shown, is not even grounded on Burchard's *Diarium*, but on some epigrams of Fontano and other Nar-
BORGOGNO'NE, the name of a personage of the Borgognone family, who was a painter of much merit, and lived between 1620 and 1676.

BORGOMANO, a town in the province of Novara, with 2600 inhabitants; a bishop's see, and has several churches, besides the cathedral, with good paintings, and a seminary for clerical students.

BORGOGNO'NE, JACOPO CORTE'SI, called from his place of birth Borgognone, was born in 1681 in the city of Exeter, in the county of Devon; and appears to have been 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 at the height of his fame, was residing. Guido, happened to see some of his own pictures, which 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 really had seen.

BORGOSAN, a town in the province of Venice, with 1850 inhabitants; a bishop's see, and has several churches, besides the cathedral, with good paintings, and a seminary for clerical students.

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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 presented a variety of fossils and remains of antiquity, which he had described in his works, to the Ashmolean Museum, to which he contributed 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.

Mrs. Borlase is excepted from the intercourse in 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, he thought, in any parish in Cornwall. The bolles-lettes and painting also formed part of his amusements. The correction and enlargement of his History of Cornwall for a second edition engaged some part of his time; and while he was engaged in that he wrote his 'Natural 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 collection of letters written by such men as Arthur Pond, Peires, 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 still to be seen on a tablet, that is placed in a copper letter 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 there 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., Kipps's edition; and Chalmers's Biog. Dict. vol. vi. p. 110—122.)

BORMIO, a town in the prov. of Sondrio in the Lombardy territory, and at the foot of the Rhetian Alps. The great Ortler-Spitzen, one of the highest summits of the Alps, rises near Bormio. The new road over the Stiller Joch, or Mount Sellaio, as the Italians call it, passes round the N. W. flank of the Ortler. The old road, under the old Austrian government in 1819 and finished in 1825, forms the most direct communication between Milan and the Tyrol, leading from Bormio in the valley of the Adda to Grumers in that of the upper Etsch (Adige), and from thence to Innsbruck. The highest point of the road on the Stiller 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 and protected in many places by paravolans and strongly built wooden galleries, with roofs and supports massive enough to resist and break the descending avalanches. Stations of cantonieri are established at intervals to keep the road in repair, and clear away the snow. The bridges on this road are remarkable for their solidity, and the tunnels cut through the rock for their width and length. The road cost about two millions of francs.

Bormio is a town of about 3000 inhabitants. It had been in decay since 1758, when it was partly burnt by the French, but the energy of the inhabitants has restored its activity. The country around is not productive, and theclimate is cold; but it has good pastures. Some barley and rye and excellent honey are the principal productions. Bormio is the capital of the district of Bormio, which contains some good paintings by Canova, a native of this place.

The mineral-water baths of San Martino near Bormio are frequented by invalids from the town and the Val di Bormio; and to a certain extent by those of the S. of Italy. In the Valturina, E. of Bormio, is the chalybite spring of Santa Caterina, which is also in great repute. There is a rich iron mine in the same neighbourhood.

Bormio, called by the Germans Worms, was formerly the head town of the province of Sondrio. It was in ruins when 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 Latrobe's Pedesdrian Tour, and Morey, Le Tyrol et le Nord de l'Italie.

BORNEO is the largest island in the Indiant 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. For the purposes of the present work, it is only a little more than four degrees S. of the equator, and the northern part of the island, between the equator and the northern, Cape Sampamangano, extends a few minutes to the north of 7° N. lat. The most eastern extremity, Cape Konneoeooghan, reaches nearly 119° 30' E. long., and the most western shore, about one degree N. of the equator, is in about 109° 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 names have been given to those parts which are included within each body of water. 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 frequented passage from the W. to China and Singapore. The sea of Borneo is divided from the sea of Sunda by a 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 Carimata Passage, which connects it with the Sooloo Sea, and is the China seas 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 Sooloo or Celebes, and the southern part of the Celebes Sea. The China sea is divided from the Mindoro sea and Borneo by the large island of Palawan and the smaller islands of Calamianes and Busavong; Busavong 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 channel 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 Sampamangano at its most N. point, is about 1200 miles; but the main body of the island, which is elongated in a N.-S. direction, is only a little over 850 miles in length. The breadth of Borneo at its greatest part is equal to that of two of the smaller islands. The breadth of the mountainous part is equal to that of the united breadth of the channels, and the s. extremity of the channel is over 400 miles in length. The breadth of the island is nearly 400 miles, at 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' N. lat. to Cape Sampamangano, which has an average width of 120 m. has a length of upwards of 300, and covers an area of upwards of 36,000 m. The whole surface may therefore be about 285,000 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, though 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 Konnecooghan, the whole extent of the southern shores, and the western up to Cape Dattu, are low, and for above thirty miles inland marshy and alluvial. A large tract of mangrove vegetation is here.

The coast which runs in a N.E. direction from Cape Dattu to Cape Sampamangano is seldom visited by European vessels, on account of the perilous navigation among the numerous islands 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 Sampa-
manggio as far as Cape Komoeooghan.

The climate of the island is very hot and moist, owing
to the extensive marshes along the coast, and the wide-
spreading forests which cover the hilly country at a nor-
the extreme, the temperature is very destructive to Europe-
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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
farmed, the horticultural products are also extensively
The following are some of the principal products:

Among the forest-trees are two kinds of palm-trees, the

The dough is made into small rolls by kneading it

The leaves of the pepper tree are used as a stimulant

The pepper tree is well-known for its medicinal prop-

Almost the whole of the island is covered with a

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bitanger, a species of uvaria, the marboa (Metrosideros), the pinaga, and the sours. 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 dammar, a kind of incense tree, the wood of which is used for making pitch. It grows wild, but is also cultivated.

The species of frankincense and myrrh are found in the same district, and are exported to a considerable quantity to the Continent of India, especially to Bengal and China. In different districts vines or trailing plants grow, the milky juices of which, when inspissated, form a true ointment. These are exported to a large quantity to the continent of India, especially to Bengal and China.

The pinaga, benzoin (Carthamus tinctorius), is extensively employed as a dye-stuff for giving a red colour. The product of the hoop pine, or hoop wood, is known as "hoop pine wood", and is extensively used for making the outer part of vessels. It is also used for making the outer part of vessels. It is also used for making the outer part of vessels.

The most remarkable vegetable productions of Borneo are the dammar, which is the chief product of the islands, and the dammar, which is the chief product of the islands.

The elephant inhabits only the north-eastern parts of the island, especially the peninsula of Unsang, the most eastern part of the globe where this animal is found; the rhinoceros also is said to exist here. The royal tiger is not here found, but the leopard (Panthera tigris) is occasionally found. The wild dogs and wild hogs are also the most remarkable of the animals found in these forests. The orang-utang, or "man of the woods," as the name implies.

Domestic animals only horned cattle and hogs are numerous. There are neither sheep nor horses, and horses seem not to belong to the flora of the island. The elephants and the rhinoceros are the most remarkable of the wild animals. The buffalo attains here its greatest size and strength. There are also deer and wild hogs. The flesh of the buffalo, as well as of the two latter animals, is jerked, and exported under the name of dendong or indom to China. The variety of the spo and monkey faces is endless; and among them is the orang-utang, or the 'man of the woods,' as the name implies.

Among the numerous birds the most remarkable is the Miranda exsulans, whose nests are carried to China, and fetch an enormous price. This bird however is only found on the north-eastern extremity on the peninsula of Unsang and its neighbourhood.

The waters which surround this and the neighbouring islands are so tranquil, and the numerous banks afford the fish upon them such abundance of food, that no part of the world has a better supply of fish to be caught. Of the shark, eels, and rays from the pine-trees of that name through the bark, and it is either found adhering to the trunk and branches in large masses, or in masses on the ground under the trees. It is used for various purposes to which we apply pitch, but chiefly on the bottoms of ships and vessels. It is exported in large quantities to the continent of India, especially to Bengal and China.

The orang-utang, an animal of large size, with a head and body about five feet in length, and about three feet high, is the most remarkable of the animals found in these forests. They are found only among the rocks which line the north-western and north-eastern coasts of Borneo, and extends hence eastward to New Guinea, and southward to the north-eastern shores of Australia, where the sea is dotted with numerous coral reefs. Besides the trampang, fish maws and shark's fins are also exported to China, where they are considered great delicacies. 

Toiris are very abundant, especially on the northern and north-eastern coast. Those found farther west are smaller, and the shell is thinner and less valuable. They are brought to market fresh from the sea, and it is reported to the local traders to buy them and find their way to Europe, on account of their low price.

Pears and mother-of-pearl oysters are fished along the north-eastern coast, but they are not so much esteemed as those of the Sooolo Islands.

The last and most valuable are the precious woods of Borneo, but as its produce is inferior to that of Bengal and Birma it forms only an incensable article of trade. Beads abound here, as all over Southern Asia, but only in a wild state. They make a little 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 discovered, and worked in Sambas, on the western coast. Silver seems only to occur united with gold; but antiquity is plentiful at Sambas and Seri Bintan. Gold is still more plentiful at Sambas.

Among the aboriginal tribes, the most remarkable is the Dayak, who live in the southern districts, the Bajoes and Itana the peninsula extending to the north-east, and the Tiroon live on the western coast. In the interior are the Kayan, the Dusun, the Marut, the Ta-taceli, &c., but they are not farther known. It does not seem that any part of the island is inhabited by the Australian aborigines. The foreign settlers are Malays, Javanese, Bugis, Macassars, Chinese, and a few Arabsians.

All the inhabitants, with the exception of the last two, belong to one race, which is called the Malay race. Their persons are short, and their country is covered with an evergreen forest. Their height may be reckoned for the men about five feet two inches, and for the women four feet eleven inches, which is about four inches less than the average stature of Europeans. Their lower limbs are large and heavy, and their heads and hands small. They are usually black skins, their hair sometimes is as black as that of the negro, but, with the exception of the Javanese and Bugis, have cultivated their language, and have many books written in them.

The aboriginal tribes have not attained a high degree of civilization. Agriculture however seems generally diffused among them, and the rice is a plentiful article. They cultivate chiefly rice, and collect gold-dust and diamonds. They trade also in rattans, dammar, and other products of their forests. Their dress consists only of a small wrapper round their loins. Their houses are wooden buildings, 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 mild and simple, are cannibals, or at least some of them are. They kill their prisoners, and eat their flesh. Also, they are possessed with a superstition that it is the duty of all the chief men to give their wives to the gods. Polygamy is in general use among those who are able to maintain many wives and large families. One part of the Bajoos inhabits the north-western coast, but another finds a maritime life, and may be considered as sea-gypsies, or islands. They live in small canoes, which they shift 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 burthen, and their principal occupation is the catching of the sea-slugs, 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 arack, make sugar, search for gold-dust, and trade to the interior as well as on the coast. They are not rich, being too fond of good living, and addicted to gambling, opium, and merry-making.

The Chinese and the land 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 Bugisman's family, however great his property may be, does not amount to above three or four shillings; when the Chinese labourer will contrive to spend a rupee, and a working 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 of four men 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 certain regulations. Many of these proas are lost, and the owners of them bear the loss 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 a few tracts along it being reserved for the Dutch. Of the Dayaks and Bajoes it may be said, that if they are not as active a trade as the Dutch, 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 possessed 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 establish-ments have been established and are conducted under the rules of...
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 main two courts are, and always have been, open courts, wherein there are scarcely 17 feet of water at high tides. Farther up the river has a considerable depth, on an average six fathoms, and here the shipping lies, particularly the Chinese junks, which are moored head and stern. The town, which is on 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 crossed by bridges, or small 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 Soolo Islands, the countries on the peninsula 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-slugs, turtle-shell, pearls, and mother-of-pearl, with tea, wrought and raw silk, and camphor. The three last articles being imported from China. At Singapore, they exchange cottons and woollens, opium, iron, arms, and ammunition. This port is rarely visited by European vessels, but many Chinese junks come from Amoy and Hong, and the smallest of the English junks visit the town. When the junks from, 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 'Amsterdam Encyclopaedia'.)

BORNHEM, a town and commune in the province of Antwerp, about 12 m. W. from Mechlin, 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 there are 101 boys and 103 girls, and 10 marriages. Bornhem supports a communal school, in which 203 boys and 103 girls 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 sluice, 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.

The river Rupel having, in February, 1825, forced down the stone bridge near Eekloek, a part of the commune of Bornhem 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 l'Amérique par Van der Maelen.)

BORNSLEM, a town and parish attached to the Danish province of Seeland, is situated in the Baltic, 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 Prussian island of Rügen. It is about 32 m. in length from N. to S., and varies from 9 to 12 fathoms in breadth, except at the N. extremity; inclusive of three islets, it contains an area of about 216 sq. m. Bornslem presents the very reverse of those which characterise the other Danish islands, for it is not only a large and fertile country, but of 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 whole channel between 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 Bornslem from N. to S., called the Almindingen, contains the 'Rytterknækt,' or Knight's lodge, and is covered with a shaggy mass of wild thistles and grass; the inhabitants however use it as common pasture ground. The remainder of the island has a stony soil, partially intermixed with tracts of deep loam, and on these spots with drifting sand. Bornslem is watered by a number of rivulets, possesses some excellent springs, and has several sheets of water. Every spot is diligently cultivated. The climate is colder but drier than that of the adjacent islands; in March and April there are great quantities of snow. The produce of the island is principally oats, rye, barley, peas, and some small quantities of flax, hemp, hops, and potatoes. The cattle are small but of good quality, and the wool is of a finer and better description than that from the neighbouring islands; the stock in hand is estimated at 90,000 oxen and cows, and 20,000 sheep. Bees are everywhere reared; poultry, particularly ducks and geese, is abundant, and marine fowl are plentiful, but game is scanty. The coast abounds with fish, mostly salmon, haddock, and cod; and small-sized shells, particularly abalone and sea-slugs, which, the last mentioned being made in the towns, General comfort prevails throughout Bornslem; the farmers are the owners of the lands they cultivate. It is the custom of the island for the lands to descend to the eldest son; if there is no eldest son, to the next eldest, but not the youngest, inherits them. Among other privileges which the Bornslemers 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 resources. The inhabitants are military or civil, being not natives, and cannot be removed out of the island, is composed of two companies of artillery, four squadrons of dragonero, four companies of regular infantry, a company of riflemen, and eleven companies of civic and provincial militia.

Bornholm is divided into four districts or 'harders,' 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 Copenhagen. In 1645, to commemorate the taking of Copenhagen by the Swedes, who retained possession of it by the subsequent treaty of Roskilde; in 1658, however the inhabitants rose against their new masters, under the conduct of Jens Korfed, and having declared their island an hereditary inheritance of Denmark, 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, Rønneby, 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. As there are no towns, the town hall, grammar-school, town hall, arsenal, and hospital, stand on 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 moro general depth; it affords a safe anchorage against most winds. It is the seat of government, and the residence of the high bishop or bishop of Bornholm, who is situated at 58° 16' N. lat., and 14° 40' E. long. The next town of importance is Nexö, on the S.E. coast; it is situated upon an elevated mass of rocks, possesses a good harbour and road-side, a church, charity-school, hospital, and public store-house. There are eight small towns, in which abounds the produce of sandstone, granite and quartz, and the quarries of sandstone and millstones, worked by the government.

The other towns are Aakirkeby, in the interior, which is the seat of justice for the island,
a handsom black marble church, the finest in Bornholm, a hospital and public store, and about 460 inhabitants; Haalo, on the W. coast, with an indifferent harbour and about 500 inha. Svaneko, on the eastern coast, lying in a small bay which has an insignificant harbour with bad anchorage. It has a church, hospital, storehouse, and station house, 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. Malgivig is said to contain 400 pop. The three small islands or rocks of Christian- skoefre, Frederiksholm, and Grasholmen, at the N. point of Bornholm, and belong to the larger island. Christianesko and Fredericks-holm are inhabited and fortified, and on Christianesko there is a lighthouse. The fisheries and trade 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 Sudan; on the S. on the Gambia, Senegal, and lower tried rivers of the lake Tchad. 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 the latter kingdom, which comprises the northern declivity of a range of low primitive mountains, extends to the S. of Bornou, and on the W. lies the Felatah kingdom of Howssa.

The whole country presents nearly a perfect level, with a few undulations on the sides of the hills, and a few small streams. It is so level 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 remainder of the country is partially subject to inundations, the slow rivers and rivulets which intersect the country being unable to carry off the immense supply of water during the rainy season; and these extensive tracts which skirt their banks on both sides are covered with water, and remain so for three 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 Shary or the Yeou, which are the two great branches of the Shary river in the middle of the country, and divide the country into two, the upper, and the lower, which receive the waters of the Tchad; and the mountain districts are covered with woods. The Midassa stream, running near the line of the Shary and the Yeou, 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 streams, and these branches of the river are the 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 Shoohom, and descends to the sea after a rapid course in thirty miles, to the mouth of the Tchad, which is the only large stream in 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 inhabited islands, which are known in the E. and S.E. 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 abounds in fish.

The heat in Bornou is very great, but not uniform. The hot 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 85° and 86°. 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 weather cloudy, dark, and rainy. In the plains the rain falls in torrents. Towards the end of June, and in the first days of July, the evening 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 are mostly entirely on women, who are the most valuable workers in the country. There are tummies 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 same plant is also found wild, but 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 as food for men and animals is a species of millet called tobes, which is raised either in the fields or in the marshes, and is 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. Mangoes are only found near the southern coast, and S. 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 domestic animals, especially bullocks and horses. Black cattle are also common in the country, and the inhabitants of the Tchad have probably more than 30,000 heads, and those on the river Shary not less. They breed also many horses, and send to Soudan annually from 3000 to 5000, where they fetch a good price, the horses of that country being very inferior. The other domestic animals are sheep, goats, and horses. The former are on the whole husbund, and the last are much valued. 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 leopards, the gazelles, the buffalo, which is a large animal, that in several 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 are the jackal, the hyaena, the fox, the serval, and several species of cats. The flesh of the crocodile is extremely fine, it 'has a green firm fat, resembling the turtle; and the calipee has the colour, firmness, and flavour of the finest veal.' (Denham.) The giraffe is found in the deserts of Sahara; the antelope, hartebeests, and gazelles are common. The antelope is peculiar to this country, and is called tobes.

Partridges are abundant and large, but the grous are of a small kind. Besides these birds many others abound, as the quail, the corncrake, the blackcock, and others. The flesh of the corncrake is probably much killed for their flesh as their feathers. In the marshy grounds are great numbers of plovers, geese, and storks, and other varieties of large birds of the crane species. Guinea-fowl abound in the woods.

Reptiles, especially serpents, and toads, lizards, and snakes of several kinds, are very common. A snake of the cobra kind makes 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, but not on a great scale. 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 Shoousa inhabiting the borders of the lake Tchad are Beduines, and have preserved the Arabic, which is the language of the natives of the old world, and of the languages of the beduines of Europe in general. They are the best troops of Bornou, and it is said that this country can muster 15,000 Shoousa. The aborigines of Bornou, who call themselves Kanowy, have large unmeaning faces, with flat Negro noses and mouths of great dimensions, with good hair and black skin, and are nearly naked. The women of two, or three toes, 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 hair. They are Mohammedans, and very strict 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 Potlakas 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 poor in metals, and the climate is not great. But as a great portion of Soudan has no commercial intercourse with any part of the world except by the road traversing Bornou, and proceeding hence by Bilsma and Mourak to Tripoli, a considerable barter takes place in this country between the tribes of Bornou and those of the North of 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 ostrich skins, elephants' teeth, and raw hides. The retail commerce is carried on from a pecuniary kind of coin. Strips of cotton, about three inches wide and a yard in length, are called gubuck, and used as small coin; three, four, or five of these, according to their texture, go to a rottala, and ten rottalas are equal to a dollar. (Denhom.)

BORODINO, a town of the Russian province of Moscow, is situated on the Kolotsha, within a short distance from the banks of the Moskwa, about 70 m. W. of the city of Moscow. The desperate battle between the French and Russian armies, which was fought here on the 24th of Sept. 1812, is one of the most memorable conflicts of the age. Moscow, which took place two days afterwards, and opened the gates of the antient metropolis of Russia to the French. In 55° 0' N. lat., and 35° 41' E. long.

BOROVSK, the capital of a circuit of the same name in the Russian province of Kaluga, lies on the Prorva, 891 versts (about 594 m.) S.E. of St. Petersburg, and about 50 m. N.E. of Kaluga. It is an old town, contains 3 stono and 7 wooden churches, 2 asylums for the indigent, several public buildings, about 720 houses, of which not more than 6 are of stone, 123 stores, or rather substantial buildings, and a pop. of about 6000, to which number they have increased since 1763, when they amounted to 5175. A variety of manufactures are carried on here; and among them 3 sorts of cloth, some of which employ from 200 to 250 weavers more; 5 works for melting down tallow, and 4 tanneries. Borovsk carries on a brisk trade with the interior and the ports of Russia, in the various products of the adjacent provinces, and is a market town for the neighborhood of Moscow, and is celebrated in the Russian annals for the gallant defence made against the forces of the second "false Dimitry" by Prince Michael Volkovsky, in 1610. Being expelled from every part of the town by his assailants, he set fire to the houses in its center, and in the vent of St. Paphnutius, about 2 m. out of the place, and ultimately fell, covered with wounds, near the nave of the chapel. There is an iron-mine in the neighbourhood, which is now closed. It lies in 52° 14' N. lat., and 36° 10' E. long., according to Hug.

BORON. Minerals containing boron or any of its compounds as a essential component part are comparatively few in number, and only found in a few spots; it may be therefore looked on as one of the least common in nature of the elements. It is the basis of sassoline, or native boracic acid; borax, or borate of soda; boracite, or borate of magnesia; datholite, or borate and silicate of lime; and botryolite. It also enters as boracic acid into the composition of axinite and to a small extent, only, in many other minerals. Analyses giving between two and three per cent. of the acid in the former, and between four and five per cent. in the latter mineral.

The presence of boron in any mineral may be readily detected with the blow-pipe, owing to the beautiful green tint communicated to the flame by the boracic acid. The facility with which the tint is obtained depends on the element with which the boracic acid is combined; in every instance however it may be detected by the following process:—let a flux, composed of 4 parts of bisulphate of potash and one of finely-powdered fluor spar, be well mixed with about an equal quantity of the assay, which must then be formed into a paste by the addition of a little moisture. A small quantity of this being taken up on the extremity of a platinum wire must first be dried and then exposed to a high temperature until it is fused, being held within but near the extremity of the blue flame. When the mass is fused it appears for a few moments enveloped in a pure green flame, which soon disappears, and cannot be again produced by the theory of the changes is this:—the fluorescence of the flux being set free by the excess of sulphuric acid unites with the horn of the assay, forming the fluorboracic acid, which at the moment of its volatilization communicates the green tint to the flame. This process is however necessary for the detection of the boracic acid in axinite and tourmaline, as the flame is permanently coloured by sassoline, boracite, datholite, and botryolite, and the same effect is produced by moistening the glass of horn with sulphuric acid and again fusing it.

The native boracic acid is found as a deposit in several of the lagunes of Tuscany, and in considerable abundance from the hot springs near Sassof in the same country, whence it has been called sassoline. It occurs in the form of thin scaly particles, or crystalline grains either loose or aggregated in the form of crusts. These crystalline grains are hydrated boracic acid, the constitution of which may be expressed by the formula—

\[ \frac{B}{H_2O} + 6 H \]

as given by 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 yellowish white; they are slightly translucent.

It loses its rate of crystallization and fusibility 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. Holsted to be a deposit of the wollastonite within the crater of Volcano, one of the Lipari Isles, being an exhalation of the fumaroles, around the edges of which it forms thin films or cakes on the surface of the sulphur.

Borax, or borate of soda, is principally employed as a mordant in the process of soldering metals. To the chemist it is an invaluable re-agent in experimenting with the blow-pipe.

Borax is soluble in twelve times its weight of cold and in five times its weight of hot 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 93°, the obtuse 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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<th>r</th>
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<td>66° 30'</td>
<td>101° 30'</td>
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<tr>
<td>101° 30'</td>
<td>132° 30'</td>
<td>106° 30'</td>
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<tr>
<td>132° 30'</td>
<td>106° 30'</td>
<td>129° 30'</td>
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It is very common to find the edges between O and r truncated. The specific gravity remains between the hardness from 2 to 2. When coloured it is of a light yellowish-green: the fracture is conchoidal and of a resiliant lustre.

Its chemical composition is expressed by Berzelius by the

formula \[ N\frac{B}{H_2O} + 10 H \], corresponding to the analysis—
Boron is a powder of a deep brown colour with a shade of green, and when it has been heated to incandescence, it gives off an agreeable perfume. It is not dissolved by alcohol, ether, or oils, whether hot or cold. It is devoid of smell and taste. It is not altered by exposure to the air or to oxygen gas at the usual temperatures; but when heated to about 600° it absorbs oxygen, and burns with a characteristic blue fluorescence. It is converted into a basic acid; a portion however of the boron is so enveloped by the acid formed, that it is impossible to burn the whole of a given quantity of boron at one operation.

The density of boron when recently prepared is 1.83, but when it has been exposed to a molten state in glass vessels its density is increased to 1.844, and it suffers no other change, being neither fused nor volatilized. It is a non-conductor of electricity; the alkaline 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 borate of hydrogen could be applied is known.

Oxygen and Boron unite, and in only one proportion; the compound is described under Boracic Acid.

Boron and Sulphur form sulphur of boron.

BORONIS OF ENGLAND AND WALES. The term "borough", in familiar language, seems to have been, in many times, and in many places, improperly applied to the great question 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.

But the still more recent discussions on the bill for the reform of 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. In this respect, which is of primary importance, it 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-institutions of England and Wales, a full and comprehensive view of the operation of the various mechanisms and institutions, which have been introduced for this purpose, and which, in their aggregate effect, have so completely revolutionized the whole of the municipal life of this country, is presented in the present work.

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 burh 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 with walls or mounds. The fortifications of the continental Saxons, before their inroads on the Roman empire, it is well known, were mere fortifications of the nature of a fort. In this state, they had neither means nor motive for constructing burhs. 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 devouring vigour began against everything Roman had exhausted itself, they must in some degree have appreciated the utility. The new circumstances in which the Saxons found themselves—in possession of regularly-cultivated fields, of towns, of ports—must of necessity have led to a change in the form of the new institutions, though the fact of their constituting the great body 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...
his personal defence and a vote in the affairs of his town or district were regarded as inalienably attached to every free-man. The political character of the Anglo-Saxon borough was directly descended from those continental Germans whose free spirit Tacitus has so clearly and forcibly exhibited, must be borne in mind, in order to estimate the relative position of the Anglo-Saxon boroughs. They were not, like the boroughs of the city, the byres magnates of the most of the Roman conquest were the towns still girt by the walls and towers erected under the Roman regime. The state of the age, the prevalence of warfare both on the large and the petty scale, the constant liability to foreign incursion, made war-defending the society of the people trading towns; and by the borough as it is now written, was still the generic term for all. But the boroughs by distinction, the boroughs in political estimation, were those towns (apparently all the considerables) which had each, under the name usually of borough or port, an elective municipal officer exercising functions analogous to those of the elective-reve of the shire or shire-ree.

The deluge of the Norman invasion, and the immediate interest which the conquerors had in enforcing, as far as in their power lay, the political organization that they had subverting, have rendered it difficult to trace the precise mode in which the local legislatures, the borough and the shire assemblies, operated on the composition or the acts of the general legislature; but of the local organization enough is discoverable to show nearest that it had never been moulded by a central authority, but, on the contrary, that the central authority had been, as it were, built up on the broad basis of a free municipal organization. The Anglo-Saxon kingdom, in short, made up of the various free states of the heathen days, consisted of a constitutional spirit and masses (which in no country depend exclusively on the state of its general civilization), much more like a federal republic under a president for life, than like any monarchy of modern Europe.

For a clear exposition of the necessarily republican basis of all the public institutions of the Anglo-Saxons, up to their kingdom itself,—which, though now becoming generally understood, is necessary to insist upon again and again, in opposition to the mis-statements on the subject, which are still so mis-comprehended,—we would refer to Mr. Allen's learned and sagacious 'Inquiry into the Rise and Growth of the Royal Prerogative in England,' 1svo, 1830. The undersigning of our historians, of the words king and kingdom, as if bearing precisely the same import after the Norman conquest, as before, has contributed not a little to the confused appearance in which our present knowledge of the subject has generally prevailed. The very etymology of the Saxon compounds cyning and cynd-dom (according to modern orthography kining and kin-dom) denotes an elective national head. The cyning of the Saxons was synonymous with nation or people; and cyning or kin-dom (by contraction, king) implied, as Mr. Allen well remarks, that the individual so designated, was, in his public capacity, not, as some modern sovereigns have been willing to be entitled, the father of the people, but their offspring. In the middle ages, this difference between the people and the king, trace a still more remarkable perversion. The Anglo-Saxon cyning or kin-dom denoted the extent of territory occupied and possessed by the king or nation,—an import diametrically differing from that of kingdom, which, in the decline of the Norman tongue as the language of the government, implanted by the conquest, was substituted for the Norman royaume (in modern English, realm)—as the word king itself, with as little regard to its etymological derivation, was substituted for the Norman roy. Thus it is manifest that the conception of the constitution of free men, as wide as that between the principle which recognized the nation at large as the original proprietor of the soil, and that which vests such absolute proprietorship exclusively in the crown—a distinction which it is most important to perceive, and which is absolutely necessary to all who do not possess a more correct notion than is to be gathered from the greater part of our modern historians, of the real character of the great revolution effected in England by a nation, and the rights of the crown which was subjected to the well-recognized principles of law. Want of diligence or of candour has betrayed them into giving always a faint and often a false representation of that transaction. A sagacious and eloquent continental writer (Thierry) has lately, indeed, thrown a strong and true light on its real character, and has forcibly demonstrated that the history of that great revolution has yet to be written. Nothing can be more fallacious than the idea that it was nothing more, or little more, than a change of dynasty, resulting from a mere personal contest between two pretenders to an empty throne. A constitution, which had been created by the people and was not hereditary; nor had they any such thing as an hereditary office, municipal or political, legislative, executive, or judicial. It is the want of carefully distinguishing in their own minds the constitutional maxims respecting English government, that has misled Englishmen generally; for not one of them has been acted upon by our Anglo-Saxon ancestors, that has misled so many writers in treating of the latter period. It has recently betrayed both Mr. Turner and Mr. Palgrave, much praise as may be due to them for their industrious contributions towards illustrating that long neglected period of our constitutional history, into an oblivion of political view in treating of the latter portion of it, which calls for serious remark. The successor in the Anglo-Saxon kingship, or executive office of the state, was constantly selected or approved by the national council; and, as Lord Lyttleton observes, 'the justices of the peace, at the very latest, were the lawful executors of the will of Henry II,' not only did Harold possess the only right to the crown which the English nation then recognized, but the nation itself had clearly made the wisest selection it could, in choosing as the guardian of its independence in that age, the least and most independent of the Anglo-Saxon people, prompt to strive, 'to the last of their blood and their breath,' against spiritual or temporal aggression upon their national independence; while in William was finely personalized the combination of subtlety with ferocity, the passion for military enterprise, and the promptness to confederate with the great spiritual despotism of the age, which so remarkably characterized the leading Normans, but a few descents removed from the piratical settlers on the southern shores of the Channel. As regards the subject of our inquiries, the conquest of England by the invader during the actual struggle, we may sum it up in the words of Sir James Mackintosh (Hist. of England, I, 108):—'It was a slow, not a sudden conquest. The successive contests in which the conqueror was engaged ought not to be regarded as on his part measures to quell rebellion. The way was paved for war by the refusal of war against unconquered and unbending portions of the Saxon people. Their resistance was not a flame casually lighted up by the oppression of rulers: it was the defensive warfare of a nation, who took up arms to preserve, not to recover, their independence. There were few examples of a people who have suffered more for national dignity and legitimate freedom. They suffered much, indeed, not only in the great conflict of Hastings, but throughout the land. For instance, the country from the Humber northward, as Sir James observes, 'was quite overrun with strangers, and the friends as well as the enemies of William, in terms of indignation, which show that it far exceeded the ordinary misdeeds of conquerors, in an age when the mildest warfare was atrocious.' Yet their sufferings during the struggle were trifling in comparison with what the good and wise, as well as the physical, which they endured under the regime established on their final subjugation. It had been a necessary condition of William's making this great attempt at all, that he should hold out the lands, the goods, and the people, to the subjects of King Edward. So he was as well as to the mere mercenaries whom he banded together from every quarter of western Europe. The fulfilment of this promise was necessary, both to keep his fellow-adventurers true to his service, and to keep possession, for himself of the dominion of his own choice. The authentic record of Domesday, compiled by his own authentic witnesses with the unanimous testimony of both the Norman and Saxon writers of the period, to show us how complete
was the expropriation of the Anglo-Saxon possessors, and the introduction of the foreign military tenants. Independent of the personally despotic character of William, his position, as the commander of a conquering army, which he himself had brought to town, he established an expediency 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, as the means of his immediate support, he had to divide 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 military rank and amount of service of the Norman clients, as the whole business was to make 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 thereupon 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 their military followers, and these again among the rank below the lord himself. In such cases was founded 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 warfare.

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 clients. The chief freeholders or villeins, who had been the great body of the Saxon freeholders 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 distress in which they were involved. Such was the case with 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 villains; 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 villains—that of men not indeed personally enslaved, like the villeins who held on other lands without personal 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 oaths and marks of fealty, which the Normans and afterwards the borough-reve or port-reve, as the chief legal officer of the borough, serves for the county, or a mayoral or mayor in the chief freeholders of the town, which the other, had of necessity much abated; and this progress had been accelerated by the violent dissensions between the crown and the baronage, and the necessity in which the latter found themselves of courting the aid, both personal and pecuniary, of the municipal communities, thus struggling into renewed freedom and activity, against the fresh bands of military foreigners whom their kings were constantly bringing in to coerce them, and to whom they were constantly threatening to transfer their seignories. Thus the political supremacy and right of the towns over the landed proprietor derived from the conquest, and the trading population aspiring to regain a recognized political existence; and this tendency we shall find rapidly increasing.
Long after the first signing of the great charter, however, the levying of tallage upon the burgesses, as upon the vil-
layers, was carried on as an inextricable ingredient of the
Norman crown, and was of itself an abundant source of vex-
tious oppression. To show the gallant nature of this ex-
action, we may instance the levy made by Henry II., on
pretext of a crusade, in 1187, one of the last years of his
reign, whereby, as a matter of fact, he found out the
burgesses of all the municipal towns, and had them indi-
vidually summoned to appear before him at an appointed
place. The honour of being admitted into the presence
of the Conqueror's great grandson was in this manner granted
to two hundred citizens a year one hundred of York,
and to a proportionate number in the other cities and
boroughs. The letters of convocation admitted neither of ex-
ceptions nor of delay. The burgesses thus summoned were
received a certain number at a time, at several different
days of the month, or in the same day at several hour-
s, where it was notified to them, from the Norman sovereign, through
an interpreter, what sum he required from them. ' And
thus,' says a contemporary historian (Roger de Hoveden, An-
nales), '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
wield equal sway. Thence he brought them under.
This assimilation of the great mass of Anglo-Saxon bur-
gesses to the Jews gives us the exact measure of their poli-
tical condition at the commencement of the second century
of the regime of the conquest.

In the reign of De Montfort, 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 1265,
at the instance of the captive heir for the shame done to him
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 borough in his county. This was the forerunner of the
destruction of De Montfort, shortly after, by the excursions 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 extraor-
dinary and businesslike and industrious procedure of those schemes of national grandkindge which so ac-
tively and steadily occupied his vigorous reign. The barba-
rous contempt with which a military aristocracy, so recently
sprung from a desolate and expropriating conquest, re-
garded the great agent of civilization, commerce, though
its harshness was slating in proportion as the broad dis-
tinction 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 al-
though it had been somewhat softened. A curtailment
appears in a statute of the middle of the preceding reign,
which enacts that feudal ' lords, who marry those they have
in ward to villains or others, as burgesses, whereby they are
disparaged, shall lose wardship, and the profit shall be con-
verted to the use of the heir for the shame done to him.
The advantage immediately derived to the burgess popula-
tion 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 of the charters, and the summoning of their
representatives, in that it brought them together at the same times
and places at which the established estates of the Anglo-Nor-
man parliament were convened, was, not only so much the light-
ening of their pecuniary burdens on the whole, as the affect-
ing and maintaining a more equal and regular distribu-
tion of the public burdens among all the citizens and baron-
s, in the exercise of their municipal functions.

In the distribution of this public office, the burgesses,
with many others, became the subjects of the central
Council, into which, among the laity, none but his imme-
diate feudal tenants and a few summoned by his personal let-
ters were yet admitted, still claimed and exercised the power
of taxing the burgesses almost at discretion. Although
the knights of the shires, at that period, that is, the repre-
sentatives of the county freeholders at large, were first regu-
larly summoned to attend on parliament at the same time
and place with those of the cities and boroughs, and to sup-
pose of taxation only, yet they and the burgesses were
for some time longer regarded as forming two distinct re-
presentative bodies. Thus the writs for the parliament of
the 23rd of Edward I., expressly direct that the elected citi-
zens and burgesses of the cities and boroughs should alone
be summoned to attend on parliament, and the citizens and
burgesses at large separately (divinis) from the county representatives, for transacting what shall be
ordained by the great council ( whose composition is ab-
ove described ) in the premises, that is, in providing re-
munerations for the dangers of the journey, as set forth in
the preamble of the writ, sufficiently intimating that a 'grant
of supply,' as it is now termed, was a primary object of
this parliamentary convocation. And we find that while the
county freeholders at large, as regards the rate of impost on
land and goods, were represented by the county representatives,
the burgesses, as a keeping, and the tenants-in-chief, citizens and burgesses were constantly
called upon to give a full third more.

This very circumstance, however, the large proportion
which they were made to bear of the burden which each
great pecuniary exigency of the state imposed, inevitably
accelerated their advance towards the attainment of a per-
mament control over all the great operations of govern-
ment, by rendering their peaceable assent to the several im-
positions the more indispensable. The lasting establish-
ment of a representative body, as a permanent and in-
exceptively, at the same places and times as the legislative
estates of parliament, indicates the first great step in this
progression. Arbitrary intimidation was no longer felt to be
the be the means of exacting through the town delegates
what would have been impossible of the barons. The
burgesses should at least hear the objects stated and discussed,
to which the proceeds were to be applied. Their second step
naturally was, to exercise a judgment on the wisdom and
fitness, first of the objects themselves and next of the means
by which they were to be paid. Towards the conclusion of
the march of the delegated body of citizens and burgesses in this
career that, in the year 1297, the 25th of Edward I., we
arrive at the first solemn recognition of their political exist-
ence in the statum de tallaggio, which has been commonly
called the Organic Act of Parliament, under which they, re-
sponding to the popular demand, and, by the right of taxing them arbitrarily was finally relinquished.
The statute declares— ' No tallage or aid shall be taken or
levied by us or our heirs in our realm without the good will
and assent of the archbishops, bishops, earls, barons,
knights, burgesses, and other freemen of the land.' At
this date then we may find that important step in the con-
stitutional progression, the union of the representative free-
holders or knights of the shire with the representative citi-
zens and burgesses in one assembly.

And in the year 1295, or towards the close of the year
1297, which closed the calamitous reign of the second Edward, we
find them confounded together under the general name of com-
mons, by whose 'council and assent,' as well as by that of 'the
prelates, earls, barons, and other great men' of the
kingdom, moreover, it is stated in the writ issued to the sheriffs on
that occasion by the young Edward to proclaim the latter king,
that his father had 'removed himself' (that is, had been
deposed), and he (the younger Edward) had taken upon him
the government.

In the preamble of the statutes made at the first parliament of Edward III., the acts were passed ' at
the petition of the commons presented to the king in his council of parliament, by the assent of the prelates, earls,
barons, and other great men.' This form of petitioning
the king in their own behalf, that is, in the name of the house of lords, was long the only mode possessed by
the commons of introducing a measure sanctioned by them-
theselves into that higher assembly, and remained a memorial
of their first seemingly timid advances towards the con-
stitutional government of the nation of which the
parliament of the latter station, they abandoned the term petition for the more businesslike and less submissive one of bill.

In this very reign of Edward III., they proceeded so far as to claim an absolute veto upon all enactments affecting
the great tenants-in-chief, his barons, by declaring to the king in parliament that they would not be
compelled by any of his statutes or ordinances, made with-
out their assent.' Edward III. had too much general sa-
gacity, and was too mindful of the popular concurrence in
the revolution which had deposed his father, to seek to
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 patrimony was revived. The contest between the court of Richard and the great body of the nation for the possession 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 bur- presses of that legislative character to which they had long aspired. The first hollow, fictitious, and commercially fatal to 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 extinct. 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 con- ceded that certain privileges 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 seen by ancient constitution from a laudable and approved constitution, which 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, with every spot, clear as the sun, and wherein poor as well as rich may, for the redress of their grievances, be refreshed, by restoring tranquillity and peace, and remov- ing all kinds of injuries; where all public grievances or errors are to be redressed; and wherein, with the most prudent counsel, the state and good government of the kingdom is to be treated of; which, being the 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 declaration therein to foresee and order how the necessary furthering, maintaining, and improving of the commonwealth (the public wants considered), be supplied: they conceive also, that since they are to support all public charges incum- bant, they should have the supervisory how and by whom their goods and fortunes are to be expended: they say, moreover, that this is their privilege by ancient constitu- tion; that if the king wilfully estrange himself from his parliament (no infirmity or necessary cause disabling him), but obstinately, by his ungovernmental will, shall withdraw himself, and be absent from them for the space of forty days, without redress of grievances; and that he may be caused to pay 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, as you, for a longer time, have abstained yourself; and, as you, for a longer time, have abstained yourself, so shall we, for a longer time, have the advantage among them. The king, in his answer, declared his inten- tion 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 mischiefs, murders, and famines, were caused by the king him and the kingdom; that unless some means were used to put an end to these grievances, the state would be ruined, and that by the ancient constitution, if the king refused to govern by the laws and statutes of the realm, the Commons had the power of giving it his assent, to depose him. The king felt himself constrained to yield; and eleven commissioners were named in parliament, to reform all abuses that had arisen since the reign of Ed- ward III. On this occasion, the commons asserted their char- acter and exercised their power, as guardians of the public purse, by calling Sir Simon Burley to account for a large sum of the public money which he had wrongfully ex- pended; and not giving a satisfactory answer, he was com- mitted to the Tower. Another striking illustration of the political importance of the king's ministers and their power in their first conspicuous exercise of the right of imprison- ment, against Richard's chancellor and prime minister, De la Pole. But eleven years afterwards, in 1399, this king, to procure a house of commons more suited to his own pur- poses, resorted to a perilous expedient. He summoned the several sheriffs, and charged them to suffer none to be elected and returned members to 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 inten- tions, and asking them what force each county could provide. Many sheriffs answered to the part of that order; never being deprived of the freedom of elections; and that, as for raising an army, they would never take up arms to oppose those barons who had gained the affections of the people by defending their rights and privileges. The king, therefore, thinking it was easier to maintain his household and retain his own household and household there was a sufficient number of people for his service, obtaining his packed house of commons, which by ministering servilely to his tyrannical will hastened his overthrow. The next very year, the national indignation and resistance, coinciding with the personal views of the exiled Henry of Lancaster, the 'Stuart,' reduced him to the condition of a supplicant captive, and compelled him to call a 'free parliament,' the first act of which was his own solemn impeachment, 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 to the commons house. On the fourth day of the ninth of the session, in the halls of parliament, the king and the lords made a full and explicit acknowledgment of the equal rights which the commons possessed with the latter in matters of legis- lation, taxation, and of counsel to the crown. Under the regime of the Conquest, the aspirations of the townsmen for a share in the municipal and political freedom were embodied in prayers for the restora- tion of 'the laws of Edward the Confessor.' When, in the progress of Anglo-Norman society, the municipal rights of cities and boroughs were included with the civil and political rights of the barons, a popular demand for greater freedom, in the Great Charter, the latter solemn instrument became the watchword of the bourgeois population. But from the his- torical period at which we have now arrived, when to the restoration of their municipal independence were added the freemen of the gentry and the nobility, the 'free parliament' became the constant cry of the citizens and burresses 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 popu- lar confidence was believed to be of the utmost security to 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 de- spite of so many opportunities for a restoration, 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 majority of the nation in the person of the commons, who were least 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 re- sult of measures by the number of its members when present; and, second, by a reflection of the same majority among 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 it relates to the system of taxation, which was, in the last instance, the result of the system of representation. The great instruments of the crown in influencing the composition of the popular representation, especially of the borough portion of it, were, the sheriffs of the several counties returning members, of which, in the time of Ed- ward I. there were thirty-seven: Durham and Chester, having then patrimonial rights of their own, and Mon- mouthshire being part of Wales, which was not yet legis- latively incorporated with England, nor even effectively subjected to the English crown. It was as the king's tool, that he exercised the old right of choosing an alderman in their first conspicuous exercise of the right of imprison- ment, against Richard's chancellor and prime minister, De la Pole. But eleven years afterwards, in 1399, this king, to procure a house of commons more suited to his own pur- poses, resorted to a perilous expedient. He summoned the several sheriffs, and charged them to suffer none to be
vocation, and so long as the delegated burgesses themselves had little voice in fixing the rate of impost to be levied on them. The smugness of the 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 burden, the expense, to them considerable, of the wages which by royal writ they were ordered to pay their representatives. Officers called to parliamentary service, and which were fixed at two shillings each per day, being one half the amount 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 return general terms "to cause to be elected two citizens for each city, and two burgesses for each borough in your bailiwick," a sort of discretionary power seems to have rested with the sheriff of determining what towns were qualified to send representatives. Consequently we find returns of 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.' Immaterial 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 remote indeed from the contemplation both of Simon de Montfort and William de Winchelde to require so small 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 organization should vested preponderance. They evidently looked not so far, nor suspected any latent danger in the generality of the terms in which these precepts were couched. But when the commons came to assert and establish their claim to a full and free legislative voice, and it consequently became of the highest importance to this crown to secure to itself every and every means of influencing the composition of that assembly, there was one expedient to which it was too late to resort, that of singling out boroughs for representation, or omitting them at pleasure. The contrary precedent was firmly established—that, through the sheriff, every city and borough was to be summoned; the original terms of the writ were grown into an inviolable constitutional maxim; and in the fifth of Richard II., the Commons were already sufficiently powerful to procure the royal assent to any demand that should not literally obey the writ, and subjecting citizens and burgesses, as well as others having parliamentary summons, to be 'amerced or otherwise punished' for non-attendance. And although notorious inability, from devasta-

tion of the laws and imminent calamity, and the wages of representatives, continued long after to be ad-


mitted as a valid plea of exemption from electing in the case of individual boroughs, the great principle of the right of every municipal town to be summoned, and its duty to return members, if capable, was constantly and firmly main-

ained. The power of interference on the part of the crown therefore was thus limited to the influencing, chiefly through the agency of the sheriffs, of the returns of individual mem-

bers. The more recent and partial Norman conquest must be borne in mind. The shire-courts of the Anglo-Saxons was subject to annual election by the freetholders of the shire; but the Anglo-Norman sheriff, at the period in question, as at present, was nominated by the king, and consequently was immediately responsible for the exercise of his various functions, not to any popular constituency, but to the crown. Accordingly we find early symptoms of the indirect influence which the crown, by means of this officer, exercised in parliamentary elections, in the reign of Henry VI. How the great 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 the selection of their representatives.' As we have seen, in the first year of Henry V., which amongst other provi-

sions 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., con-

firming former acts relative to elections, is more explicit on this point. It directs that the sheriffs shall not, in their return of 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 chosen 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 avarice and lucre, have not made due election of the knights, nor in convenient time, nor good men and true representatives 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 their deputys and their representatives 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 imbeciled, and moreover made no precept to the mayor or bailiff, or to the bailiffs or bailiff 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 pieno comitatu tuo eligi facias pro comitatu tuo duos milites, et pro qualibet civitate in comitatu tuo duos cives, et pro qualibet burgio in comitatu tuo duos burgenses." Nor are we to suppose that the many attendances and varying 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 in question, is characteristic of their line of policy in this matter. The Latin text given above, literally rendered, would run thus:—"That in full county court you shall cause to elect for your county two knights, and for each city in your county two citizens, and boroughs been chosen by each borough in your county two burgesses, and the mayor or bailiff, to make such election of 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 no doubt been embarrassed to such a degree as to approach the 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 8th and 10th of this reign, which limited the county freedom to representatives of the wealth that 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 for the crown a right which they intended to make the instrument of a course of acts, 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 imbeciled, and moreover made no precept to the mayor or bailiff, or to the bailiffs or bailiff, 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 pieno comitatu tuo eligi facias pro comitatu tuo duos milites, et pro qualibet civitate in comitatu tuo duos cives, et pro qualibet burgio in comitatu tuo duos burgenses." 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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, of whom fifteen were returned for cities and 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 these members should constitute. The indirect result was that no territorial extension of the parliamentary 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 relief for the expenses of the government and the payment of the crown’s costs 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 Glendower in the reigns of Henry IV. and V.; and their admission into it was be- come 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 number of persons qualified to vote, or permitted to elect, were now 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 the franchise of the borough of 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 Merioneth, which was doubled. This perfect union with Wales rendering the palatine government of Cheshire, originally established as a bulwark against the Welsh invasions, no longer necessary, another act, of the 34th of this reign, incorporated it in like manner with England, in like manner also expressly limiting the town-meetings of the county to forty days.

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 revolved 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 mainly engaging the mind of the king; the 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. Farther 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 civil 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 description of the community of the borough, as Madoc in his Firma Burgi ob- serves, was this:—They were deemed townsmen who had a settled dwelling in the town, who merchandized there, who were of the bans or guild, who were in lot and scot with the townsman, and who used and enjoyed the liberties and immunities of the city. Hence, in the course of a 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 county were not admitted to any share of the suffrage 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 such admission conferred popular advantages 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 external to themselves. Waldo, right, walnut, town, had some ground of justice when they who enjoyed it ex-clusively 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 commis- sioners appointed for the regulation of the staple to levy public burdens; and under these regulations it is that the residence of non-freemen appears first to have become fre-quent.

The progress of wealth, population, and the useful arts, produced, in many of the greater towns, the subdivision of the general community into wards of particular trades, called, in many instances since the Norman era, 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 monopolies, in which the masters, barons, and the lords of the boroughs, elected from their number, did and discharged the functions of an incorp- orate body, under the style of the corporation of the town, of the borough, the municipal corporation, or the town. Its members, elected by the burgesses, were entitled to a franchise, and to a voice in the municipal government; and in the exercise of these functions, the government of the city was directed by the mayor, aldermen, and commonalty, or as the case might be, by common aldermen. The last form of government was that of most of the smaller boroughs, and was the form prevalent in the larger boroughs during the Tudor period.

But for several centuries after the Conquest, say select body forming, within a municipal town, a corporation, in the modern sense of the term, was entirely unknown. When the men of a town became answerable to the crown for a rent or tax, they no longer chose their own officers, or chose barons of the exchequer, the king’s attorney, or his other clerks and officers, charged, impealed, and sued the towns- men 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 were bodies, in which of solitude each community became 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 their executive 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 be- came answerable to the crown for all things in which the bailiff or bailiffs were previously responsible, and the officers of the crown were immediately accountable for the act of the 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 became 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 the sheriffs were invested with judicial powers, and became the chief officers of the government of the crown in the county, under 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 seized into the king’s hands, unless redeemed by fine or a vale 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 hun- dred, and which held within doors, the hus-ring or the frank-hall, the session held by all the members of the community, and 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, every local privilege conceded by the royal charters 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 the introduction of a representative principle 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 has afforded the fullest scope for the distinct development of its tendencies. Although William of Normandy, in consolidating his conquest, had trampeled out even those scattered sparks of political vitality which in the course of his invading career he had spared in order to deaden or shorten 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 townsmen, to exercise that power in the case of the more important cities and ports with somewhat less harshness and severity. This was the case of 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 supplying its naval force, were early objects of royal attention. For a time to be described, the city was embarked 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 borough population towards the recovery of their lord and master's freedom. The greater number, and the majority of the burgesses, even in these favoured towns, were necessarily of Anglo-Saxon blood, yet there were soon found among them a certain number of foreign descent, Norman, Angerif, or French, whose ancestors, having settled in the vicinity, became enfranchised, and indeed established 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 the Norman party, so well known and so remarkable for its want of all connection without it, scarcely intelligible transactions in the early municipal history of London. The operation of these circumstances is very clearly and strikingly exhibited in the great civic commotion in the time of Richard I., in which the whole body of its burgesses was arrayed under the banner of Saxon descent, to whom, from his adherence to the custom of his forefathers in wearing his beard long, the Normans gave the cognomen d la barbe, and whom our modern historians call William Long-Beard. We find this transaction very particularly detailed by the Latin historians of the time, both on the popular and on the Norman side—Roger de Hoveden, Mat. Paris, Math. of Westminster, Gervase of Canterbury &c. The facts collected from their joint testimony, as far as they relate to our present inquiry, may be briefly stated 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 unsatisfactory apportioning of the payment of the tallies or tallages, 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 a stated sum, the amount of which was fixed by 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 leading citizens were usually elected by the mayor, so as to make those least able to encounter the expense responsible for the payment of so great a tax, and the expenditure was accordingly directed by the mayor, who, as the 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 middle, and upper ranks of fortune, the Norman party charged him with mediating 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 against the king. The traitors to the king," replied the Englishman, "are the persons who, by exempting themselves from paying what they owe him, and I myself will denounce them to him. Accordingly, he crossed the sea, went to King Richard's camp, knelt before him, and solicited his peace and protection. For a time he is in a state of uncertainty, but the king receives him with open arms, and promises to render him indemnite. But when he had taken their sums, and extracted their confession, gave their attention to it, and took part warmly, through national and aristocratic instinct, with the dominant party, against the poorer classes and their advocate. Hubert Walter, Archbishop of Canterbury, and grand justiciar of England, joined against the king, who, we may imagine, were so far from liking the idea of having to grapple with a popular and national party, as did not hesitate to lay an information before the king against men of Norman blood, and resolved to prevent the recurrence of such a scandal, issued an ordinance, forbidding any man of the commonalty of London to go out of the city, on pain of being seized as a traitor and the exchequer; and accordingly, a number of traders, who, notwithstanding the chief justice's orders, went on their ordinary business to the great fair at Stamford, were seized and thrown into prison. These acts of violence caused a great ferment to break out in the city, which drew the whole population of London into an association for their common defence. William Long-Beard, relying probably on the king's promise, was the soul and leader of this secret society, in which we are told by several historians of the time that fifty thousand persons were engaged. To them was intrusted the care of the various parts of the city, as were accessible to burgesses in their state of half-knightage,—as steward with iron, axes, and iron crows,—to attack, in case of a conflict, the fortified dwellings of the Normans. They then held several meetings in the open air, at which William addressed them, and encouraged their enthusiasm. Meanwhile, the high Norman functionaries conveoking in parliament, at London, the bishops, counts, and barons of the neighbouring provinces, said the people's orator to appear before that assembly. William Long-Beard then set out from London, escorting him, and was received as the saviour and king of the poor. This unequivocal indication of an immense popularity intimidated the barons in parliament. They postponed the consideration of the charge to an early sitting, which never took place; and used all their efforts, by skilful emissaries, to work upon the popular mind. Fake promises and false alarms, alternately circulated, lulled the public ferment, and discouraged the partisans of the insurrection. The archbishop and the other justices then themselves called several meetings of the commons and the mayor, in order to ascertain the necessity of keeping peace and order, now upon the king's power to crush the seditionaries; they proceeded in sober judgment and hesitation among the conspirators. Seizing that moment of languor which has always been fatal to a popular party, they required to have delivered to them, as hostages for the public tranquillity, the children of a great many families of the middle and lower classes. The citizens wanted resolu-
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 particulars of the subsequent seizure, summary condemnation, and violent execution of these religious wrongdoers, and the 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 aristocratical distinction that obtained in the internal administration of the English government.

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 unequal distribution of burdens by arbitrary power, and the commercial resources of the country became developed, among the most powerful of these causes. The necessity, too, for the convenient transvection 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 new council; but the efforts were frustrated. When this 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, and that the aldermen, in their original constitution, were only a committee to advise the mayor in the management 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 commonality in general; but was, however, the 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 common-hall, in the exercises of by-laws, and the management of the affairs of the body.' The whole of this legislative and administrative body, being chosen yearly 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 at least from the year 1224: but as it stood 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 commons of the city ordained that each of the mysteries (mysteriæ or crafts), that is, each of the trading companies, should choose one of their members to act as a sort of mayor and alderman, 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 43d or 44th of Edward III., and was confirmed in the 45th of the same reign; but the common-hall court of hustings of the whole community still retained the right of 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 preceding parliament, which enacted, as in such large assemblies things had been done more by clamour than by reason, the aldermen, when, on St. Gregory's day in each year, they were appointed for the year ensuing, should be first 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 number no more than eight should be of one mystery. Except as these acts êtes the imposition of restrictions, which were interfered 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 fall into comparative desuetude; although, on one subsequent occasion, in the 23d 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 resembled the aldermen and common councillors, while the liverymen, or members of the several companies (so denominated from the distinguishing peculiarities 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 seot-and-lot franchise; and in the changes of society which have gradually reduced the guilds from their original position, that thorough substitution has been one constantly growing cause of unfair representation. Even in London, perhaps the commonhaulers, too, being 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 to usurp powers which it had not delegated at all. Such usurpations were often vigilantly 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 arrangements, in 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 municipalities of England.

We find for indications of it in several of Henry VII.'s charters; as in one to Bristol in 1499, establishing a selfelective council of aldermen; who yet, though justices, had no exclusive power of municipal government. But the freeness of religious discussion, which divided the whole nation at this close of the following reign, was 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 prescriptive discretionary power of the sheriffs to determine these questions of religious difference. Under Henry VIII., 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, which in public estimation had a prescriptive right to be so considered, was to be viewed as a violation of the freedom of parliament 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 the more plausible course of proceeding; and notwithstanding the evident partiality with which it was conducted, was permitted to pass without legislative interference.

Accordingly we find in the reigns of Edward VI., Mary, and Elizabeth, besides seventeen boroughs re- garded to pass under the general regulations, an existing beginning to send members, making altogether an addition to the former representation (as no places were now omitted) of sixty-three places, returning 128 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 remodelling, by governing charters, the municipal constitution of these new or revived parliamentary boroughs. Most of these charters expressly vested the local government, and sometimes the municipal franchise, in certain individuals, or groups of 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 munici-palities. The successful working of the application of this novel principle to the new or restored parliamentary boroughs, encouraged the Stuarts not only to continue this system of
erected those boroughs, but to make a second and a holier 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 made 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 a custom of such a character vesting the elections in indefiniteness in the commonality. 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 bylaws, and no bye-law to the contrary could be found. This act was accordingly done, 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 incongruities involved in this decision, and the disregard of all constitutional principle, are very notable. That the judges have considered the powers of the boroughs, and at the same time, the prerogative of the crown, should have been, 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 such like instruments constantly used for the purpose of giving the power of internal organization as they claimed to exercise, is sufficiently manifest. Here the baronage and the royal judges should seem to have been meeting on common ground. The baronage simply appealed against a victory, won by constitutional growth of a character superior and to an 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 community to make a law contravening an express provision of the royal charter; secondly, that 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 from a 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 power.

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. In the twelfth year of James I. it 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 restricting the exercise of that right to the several towns, so that there was thenceforward the form of the corporations 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 a total addition to the boroughs of several classes of boroughs to the four members for the two English universities, which James first introduced.

That all these acts combined were insufficient to counteract the representative house the popular spirit, and the spirit of popular resistance continually growing, 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 was here in attempting, that which even Edward I. had found expedient solely to forestall the levy 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 the recourse to parliament—the necessity, not less urgent, which drove the Commons to extort from him the act which prevented their being denied 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 the subject of a distinct history, than of the present—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 inconsiderable boroughs, he maintained 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 counties.

'A free parliament' was as much the national watchword in 1600 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 Corporations 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 admitted to any of the offices of mayor, aldermen, re- corders, bailiffs, town clerks, common councillors, or officers of magistracy, or place or trust, or other employment relating to or concerning the government of any city, corporation, borough, or county, or of any of their members, or persons, or persons being of the Roman Catholic religion in England, Wales, and Berwick-upon-Tweed, that shall not have, before they be so chosen, 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 day, was long operated to the exclusion of Roman Catho- lics as well as Dissenters from almost all municipal offices. Even this was felt to be a bold attempt; but it was deemed less hazardous than the endeavour to reign without a parliament, in which Charles I. had failed.

As the proceedings now adopted against such of the govern- ing charters of cities and boroughs as still sanctioned a popular municipal constitution, was a general filching of what was already termed the municipal body. This, in quod usurpation, 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 phrase of proceeding 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 the largest shares of the national spoil, yet the general tradition 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 determinate privileges were from the first, upon the validity of royal charters, which, besides the municipal, were more valuable than which all local liberties were assumed to emanate, maintained their title. In the eighteenth 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 regulations for municipal charters:

'15 Edward I. Nov. 23, 1225.

And the borough or town in the county of— is directed to an object quite contrary to that which is the use of the proceeding 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 Pentecost, 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 any reasonable, our lord the king shall confirm it by title. And that 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 the said charters restored back to them. Wherefore we demand that 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 the cases in which such an inquiry was made was, as the purpose of it was dishonest. 'The crown lawyers, more violent than learned,' observes Mr. Willock, in the introduction to his 'Law of Municipal Corporations,' instead of first proceeding by actus facios to repeal the charters on protest of forfeiture, which would have 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 obtain from the evidence of a lawful judgment against them, since it could be instantly reversed by the judges either that there were no such corporations ever established, and the bodies assuming to act as such were merely self-constituted; or that the charters and well-known usage under which they stood offered a manifest contradiction; or that all the corporations in question were urban offices, the persons who called themselves members and 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 proceedings of which they were accused as usurping the offices were still existing and that 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 municipal burghs of ancient English municipalities, and the example of which, from its superior 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 vicinity 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 them their thanks for their spirited conduct. Now, there was no need of the King's press, the records of which had been 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 information against the metropolitan 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 erroneously as of the original proceeding, by treating it as a final and conclusive determination of the court, in hope of concluding the despot's favour. Here, too, the crown lawyers mistook the law, or, confiding in the plenitude of arbitrary prerogative, thought its rules unworthy their consideration. New charters were granted without using the expedient of proceeding to an inquiry of which they were wholly inoperative, 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 policy, his projects for the humanitarians, the servility of judges, and the verdicts of party judges, 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 was so great that he deferred the period of their convection 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 effect of a king corporately under control 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 the most dangerous instrument of government. 'after having tried in vain to avail 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 were restored, some re-established, and others 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, the new officers were of the royal party, and it was difficult to establish the aristocratical doctrine of the case of corporations,' above cited, 'that by a bye-law the corporation at large might be divested of the elective vote, that it might by the same method be reconstituted in the select classes, and that modern usage was sufficient to confirm the influence of certain officers and the constitution of corporations in the form instituted by Charles, under pretext of lost bye-laws, after the charters were professedly abandoned.'

So dilatory and expensive was it for the freemen to vindicate their privileges, much more 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 did this franchise in some cases appear, that at the present day many corporations are by complicity of their nominally independent officers for 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 ago 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 the Third; and the

precedings of which have been granted a similar regularity through the liberal interpretation of the same statute of Queen Anne, and those of the eleventh and twelfth years of George the Third.'

But although, since the reign of James II., no attempt has been made to recur to the Stuart measures against such of the corporations as still retained, in whole or in part, a popular constitution; yet, as the municipal corporation commissioners observe in their late report, 'the charters which have been granted, on the model of those of the preceding era; they show a disregard of any settled or consistent plan for the improvement of municipal policy corresponding with the progress of society. The charters of George III. do not differ in this respect from those granted in the worst period of the history of these boroughs.'

Resuming the history of their parliamentary relations, we must observe that under Charles II. was made the latest addition to the town representation. In that reign, after repeated attempts, since the time of Henry VIII., made in the House of Commons, but defeated by the House of
The returns of the royal assent, to procure it to be
lost by the public; of the county of Durham, as well as
of County Durham should send two representatives to the
Commons' House, it was at length passed into an act, that the
city of Durham, as well as the county, should thereupon
send two members; and two members were granted to
Newark by royal assent in reward of its exertions for
Charles' during the civil war.

It may be remarked, that in the assembly which addressed
the Prince of Orange to issue letters for a convention par-
liament, the city of London again figured very prominently;
the mayor, aldermen, and fifty of the common council, be-
ing 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,
 enacted before the present era, was the provision of an act
of franchise for the city of London, which disfranchised
person (except the oldest son of a peer or of a person quali-
fied to be a knight of the shire) from becoming a member
of a city, borough, or port, who is not possessed of a free-
hold 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 transubstanti-
atization stated in the Act for the year 1662, had already
when, in the year 1828, after their repeal had long been ad-
vocated 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 exclu-
sion of Dissenters, persons of these sects who 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 re-
qu:uisitions.

This measure, and the more important one which speedily
followed it, the complete political emancipation of the
Roman Cathol ics, were passed without any direct view to the
amelioration of the representative system. The revolution
of 1688, as we have seen, though it restored a popular con-
stitution to England, the forms of the government remain-
ting as they had long been deprived of it, removed none of the vices in the
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 its own purposes, had moulded and adapted them to its
interests. Those of those the inhabitants of the boroughs and
patrons, among whom were always many members of
the House of Lords. Thus there arose a new and unpre-
cedented parliamentary system. That command of a
majority of borough votes in the House of Commons, which even the later Stuarts 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, colo-
nial, and all other public departments, the establishment
of a legal growth of the customs and excise, &c., &c. That,
we say, which the Stuart government could not pas-

The trafficking in the close boroughs, or as they were more popularly termed at the time, the borough
corporations, from the right of voting, or what is the
purchasing the power of directly influencing the election of, or
absolutely nominating their members,—became, to use the
well-known words of a minister, delivered in the Commons' House a
"municipality as the sun at noon-day," and for a long
and eventful period was accompanied by the subject
of animadversion with any considerable portion of the
public.

It belongs to the general history of the House of Com-
mons, to trace in detail the progress of the great ques-
tion of 'parliamentary reform,' as the desired amelioration
of the representative house of parliament was so long desig-
nated. [Commons, House of.]

We now come to consider the operation of the great
change in the political relations of the cities and boroughs,
when bringing about the change in their municipal constitu-
tions. In following the new order of movements which re-
ceived its first impulse in the Reform Act, it is at once ap-
parent that which had been going on for centuries before. As the vitiation of the municipal
customs of the towns had been requisite to prepare the
way for their political prostration,—so their political eman-
cipations to so large an extent of opinion in the disqualifications
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
contributions had ceased, and such corporations had no longer the means of maintaining municipal institutions of any description. In Grampound, the mayor had left the borough upon its disfranchisement. Official 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.

In compliance with an address of the House of Commons, the royal prerogative was transferred 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 powers, and the administration of justice, and in all other regards manner of election 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 funds of the said corporations, and into the several laws and regulations existing within the limits of 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 of these were included in towns of so small a population, 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 forward. In the towns, cities, parishes, boroughs, 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 are positively to have a mode of election of the governing body. 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 so divided; the members of their respective councils to be elected under the act vary, according to the population, from 4 aldermen and 12 councillors, which is the number for Aberystwith, Abingdon, Andover, c., and is 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 second section (B) 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, are to be taken as the municipal limits until altered by the Act, the representatives of such boroughs being elected as members of parliament as well as municipal citizens. They are:—


Laid 15 are municipal only:—

Bideford, Chesterfield, Congleton, Deal, Dunbarton, Gravesend, Kingston-upon-Thames, Louth, Newbury, Oswestry, Pembroke, Saffron Walden, 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 former. The first section comprises those boroughs whose parliamentary boundary is to be taken until further legislation, in number 9:—

Arundel, Beaumaris, Cardigan, Llandudno, Pembroke, Ruthin, Tenby, Thetford, Totnes.

Of the 46 municipalities of the second section of this schedule, whose municipal limits are to remain as before the Act until altered by parliament, 23 are also parliamentary:—

Bodmin, Buckingham, Calne, Chippenham, Droitwich, Evesham, Flint, Helstone, Huntington, Hythe, Lancaster, Lyme Regis, Lyminster, Margate, Waltham, Bentley, Rye, Sandwich, Shaftesbury, Tamworth, Wallingford, Chippening Wycombe.

And 18 are municipal only:—


The fixing of the new municipal boundaries is the task of the district commissioners, which has been actively pursued 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 boundary limits by the Municipal 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 inhabitation. In many cases however it is probable that the boundaries will remain as already indicated by the schedule adhering to 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 ancient 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 and Brenchley, the corporate borough was not continuous, but included outlying parcels of ground. The most remarkable instances of this occur in the Cinque Ports. At Hastings, for instance, the corporate magistracies 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 locally situated within the limits of the county, exempted from its jurisdiction. Such existed at York, Lincoln, Norwich, Winchester, and Chichester. These had usually originated in ecclesiastical privileges, or bad 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 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 boundary indicated in the schedules is made part of the borough. Such 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. Although this act in the internal constitution of the boroughs, we find that the facts naturally resolve themselves into three divisions. The first and most important consists of those relating to the constitution
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 appointment, surveillance, and payment of magistrates, officers, and employees; 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 regards the organization for purposes of local justice, 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 Constiutency.

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 indefinite number of persons, custom (supported by the silence of the charters as to any general right to the franchise, and by its disuse and omission whenever such rights (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 the corporate body is indefinite, and those in which it is 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 ruling body 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 policy of the ruling body was to make no distinction in the management of the corporation 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; still, many of the elections were so constituted that the persons qualified, the usual qualification being residence in the borough; in others the choice was unfettered 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 acquired varied; In Norwich, for example, a freedom was acquired only by a poll, but almost all might beclassed 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, in 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, usually the mayor, were frequently allowed to undervalue their personal services to the amount of 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 seem in these instances to have simply acquiesced in their practice.

In many towns, as still in London, it was necessary, in order to complete his title, that the party should be first admitted a member of certain guilds or trading companies of antient 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 formerly still more prevalent. The derivative title to freedom was also derived from certain municipal corporations of the same kind as that by which the municipal corporation itself was entered. These guilds were also accustomed to admit by purchase; but such purchasers neither acquired nor could convey any absolute right to admission into the municipal corporation. Occasionally it 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 various in different places. In some, the right by birth was exercised only by the sons 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 of seven years was formerly 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. Corporators.—The effect of these different modes of acquiring the freedom was, that the corporate bodies existed 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. With the acquiring, some municipal commissions were given; 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 conferring, embodied, enjoyed, was greatest to the inhabitants. By degrees, exclusive qualifications were insisted on with increasing stringency, and with new exceptions, as the privileges to which these exclusive bodies laid claim rose in importance. This 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 was the case in every example of small boroughs, of inhabitants. 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-residents, while the inhabitants were not included. In some, 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 the elections of the corporation, 'the only corporation whom,' say the commissioners, 'they rightly ought to belong.' 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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
disparities existing under the old system between the actual
capacity of the franchise and the public interest to which
would be served, appears in a table given in the com-
misioners' Report, of sixteen of the largest English cities
and boroughs, which, with a collective population of 715,702
within their parliamentary boundaries, had only 34,657
freemen of all classes, resident and non-resident.

The political importance which the election of members
of parliament has in later times conferred upon these go-

vining bodies, and the rewards for political services thus
bought within the reach of the ruling corporations, had
caused the latter to be regarded as the sole purpose of a munic-

ipal institution; and in some boroughs this right has even survived all
other traces of municipal authority. The custom of keep-
ing the corporators as few as possible is referable rather to this
cause than to the mere desire of concentrating the mun-
icipal 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-
spect to which is an inherent element of their very exist-

ence. To maintain the political ascenden-

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 used by the community. The whole of
these evils arose from this perversion of municipal privileges to political
ends. The commissioners generally found that those cor-

porations which had not possessed the parliamentary fran-

chise, had most faithfully performed the duties of town
government. This day of A.D. 1543 was in the latter
statement the point of confidence and good-will of the communities to
which they were attached. Such was found to be the case
in some where the ruling body was strictly self-elected, and
the general constituency liable to the same objections as the
former.

It was likewise with a view to the lucrative exercise of the elective franchise that admission into the corporate body was commonly sought. In those towns where a large body of freemen returned the members, the years in which elections happened, or immediately preceding those in which they were expected, have been marked by the ad-

mission of a number greatly exceeding the average. Mal-
don and Bristol present two remarkable instances: at
the former, in one election year, 1870 freemen were admitted,
who had in the preceding election, and 1273 in another election year. 1720 were admitted in lieu of the
annual average of 50. The number of admissions, since the
Reform Act abolished the exclusiveness of the freemen's
right of parliamentary election, had remarkably fallen off;
and the fact has been admitted by the majority of those who
inquiry, expressed their conviction that the revenue from admission fees would then move forward diminish, and in some places entirely fail.

The election to municipal offices, too, has often been a
trial of strength between political parties; and instances of
systematic bribery to secure such elections, appear at Maid-
Thus have the inhabitants had to complain, not only that the choice of their magistrates and their municipal func-
tionaries was corrupt, but that the interests of the persons unconnected with the town, but also of the disgrace-
ful practices by which the magisterial office was frequen-
tly attained; while those who, by character, residence, and
property, were best qualified to direct its municipal affairs,
were excluded from any share either in the management or
the elections.

Another great source, in the late system, of unfair and
injurious limitation of the municipal franchise, must not be
overlooked. The Test and Corporation Acts, until their
repeal (which was enacted in a public act of 1639) pro-
hibited the whole mass of English Roman Catholics and
 dissenters. Against the latter especially, whose numerical
proportion to the whole population of the kingdom has in
later times so rapidly increased, the operation of those acts
was most seriously prejudicial to the public welfare; and
since their repeal the measure has been found to have little
practical effect, owing to the self-elective constitution of the
old ruling bodies, still leaving in their hands an arbitrary
power of admission or exclusion.

Changes introduced into the local constituencies by the
Municipal Reform Act for England and Wales.—The most
important change is the recognition and adoption of the two
classes of ratepayers by both the model and the new act, which
on the whole would be usefully based;—first, that the primary
object of such an establishment should be the welfare of the
residents within the municipality;—secondly and conse-

quently, that the constituency should comprise all those
that, to a greater or lesser extent, contribute to the local burdens and are
liable to the local services. A termination is thus put to
that mischievous power so long exercised by the general go-

government of the country, and by individuals holding poli-
tical patronage, in modifying, enlarging, or restricting the
personal connexion with the large, the small, the ragged,
the wealthy, and the mischievous, the promotion of political or private ob-
jects exclusively, to the total disregard, and in often open
contempt, of the well-being of the communities which they
professed to regulate.

The Act provides, that every male person of full age, not
an alien, who, on the last day of August in any year, shall
have occupied any house, warehouse, counting-house, or
shop, within any borough during that year and the whole
of the two years preceding, and during that period shall have
been within the group of seven miles of the city or within seven miles of it by the nearest route, shall be a
burgess of that borough, if duly enrolled in that year as
below stated. But to be entitled to this enrolment he must
have been rated to the relief of the poor, during such time
as he has been a resident within the area or within the
rate-pounds of it. He will then be a rate-payer, and shall have been
on or before the last day of August in that year, all
poor-rates and all borough-rates (if any) under this Act,
payable by him in respect of such premises, except such as
come payable within six months before the said last
day of August, and have been paid, or on or before the last day of August in that year,
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poor-rates and all borough-rates (if any) under this Act,
II.—OrGANIZATION FOR LOCAL GOVERNMENT.

This part of our subject involves the consideration of three distinct though closely related departments, the legislative, 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 municipal government. The boroughs, asFreemarsham and Berwick-upon-Tweed, 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 composition of each class of the common 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, out of boroughs, and in 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 common council, had been preserved in the corporations whose number was definite, and 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 officer usually termed mayor. The election was generally for life: the qualification of residence, though sometimes necessary, was rarely required. The members usually filled up vacancies in their own body from the other branch of the common council; in other cases their class consisted of all who had filled the executive office: the aldermen, like the common councilmen, were usually chosen for life. London and Norwich afford instances of the election, 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 consisting of, are divided into six classes: first, the direction of the executive department; secondly, the direction of the various orders of officers; thirdly, the direction of the various denominations of rates or local taxes; fourthly, 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 great number of cases the intrusted offices are held by the members of the council itself, although, in some, the 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 municipal council, according to the importance of the business, and the fact of the members being freely employed. 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. As the commissioners remark, 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 commonly of one political party, and their decisions were not always free from influence to party 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 few instances in which 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 control of the finances of the city and of the salaries of the judges, 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 not even elected from the body of men whose interest it was, being elected for life, their proceedings were uncalled 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 carefulness 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 the system of party rule, and sometimes by disapprobation. The common council of London is cited by the commissioners as furnishing a striking 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 of secrecy; and it is not without reason that many of them even exclude the most popular, though not the members of the common council. The inhabitants subject to their authority had often very imperfect information as to its nature and extent; knew not whether it flowed from prescription, from charters, or from bye-laws, and had no means of controlling it but that of presenting a petition to one of applying to the superior courts for a writ of mandamus or quo warranto. The bye-laws made or repealed were seldom published, and the public generally learned their provisions only from common rumour. This ignorance was increased by the frequency of the changes in the composition of itself, 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 corporations of indefinite number some at Richmond, for instance, Twenty-one persons voting 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 Lord of aldermen or common councillor elected 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 re-eligible only after a given interval. In a great majority of the English and Welsh boroughs, the executive officer is also the mayor; occasionally, but rarely, the old Saxon title of portreeve. Some of the governing charters gave him the power of appointing a deputy.

The head of the corporation, besides presiding over the governing council and acting as its executive organ, has universally been, by virtue of his office, the head of the local judicature also. He commonly received a salary: in some small boroughs he has taken the whole corporate revenue without account; but more usually a fixed sum has been granted him, which, however, he has never possessed 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, on the whole, more has been expended upon the head than he has received for the emoluments of the office. In some boroughs no emolument whatever has been attached to it.

In some cases, the duties of the mayor have been wholly neglected, either from want of capacity or of will; occasioned from non-residence. In some boroughs the 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 of mayor with personal advantage. The charters usually limit the executive officer's power of appointing a deputy to occasions of his illness or necessary absence, plainly importing that residence in the town was an implied condition of his holding such office. But although the mayor was usually resident, the practice of deputising from the charter by appointing a deputy for the whole year had become 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 decidedly and importantly interposed. Leaving the constitutions upon 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. sur-frag 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 these councils might be styled simply 'The mayor and burgesses of such or such a borough,' and the constitution of each was 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 qualification of property. But the Lords of the Council, of course, had different ideas. They constituted aldermen elected for a term of years, so that the future style of every corporate 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 municipal office, even as a member of the council, or local legislative 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 persons for each ward in boroughs divided 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 respectively. The number of councillors in each ward is to be a number divisible by three (as one-third quit office every year), and the particulars of the number assigned to each ward are to be laid before the borough 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 duly enrolled in each borough, and in boroughs divided into wards, by the burgesses 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 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 annually to retire, is to be that of being returned by the greatest number of votes that may be given at the same election; 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 councillors, or from the burgesses qualified to be councillors, one-third at a time, for six years; and 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 councillors, and afterwards every order of three years, by the majority of such as shall be elected 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 some separate notice. He is elected, or, more properly, is re-elected by the council out of the aldermen or councillors.

The property qualification for mayor, alderman, or councillor is the same; namely, in boroughs divided into four wards or more, the clear possession of 100l. in real or personal estate, or the right to the relief of the poor upon an annual value of not less than 30l.; and in boroughs not divided into wards, or divided into less than four, the clear possession of 50l., 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 being elected mayor, alderman, or councillor must make or subscribe before two or more aldermen or councillors the following declaration, or one to the same effect:

I, A. B., having been elected mayor (or alderman, or councillor) for the borough of —, do hereby declare that I take the same office upon myself, and will duly and faithfully fulfill the duties thereof to the best of my judgment and ability; and in case of the party being qualified by estate, say—And I do hereby declare that I possess or hold, or have the benefit of, estate to the annual value of 100l. or 50l. (as the case may be), to the amount of 100l. or 50l. [as the case may require], over and above what will satisfy all my debts.

The mayor and aldermen shall continue to hold their offices in the council while they hold their respective offices, notwithstanding that it is provided that councillors 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, of whatsoever nature, or of any trust or confidence in 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 provisions of this act shall not apply to any officer or employee of any corporation, or any person supplying water to the borough, or not be disqualified thereby.

Every person duly qualified who shall have been elected to the office of mayor, alderman, or councillor, must accept such office, or pay to the corporation such a fine, not ex-
ceeding 100£. in the case of mayor; or 50£. in the case of alderman or councillor, as may be determined by a bye-law of the borough. They do not, however, receive a similar remuneration for their required declaration within five days after his election, be liable to pay the same fine, and a new election is to take place.

Every person above sixty-five years of age, or who has served in the armed forces, or paid a fine for not serving, within five years previously, is to be exempted from serving if he claims exemption within five days after notice of his election. Military, naval, and marine officers on full pay, and persons employed and residing in any of his Majesty’s dock-yards, victualling stations, arsenals, or barracks, are not to be compelled to accept office.

Councillors.—The election of councillors is to take place on the Ist of November in every year. Every burgess enrolled at the time of the election, and such only, will be entitled to vote for officers of the borough. It is expedient for the purpose of taking the poll, may cause booths to be erected or rooms to be hired for different parts of the borough. He is to appoint a poll-clerk at each booth or compartment of a booth, and is to cause to be fixed conspicuously on the booths the names of the parts for which they are respectively allotted. It is expressly provided that henceforth no municipal election (as in the Parliamentary Reform Act it was provided respecting parliamentary elections) shall be held in any church, chapel, or place of public worship.

Every election of councillors must be held before the mayor for the time being and the assessors, acting by deputy in the different booths, except in boroughs divided into wards. In the latter case the election after such divisions may be held in the manner described. There shall be an elector for each booth, and in each succeeding year the election in each ward is to be held before the alderman who are the councillors of that ward shall yearly appoint for that purpose, and before the two assessors of that ward, in the same manner as the election for undivided boroughs are to be held before the mayor and assessors.

The mayor and assessors are to examine the voting-papers delivered in by the electors; and in case of an equality in the number of votes for any two or more persons, for mayor and assessors, or any two of them, are to name from among those having the equal number of votes one or more, as may be necessary to make up the number requisite to be chosen. The mayor is to cause the voting-paper to be kept in the town-clerk’s office for six calendar months at least after each election; and the town-clerk is to permit any burgess to inspect the voting-papers of any year on payment of 1£. for each search. If at the time an election must take place the mayor should be dead, absent, or otherwise incapable of acting, the council is forthwith to elect a deputy mayor to discharge the duties in place of the mayor. In the first election (1835) of councillors, assessors, and auditors, the mayor alone is to act in the same manner in which it is provided that the mayor and assessors shall jointly in succeeding elections.

Aldermen.—After the first year (1835), the council of each borough for the time being are to elect one half of the total number of aldermen on the 9th of November in every third year. Any extraordinary vacancy is to be filled up by the council electing some qualified person, within ten days of the death of the alderman. The Act 5 & 6 Will. 4 & 1 Geo. 4. cap. 100.

And in case any councillor shall be elected alderman, then the vacancy thus created in the council is to be supplied in the manner above described. But after the full number of councillors regularly elected in any year shall have declared their acceptance of office, no new election is to take place on account of an extraordinary vacancy alone, unless by it the remaining number of councillors is reduced to two-thirds or less of the whole number for the borough. Every person chosen alderman to supply a vacancy, is to hold office until the next annual election, or until his death or removal from office.

Mayor.—The mayor is to be elected by the council. The first election being postponed by Order in Council to the 1st of January, 1836; future elections are to take place yearly on the 9th of November, commencing with the No-

vember elections. In case there is, during the year of office by non-acceptance, death, or resigna-
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-list in conjunction with the mayor, at least once a year. They must 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, and Functions.**

The chief ministerial officers of a borough, as hitherto constituted, have been the council and secretary, and the secretary was generally 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 offices 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 council. Perhaps the freemen at large or 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, which however in most cases was little more than a living. He was frequently the manager of 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 chamberlain's duties have been, to receive the revenues, make 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 every other office, the council appointed the common clerk; he commonly belonged to the body by 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 by 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 large towns. These were either officers of ceremony, as sword-bearers, mace-bearers, &c.—of police, as constables, sergeants at arms, or town-sergeants,—and others, as beadle, criers, &c., whose functions are sufficiently indicated by their appellations. They were nearly all under the control of the governing body. Many of them had neither fees, fines, nor salaries; yet they were yearly elected and solemnly sworn to the fulfillment of their nominal functions, the corporations doubting whether they could legally cease to elect any officers named 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.

**Districts in the Constitution of the Ministerial Officers.**

—Offices, 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. This notion appears to have originated in 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 all of whose accounts are placed in the body over which he presides. Inconvenience of an opposite kind occurs where several persons are required to concur in executing the duties of a single office. The exception to which some corporations carried the principle of treating the corporate offices as matter of more patronage, is illustrated in the commissioners' general report, by two instances where, in two considerable towns,
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 commissioners: 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 between the corporation and the borough 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 authorities of the corporation and the council were so used as 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 supremacy of the council, in regulating, lighting, paving, watching, regulating, supplying with water, or improving any borough or part thereof, wherein they or the persons whose trustees they may be are not beneficially interested, been at a meeting called for that purpose, in writing under their hands and seals, empowered to transfer to the council of such borough, which shall thereupon be trustee for executing, by the council of the borough, the several powers and provisions of such act; and the members of the council are in that case to have the same powers and be subject to the same 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 trustee is vested by section 2 of this Act, is given in schedule A 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, without the consent of the municipal corporation. And 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 of the borough in its provisions after a certain day named. And after such day is to be included in the lighting, or any part thereof belonging to the corporation in the act in which the order is made, 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 user there in the pound of the lighting of the other parts of the borough, if the council in due time shall have fixed a notice upon the 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 incorporate the corporation, and that the act shall be invalidated, as 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 corporation of the said borough had been incorporated, 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 be held to be called for in any year for lighting such part, which must not exceed six years, at which time the corporation are to be dissolved, and 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 for water, and the impounding and sale of chandise, 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 fines imposed on persons 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 they have been inadequate to these purposes, even though they had been applied more fully.

There were many instances among the parliamentary boroughs in which, the revenues being inadequate to the wants of the municipality, the deficiency had been supplied either by the political patron or the common council 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 accustomed to receive pecuniary allowances from the patron; which allowance, by a sort of equitable mortgage, of sufficient security, and too, the interest on the funds so given, both to the corporation and to the public, in the manner of a loan. The only security for such loans being certificates of grace, or more informal titles, the corporation was not able to enforce them in any court.

Both the income derived from market and fair tolls, and the proceeds of any exceptions made in the use of public property, had been too generally applied to local purposes, and little or nothing had been reserved for any national accounts. The rendered interest of the income thus levied had been applied to the amount of the community, as in the exorbitant and injurious nature of that kind of taxation—arising, in some places, from the exorbitant and unfair rates, as at Bristol, from the tendency of the trade of the port; besides that, whatever may have been the origin of these tolls, in latter days they have been paid, in many instances, without any equalizing being tendered by the corporations which have enforced them. The effect of such acts has been to enable the owners of the tolls to secure the receipt of a larger sum to serve corporate offices has also been a source of reasonable 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 constitution and management 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 disproportionate to their value, and frequently for long terms of years. Similar abuses have taken place in the sale of offices and other property for inadequate considerations. In large towns however the prevalent species of malversation has been not so much the clandestine appropriation of the corporate property, as carelessness and extravagance in the administration of its funds, and the excessive 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 1825 expended 40,000l. on a political fund, and mortgaged some of their property to discharge the liabilities thus incurred. At Barnstaple and Liverpool, in like manner, the funds of the corporation have been wasted in defending threatened disfranchisement from the hands of freemen who had been denied the privilege of voting. In no other 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 expended to defray the salaries of unimportant offices. The allowance to the head of the corporation was often very 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 a cost of which the amount was defrayed out 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 neglect and improvidence. Yet, in many instances, the charge which was 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 public property were very difficult to disentangle. The corporation had increased their 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 hereditaments, and the interest, dividends, and annual proceeds of all monies, dues, chattels, and valuable securities belonging to the former body corporate of such borough, named in the schedules (A) and (B), or to any member or officer thereof in his corporate capacity, and every fine and penalty for any offences 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 not to be paid, nor in any way be applied, to the payment of the salary of the mayor, or 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 appointed by the council; as also towards the payment of the expenses incurred from time to time in preparing 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.

The council has not power to sell, mortgage, 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 previous agreement, should there be one; and leases are to be granted in the name of the corporation, and not in the name of any individual or corporation, and not in the name of any individual.

In special cases the council may sell, or alienate, or dispose, or lease for a longer term than thirty-one years, by representing the necessity of raising additional revenue, and obtaining their approval 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 a copy of the memorial to the inhabitants. The introduction of this act, in so many places, is now at first uniformly and effectually provided for. Two auditors are to be elected for each borough or ward by the burgesses, in precisely the same manner as already described in the case of assessment, and in so many places they are to examine and audit the treasurer's accounts, in conjunction 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 universal persuasion on the part of the members of corporations, that the permanent income derived from rents, tolls, and other sources, &c., which is applied in the benefit of the corporators themselves, and the consequent unprofitable expenditure of that income, called the powers of local taxation, where the corporation possessed them, into additional activity, though generally with no equivalent advantage to the inhabitants. The introduction of this act, as the house already know, opens 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 standing revenue of the borough to public objects, it provides 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. Toils and trouble have been bestowed for the preservation 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 these funds. The corporations have 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 exercised by the corporate authorities to reward votes given in 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 masters of hospitals and endowed schools.

As regards charitable trusts, it is deemed expedient that the administration should be kept distinct from that of the public funds of the municipality, whether the former body corporate, or any of its members as such, were sole trustees. In like manner, wherever the former body corporate, or any of its members as such, or any particular number of persons appointed by it, were trustees jointly with others, under any Act of Parliament, or by charter, 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 new municipal council, appointed by the council of the city, in case the former body corporate should be dissolved, or the members or nominees of the former body corporate acting as such trustees or exercising such functions.

As regards charitable trusts, it is deemed expedient that the administration should be kept distinct from that of the public funds of the municipality, whether the former body corporate, or any of its members as such, stood solely, or together with other persons elected solely by them, in the exercise of any trust of this nature, it is, under the Act, to continue the hands of the same individuals (considering that they may have consented to hold office by virtue of which they were such trustees) until the 1st of August, 1836; when, if Parliament shall not in the mean time have otherwise directed, the Lord Chancellor, or Lords of the Treasury, as the case may be, to make such orders as he or they shall deem fit for the administration of such charitable trust estates.

The anticipated influx of dissenters into the new municipal councils rendered the ecclesiastical patronage of the corporation a matter of great importance in the consideration of the future of municipal reform. The difficulty has been obviated thus. Where any former body corporate, or any number of its members as such, possessed any property (otherwise than as charitable trusts) to which any advowson or right of pre- ferment was attached, or possessed any advowson in gross, or any right so to present or nominate, every such advowson, 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 council are accordingly authorized to convey such right to the purchaser under the common seal of the borough; and the proceeds of the sale are to be paid to the treasurer, to be invested in government securities for the use of the new body corporate, and the amount so invested is to be kept separate from the common fund. Any vacancy occurring before the effecting of such sale is directed to be filled up by the bishop of the diocese in which the precinct 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 election of the common council was optional with the electors of the borough; but more commonly that of the borough magistrates was exclusive; and even where the county magistrates possessed a concurrent jurisdiction within the municipal limits, they rarely exercised it. The borough magistrates sometimes elected the chief magistrate 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 larger boroughs all the aldermen were magistrates; in others only those who had "passed the chair," that is, who had served the executive office. As 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 as magistrates; often 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 elected.

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 period of his mayoralty, either by 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 partisans. Hence, even in those cases where injustice was not absolutely committed, a strong suspicion of it was excited; so that the corporative magistracy, generally 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.

Magistrates, as the Members of the Municipal Court. 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. In an important change is worked by the Act in the constitution of the court of corporation: the executive officer of each borough will henceforth be its only elective magistrate. Wherever there is to be a body of justices in addition, and wherever there are to be one or more police magistrates, they are to be appointed by absolute nomination of the Crown.

It is to be lawful for his Majesty from time to time to assign a commission to act as justices of the peace in and for each borough and city named in the schedule (A); and to be subject to such appeal, if any, as the commission shall direct; to be appointed for such terms (whether limited or not) as the commission shall determine; and to have power to make such rules (if any) as they shall think fit; and to perform all and every such justice as is or may be necessary for the peace and quiet of the borough or city for which they are for the time being appointed, and from which they were last appointed; and to be a body of justices of the peace for the time being for the borough or city for which they are so appointed, and for the borough or city for which they were last appointed; and to have power to inflict any punishment, at any time, as the commission shall direct, which may be inflicted by any of the justices of the peace of a borough or city for the time being for which they are so appointed, or for the borough or city for which they were last appointed; and to have power to appoint such other justices of the peace as they shall think fit; and to have power to perform all and every such justice as is or may be necessary for the peace and quiet of the borough or city for which they are appointed.
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 a nobleman was chosen recorder there whose name did not appear on any of the lists, merely on account of the right he possessed 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 at 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 was a member of the borough council. 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 control. 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 local officer the Reform Act also makes some important changes. Excepting the mayor, nomination by the crown is to be substituted for election by the members of the corporation. The council of every borough, desirous of having a separate court of quarter-sessions, is to petition the king in council for the appointment of any clerk, not below the rank of county judge, to be the recorder for the county or borough; 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, or a learned good barrister, and may, 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 attorney; and the clerk to the corporation in some instances almost necessarily, he has been an attorney; and the influence with the corporation as his office, as we have already described, is to substitute for election by the members of the corporation. The council of every borough, desirous of having a separate court of quarter-sessions, is to petition the king in council for the appointment of any clerk, not below the rank of county judge, to be the recorder for the county or borough; 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, or a learned good barrister, and may, when any vacancy occurs, appoint another such person to fill the office.

Defects, &c.—'The most incompatible offices, observe the commissioners, are those of town clerk and of recorder. They call one another the clerk to the magistrates, or justices; clerk of the peace, that is, of the criminal courts; town clerk, corporation, borough, mayor, corporation, borough, clerk of the coroner, or of the recorder, or of the civil courts. Moreover, he was often appointed deputy recorder, and usually conducted inquests when the head of the corporation was coroner ex officio.

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often had the custody of the gaol. In many places the office had become entirely nominal; in others its original duties had been superseded by those of the sheriff. In Devon, for example, it was filled by one man, often, of the county, person, often by two; at Berwick it was vested jointly in five, by three of whom bailable process must be signed. Their emoluments arose from the same sources as those of the sheriffs; in some towns they received a salary, in others those were remunerated by the public purse for the discharge of their 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 branch of jurisdiction has long been disused, and in others it has been so late but partially exercised, allserious 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 committed within the limits of the corporation. Adjudications of the criminal jurisdiction 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. Courts of general gaol delivery existed in very few places; in some of them 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: where no 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 instance of the county, rather than the corporation. In some 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 were thus responsible to the court for the performance of their duties; and it was the mayor or the recorder, sometimes both. In some cases in which 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 they held court every third week. Had there been no quarter-sessions, the prisoners at the latter being tried before the mayor and aldermen, but virtually by the town clerk, who there was necessarily a barrister.

The jury 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 executions; 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 origin in the charters granted to them by prescriptive. 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 adjudicated was not fixed, but, in the cases to which it was restricted to the recovery of debts under a given amount. The presiding judge in these courts was generally the mayor, whereas they were not unfrequently termed the mayor's court. Sometimes the bailiffs prefixed with the mayoral; in other instances the recorder, and occasionally both. In all boroughs where a borough consists of a civil jurisdiction, there is always one who is technically the high sheriff, 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. In many boroughs they virtually performed the same duties as 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, were committed upon the sheriff of the county. 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 officers of the civil jurisdiction was by these names varied in different 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 proceeding 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 justices of assize, in the course 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 cases, the return of process was directed by the County Court this was also, in the cases of men summoned, and that the returns 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 Bridgewater, they had adopted the forms of pleading, and in some of the process, the courts of common law. In some the process was of distress, or distrain of the defendant's goods, and venditioni exponas, or exposure to sale, in cases where the debt exceeded 40s. This was generally founded on affidavit of the debt; but at Berwick it was sued for, at the general sessions, and only 15s.; at Lancaster when it was under 40s. At Preston, burgesses were exempt from this process. Several courts, as in London, Bristol, and Exeter, had the custom of foreign attachment, by which a plaintiff, or other person, might detain the goods of his debtor on their hands, all the time that they were in the custody of the corporation, 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 been extensively used.

**Inquests in general.**—The corporate magistrates were often selected from a class incoherent 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 been known to sign 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 reading it. All the power was vested in the mayor 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 been extensively used.

**Defendants in general.**—The corporate magistrates were often selected from a class incoherent 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 been known to sign 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 reading it. All the power was vested in the mayor 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 been extensively used.
one of the four nominal attorneys in court, the real attorney in the cause leaving 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 persons whose pecuniary responsibility was inadequate to afford any security to the cause. The costs of a party 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; there 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 matter in question. One cause was the non-payment of the fees, and 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 disqualification to resort to the courts. Small fees from such persons would tempt a 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 would 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 was also a source of abuse.

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 disproportioned to the importance of the town or the probable responsibility and intelligence of its magistracy. Thus, 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 Winchelsea, with a population of only 172, and in Dunwich, with only 232, the inhabitants had the double advantage of resorting to 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. The grant of exclusive power to the charter towns had depended entirely on accident or caprice, or to have been determined by circumstances which have long ceased.

Many corporations have dissolved the jurisdiction conferred by charter; generally from unwillingness in the corporate magistrate to untie himself and to exercise the powers of which he was invested. 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 limited population of the town, or the low rate of disbursements, rendered it inexpedient, or impossible, to select competent persons to act as magistrates, even in petty sessions, although a sufficient number might be found capable of superintending the police, and the paven, lighting, &c. of the town. Even in the more important boroughs, it is great injustice to the litigant to have the business 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 petitions have marked testimony to the general desire of the habitants 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, 1836, all criminal powers and jurisdiction are vested with the power to try, and with the power to pass sentence of death on any convicted person. The whole of the police and criminal jurisdiction of any borough under 20,000 inhabitants, passed to the first of May, 1836. On the passing of this act, all claims 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 be the sole judge. It is to be a 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 or similar rate, or to grant tavern licences, or to exercise any of his powers or jurisdictions vested in the justices of the peace. 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 not to be a 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 will not then have jurisdiction to try, may be removed to the quarter-sessions 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 this relating to the exercise of any county 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 the Reform 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 it is not exempted from the authority of the county council on the grounds of being within the county.

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 a separate court of quarter-sessions was to hold the office of recorder, 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, either by charter or custom; and every such officer or assessor, 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 actions of assumpsit, covenant, debt by special contract, or by special cause, if called in, or for the charge of any costs or charges, if the amount of the debt, or the interest of money, or the amount of the costs, shall exceed 10/.; and of ejectment between landlord and tenant where the annual rent shall not exceed 20/. without any fine. And any such whige 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 county under which the borough is included, as if any 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.

The council of any borough shall appoint a recorder as above shall be held to appoint a registrar, except where the town-clerk acts as registrar, and other officers and servants to carry on the business and execute the process of the court.

Borough Juries.—Every burgess of a borough having a separate court of quarter-sessions or of record 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. 62. and the Act of Geo. IV. c. 63.), to serve on such jury oftener than once in any 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 except 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 supreme jurisdiction in all cases of election: from the sheriff, or from a commission of the peace, or a court of record, to be made and settle, 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, to be 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.—All penalties recoverable under the old laws of the county were to be paid by 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 justices 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 to no one else; except being made of all 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 is to be begun 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 in this clause of the act; the name of the offender, with the date and place of the conviction, the name of the offender, and of the witness or witness, who, as occasion may require, shall be sworn as to the identity of the offender; which testimony shall be signed by the officers of the court; and the officers of the court are to be deemed 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 that shall be held after the conviction; and the record of such conviction, or such part of it as the defendant shall demand in the interim, on being proved by 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 mere informality, nor removed into any of the courts at Westminster.

Gauge.—In nearly all the boroughs having criminal jurisdiction are gaols which have been under the superintendence of the corporation or the municipal magistrates. Their purposes are, to receive, to detail, and to keep them in position; 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 the poor debtors, who are to be kept in a small gaol, are kept apart from the penal and civil prisoners. 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 out of the borough gaols, and finally 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 was generally disgraceful, the proofs 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 discredit able condition: in many others, 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, or to separate the criminals from the debtors. Felons might be freed on recognizances and committed to the county gaol, while debtors committed to 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. It was frequently stated to the commissioners that the gaol of the borough was in an notoriously improper 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 buildings. Henceforward the corporation may be directed to provide for the safety and security of the inmates of the gaols, and to prevent the transfer of prisoners to the county gaol when destined for trial at the county sessions or assizes; and such of the boroughs as are too inconvenient for this purpose are to be provided with places of confinement, in the discretion of the council, and the corporation is directed to provide for the safety and security of the inmates of the gaols.

The new municipal system is calculated to obviate the conspicuous and often revolting evils of the old regulations relating to gaols and commitments. It makes uniform the law governing the transfer of prisoners to the county gaol when destined for trial at the county sessions or assizes; and such of the boroughs as are too inconvenient for this purpose are to be provided with places of confinement, in the discretion of the council, and the corporation is directed to provide for the safety and security of the inmates of the gaols. Henceforward the corporation may be directed to provide for the safety and security of the inmates of the gaols, and to prevent the transfer of prisoners to the county gaol when destined for trial at the county sessions or assizes; and such of the boroughs as are too inconvenient for this purpose are to be provided with places of confinement, in the discretion of the council, and the corporation is directed to provide for the safety and security of the inmates of the gaols. Henceforward the corporation may be directed to provide for the safety and security of the inmates of the gaols, and to prevent the transfer of prisoners to the county gaol when destined for trial at the county sessions or assizes; and such of the boroughs as are too inconvenient for this purpose are to be provided with places of confinement, in the discretion of the council, and the corporation is directed to provide for the safety and security of the inmates of the gaols. Henceforward the corporation may be directed to provide for the safety and security of the inmates of the gaols, and to prevent the transfer of prisoners to the county gaol when destined for trial at the county sessions or assizes; and such of the boroughs as are too inconvenient for this purpose are to be provided with places of confinement, in the discretion of the council, and the corporation is directed to provide for the safety and security of the inmates of the gaols. Henceforward the corporation may be directed to provide for the safety and security of the inmates of the gaols, and to prevent the transfer of prisoners to the county gaol when destined for trial at the county sessions or assizes; and such of the boroughs as are too inconvenient for this purpose are to be provided with places of confinement, in the discretion of the council, and the corporation is directed to provide for the safety and security of the inmates of the gaols. Henceforward the corporation may be directed to provide for the safety and security of the inmates of the gaols, and to prevent the transfer of prisoners to the county gaol when destined for trial at the county sessions or assizes; and such of the boroughs as are too inconvenient for this purpose are to be provided with places of confinement, in the discretion of the council, and the corporation is directed to provide for the safety and security of the inmates of the gaols. Henceforward the corporation may be directed to provide for the safety and security of the inmates of the gaols, and to prevent the transfer of prisoners to the county gaol when destined for trial at the county sessions or assizes; and such of the boroughs as are too inconvenient for this purpose are to be provided with places of confinement, in the discretion of the council, and the corporation is directed to provide for the safety and security of the inmates of the gaols.
riable 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 debts due, for a new ballot on the 4th June, 1835, 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 polls or duels, provided that he pay 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 fulfills every other condition herefore required, as far as is consistent with the provisions of this act. But all other exemptions from municipal polls or duels, and all other 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 action 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 Nov., 1835, in addition to 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, extended about two months respectively. The following table will be found useful to ascertain the more compact, and chronological view, each separate stage of the proceedings under the new system, with the precise date of for the first year, in comparison with that fixed by the act for all following years.

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<thead>
<tr>
<th>Dates fixed by</th>
<th>Nature of Proceeding</th>
<th>Dates fixed by Orders in Council to first Year’s Proceedings.</th>
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<tbody>
<tr>
<td>Nov. 7, 1835</td>
<td>Week of proceeding</td>
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<tr>
<td>Between Nov. 7 and 1st Nov. 1835</td>
<td>*</td>
<td>Between Dec. 1, 1835 and 15th Dec. 1835</td>
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<td>Nov. 17, 1835</td>
<td>Week of proceeding</td>
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<td>8th days before Dec. 1, 1835</td>
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<td>Between Nov. 1 and 15, 1835</td>
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<td>Dec. 9, 1835</td>
<td>Week of proceeding</td>
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<td>Dec. 15, 1835</td>
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<td>Dec. 22, 1835</td>
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<td>Dec. 29, 1835</td>
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<td>Jan. 1, 1836</td>
<td>Week of proceeding</td>
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<td>Jan. 8, 1836</td>
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<td>Jan. 15, 1836</td>
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<td>Feb. 5, 1836</td>
<td>Week of proceeding</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 place of profit under the government of any borough, and which, by virtue of any act, 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, treasurer, or chamberlain, and every other ministerial or executive officer’ who shall be in office at the time of the first election of councillors, may be removed by the council, but is to continue in office and be paid as heretofore until he shall be removed or re-appointed under the Act. He must notify to the council of his intention to vacate office, and at the same time to present his final account to the council, who, in default, are to have the same remedy against him as against their own officers. Persons who, in any borough scheduled in this act, were justices of the peace under the old system at the time of its passing, are to continue to act as such until the 1st of May, 1836, but no longer.

Every paid officer of a corporation whose office shall be abolished, or who shall be removed from it under this Act, is to receive adequate compensation from the borough fund, and the council may extend any amount of such compensation as is necessary to have regard to the manner of his appointment, his term or interest in it, and all other circumstances of his case.

Of the 246 municipalities which the commissioners state in their General Report to be existing in England and Wales, 47 have been made municipal boroughs; any sixty-three out of which may be extended by the Act of 1835 and the Act of 1835 of any part of the four miles of England and Wales are not towns corporate, and it is expedient that several of them should be incorporated; and, enacts, that if the inhabitants householders in any town or borough in England or Wales shall petition the king to grant them a charter of incorporation, it shall be lawful for him, if he think fit, by advice of his privy council, to extend to the inhabitants of such town or borough, within the district to be described in the charter, the provisions of Act. Notwithstanding all or any of the provisions of the Act whereunder when it is to be taken into consideration by the privy council, is to be published by royal proclamation in the "London Gazette," one month at least before such time.

We have now traced the history of the boroughs of England and Wales, with the several elements by which they exist, the influence among them, the interest, up to the time at which we write. It is not for us here to speculate at large upon its future course. That it will be marked by a steady advance in political and social amelioration there is hardly room to doubt. The decided influence of that political tide which has so long been setting towards the sacrifice of all sound internal organization to the immediate material interests of individuals, of parties, and of classes, wields the executive powers or sharing in the patronage of government, we have already had occasion to state. This is the immediate organization to which the instincts of a free community must ever tend, could be made the mere sport of irresponsible ‘prerogative,’ it may safely be asserted, are gone for ever in England. It is now the province of the legislature, and that to mould an external authority upon the minute and secret actions of each municipal commonwealth; and notwithstanding the instinctive bias of a large majority of the hereditary house of legislature towards the discouraging and shackling of the practice of election—notwithstanding their influence of keeping them from the force of this bias, which have made in the bill of municipal reform sent up to them by the representative house—yet the beneficial groundwork of that original measure—that which affords a basis for all further improvement—the practical application of the principle that the primary object of a municipal constitution should be the immediate local security and convenience of the whole resident community, remains unimpaired. The towns of England being even now in the state of transition from the

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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. To the best of our knowledge, in former times the municipal corruption was found to be the grand inlet to parliamentary subservience, so municipal regeneration, by promoting civic virtue, activity, and intelligence, among the inhabitants of towns, thus brought to exercise a free voice, and, being on the other side, under a higher 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 an order. The success of the present revolution inburgh is in the hands of the burghers, and we cheerfully anticipate the most artificial stage in the progress of the boroughs had been already passed, namely, that of their erection into bodie corporates, if indeed the mere association of the inhabitants had not in those days this effect. Nay, the earliest royal charters were grated on a personal and ambulatory nature. It is by King Malcolm IV. 'to the burgesse of the Bishop of St. Andrews,' and confirms to them all the liberties and customs which the king's own burgesse have, 'per totam terram seignioritatem ...' (Connel, p. 476.) The charters are however generally of one description, and convey to the burgh and burgesse, or to the burghs of the burgh, the privileges mentioned in the deed. The usual privileges are, that they may hold their markets and fairs, and the laws, and the revenue, and it is the duty of the great chamberlain of the kingdom to take account of their payment. The other civic-Mayor of the royal revenue from the burghs were the customs, great and small; and every town, at least those of importance, had its custom of the king's chamberlain of Scotland, and the grant of the royal burghs and crown grants of particular mercantile privileges, began then to take the form of regular feudal grants of the town in fee-farm to the burghs and community for a money reedendum. 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 that the monasteries and the lordship of the crown grants were prejudicial to the revenue, an act was passed annexing the customs and borough mailles to the crown for the king's maintenance; and by a statute passed in 1597 all alienations, assignations, and cessions of the annexed burghs, and customarily, of the customs, made before lawful dissolution (disannexation) in parliament, were declared null. But neither of these statutes appear to have interfered with the method of granting royal charters to the burghs, and it is certain that the monasteries and nobles have clung on to this privilege ever since.

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 which he allows them to hold their church and his borough of Edinburgh, and the burgeses were enabled by him to buy and sell and traffic as freely and fully as his burgeses of Edinburgh. So Dun-
barton 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 sons to hold offices in the county courts. They had done before Dunbarton was made a royal burgh, and without any hindrance from the bailies of Dunbarton.

By various acts of the Scottish legislature also, mercantile privileges were conferred on the free boroughs generally within the kingdom. The crown was disposed to increase the number of crown or boroughs of haromy or regality. However, by an act of the first parliament of King Charles I., the privileges of exporting merchandise, of using merchandise, and buying wine, wax, silk, and the like, of packing and peeling, and the generally practiced perambulation of the free burrows royal, that have vote in parliament and bear burden with the rest of the burrows, 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 said burghs, for the time being, and in the particular portions of the community asserting exclusive privileges. Of these the most ancient is the guildly which appears in Scotland to have always designated properly an assembly of the merchants, and not its example of their merchant fellow-burgesses, and formed themselves into crafts, which, notwithstanding much opposition, at last obtained a legal establishment; they now exist in the towns of Scotland by royal charter, by seal of crown, and by prescription. And thus the burghs were doing throughout the kingdom, the same were the burghal fraternities doing within the burghs,—contending with each other and with all strangers to their communities for the monopoly of trade and manufacture. The burghal franchises were sought again by the burgesses of their own boroughs, and at length got also into their own hands the election of the borough magistrates and the administration of borough affairs.

When we recollect the crown's interest in the borough magnates, we can, without difficulty, see the great chamberlain of the kingdom superintending the boroughs and levying the royal revenue. As the king's officer, we may conclude that the magistrates of the borough would, as his subordinate stewards, be nominated by the crown; and the term bailiff, by the terms of the civil and criminal laws, was understood to mean the person, as we have seen, engaged in 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 counterenounce the idea. But whatever may be the quality of the evidence as to the origin of the office, it was (as we have seen) a better than conjecture. As early as the 'Leges Burghorum', the magistrates were elected at the Michaelmas head court, 'de consilio cum publico hominum viciniis qui sunt sedes et acies house farm', and in the borough of Aberdeen, where we have found the bailiff elected, prior to the year 1469, either by the whole burghs or at least by the guildry. In the year now mentioned however an important change in the whole system of boroughs was introduced. The office of chamberlain or chief bailiff was introduced which lasted nearly four centuries, and well nigh proved the ruin of the boroughs. By the act 1469, c. 30, 'Touching the election of officers in burrows, as aldermen, bailiffs, and other officers, because of great contention yearly among burrows putting his mark, the chamberlain of communes, simple persons; it is thought expedient that no officers nor council be continued after the king layes of burrows, further than one yeer, and that the chusing of new officers lie in this wise: that is to say, the audeli counsel of the toune shall choose the new council in sick number as seconds to the toune; and the new coun-

* This expression, taken perhaps in its modern acceptation, cause considerable mistake. As originally written in the House of Lords' Committee on the Reform Bill, by which the statute in the text was repealed. But we apprehend the phrase is used as descriptive not of mental character but of a civil condition; and was employed, as in numerous other instances in older writers, to designate the commonly as distinguished from the gentry, and so to be merely expressive of the preceding term, in the sense, 'communes.'
was chamberlain of Scotland, and just before his resignation of the office in favour of his eldest son, a court of the Four
Boroughs was held at Stirling, where it was resolved that
their council should thereby and in number and authority
of the Spey should convene yearly with the court of Four
Boroughs to consider and conclude on all matters affecting
the common weal of the royal boroughs, their liberties, and
court. No explanation has hitherto, we believe, been given of
the reasons which led to the exclusion of 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 Boroughs, though it is known that
the boroughs of Stirlingshire have been long since included in
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 seas of the kingdom, so that they might be
as fully and honourably as their predecessors had done in
the time of the royal grantor's grandfather. (Kennedy's
Annals of Aberdeen, vol. 1. pp. 8.) There appear to be no
records extant of this northern convention; but there can
be no ground for supposing with us so easy, if not to its
imputation, that the convention of boroughs south of the
Spey was formed. This latter assembly, though it was ap-
pointed to meet in the same place with the court of Four
Boroughs, formed no constituent part of that court, and
soothingly they did not have the franchise of the meetings
that assembly; and in 1487, when probably the superior
advantages of one general mercantile convention was per-
ceived, deputies from all the boroughs 'bath south and north'
were by statute of that year appointed to meet yearly on
the Tuesday before Michaelmas at the town of Greenock,
there to commune and treat upon the welfare of mer-
chandise, the gude rule and statutes for the common profit
of burrowes, and to provide for remit upon the shock and
injuries sustained within the boroughs. It was then that
the boroughs passed upon the perpetually supernumerary
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 mem-
ber of the borough, was elected by the commonalty to that
office. This circumstance is not to be met with in the books of the Scottish
lawyers: but it appears to be the case. The convention did
not continue long to assemble at the ancient yet little borough of Inverkeithing, but like the other supreme courts of Scot-
land, it continued in the person of Lord Home, who was appointed great
chamberlain almost immediately after the passing of the above
act of 1487; and as that person was at one time both lord
provost of Edinburgh and lord chamberlain of the kingdom,
and as he was also, in the last few years, exercised its duties in person, hence no doubt arose the practice of the lord provost of Edinburgh being the perma-
nent preses, and the town- clerk of Edinburgh the perpetual
eclerk of the convention. This civic parliament has con-
cluded its meeting annually at Edinburgh on the second Tuesday of July.

The precise time at which the royal burghs first sent rep-
resentatives to the general parliament of the kingdom is uncertain.
In the year 1326, when the tenth penny of all the revenues from land was yielded to King Robert Bruce
the burghs appear as a constituent part of parliament; but
perhaps they did not continue permanently to do so till some
years afterwards. After their admission the parliament consisted of the bishops, the barons, and the representatives of
the burghs in number sufficient, as in all cases, the elec-
tion of the member essentially depended on the magistrates
and town councils, who were appointed in nearly all the
boroughs on the system of self-election, as we have seen, by the act of 1326 — a statute 'assumed' or hanged, which
well nigh proved the ruin of the burghs.

No sooner was it passed than complaints began of partality
and undue influence in the election of borough magni-
states, and then of the dilapidation of the common good of
burghs for personal and party ends. These complaints ap-
tended their growth in number, and during the execu-
tive government in Scotland— in the Scottish claim of right
at the revolution— in supplications of particular boroughs—and
by the general convention of boroughs. Various mo-
tions were accordingly made in parliament on the sub-
ject, and on the 23rd of May, 1742, a bill passed which added
act 3 Geo. IV. c. 91, which limited the powers of feuing and
contracting debt, no remedy of consequence was applied till
the borough reform act of August, 1833, following on the
act of July, 1832, to amend the representation of the people
of Scotland. The first principle of the Act was to reduce the list of
the number of representatives to parliament from the Scottish boroughs was raised from 15 to 23, and
the right of election enlarged and distributed anew. Three
small boroughs were withdrawn from the list of parlia-
mentary boroughs, and the representative of each part of
the towns being chosen, as heretofore, by the town councils, they are
to be elected directly by the inhabitants as set forth in the
Act, namely: 1. Every person not legally incapacitated, nor
for twelve months in the receipt of parish aid, who
shall have resided in Edinburgh for six months prior to
his life-tenor of any house or building within the town,
which, either alone or jointly (a) with any other building
within the same limits, or (b) with any land therein owned or
occupied by him, or occupied under the same landlord,
whether

To the preceding account of the boroughs of Scotland,
we have not thought it necessary to add any observations
on the authenticity of the 'leges burgorum': an examination
of the question would necessarily be extensive, and is now
perhaps more of a professional than of a historical
interest. (Chalmers's Coleridge, vol. 1.; Counsel On the Election
Laws of Scotland; and Reports of the Commission of the
House of Commons on the State of the Scottish Boroughs.)
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 closest 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.

BOROUGHBYE. [Borough, page 194.]

BOROUGHBRIDGE, a m. t., bor., and l. 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. 550. It is about 265 m. N. 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 ancient Isurium or Isurium, derived, according to Hutton, from I., a deity worshipped here, and Ure or Ure, the river on which the city stood. In accounting for the decay of Isurium (Aldborough) and the rise of Boroughbridge, Hutton remarks, the first depression Isurium 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 unmarketable, and left Isurium 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 then later 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 tessellated 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 Emperors Tiberius, Claudius, Trajan, Antoninus Pius, Commodus, Marcus Aurelius, Valerian, Aurelian, Diocletian, Constantine, Carausius, and Julian. The chief importance which Boroughbridge at present possesses is from its situation on the great north road, the ancient 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 connected by rail with York and Harrogate, and with Leices-
ter, 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 mostly red brick, and well built. In the market place is an obelisk, by which the market is held on Monday. 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 manufacturers from the west and north of the kingdom. It is still frequented by dealers from Sheffield, Wolverhampton, and Birmingham, and continues for several days; the other fairs are chiefly for cattle. (Communication from Yorkshire.)

BORGOMANO, or BORROMEO, F.S.S. [Maggiore, Lago.]

BORROMEO, ST. CHARLES, son of Gilbert Borromeo, Count of Arona, Lord of Angheri, &c., and of Margherita de Mediici, sister to Pope Pius IV., was born at Arona, in October, 1538. He studied at Pavia under the Jesuit, and there he was ordained a priest at the age of 21. Shortly 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 of "Dissertatio de Sacro Vaticano." He urged the Pope to hasten the installation 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 as the "Apologia pro Rebus Christianis," known also as "Tridentinus." After the death of Pius IV., in 1565, 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 for charitable purposes. He also enforced the reform in the clergy, especially among the monastic orders. The monks called Umliaii was most scandalous, 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 hospitals for destitute children. He held several provincial synods, the transactions of which are found in his "Acta Ecclesia 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 poor. He was in that calamitous time, also 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 particular Cardinal Borromeo shewed against his predecessors, his zeal for the flock committed to his care unremitting. He
BORROMEO, FEDERICO, the son of Giulio-Cesare Borromeo, uncle of St. Charles, and of Margherita Trivulzio, was born at Milan, in 1564. He resided first at Bologna and then at Pavia, and afterwards went to Rome, and there received a classical education. He had, in addition, been 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 demonstrations. He adopted the views of his cousin and predecessor St. Charles, and enforced his regulations concerning discipline with great success. He used to visit by turns all the districts, however remote and obscure, in his diocese; and his indefatigable zeal for the good 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 love 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 large extent. The founder of the first school of city architects, and one of the ablest architects of his time, 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 in that city he proceeded to Rome, where his relative, Carlo Maderno, a celebrated architect, was employed in the building of the Lateran. 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 connection 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 endeavored to supplant the eminence of his competitor, and after having been 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 in its highest and most perfect form. The few buildings which he undertook were done with the utmost propriety, or motive, for there is hardly any feature or part that might not just as well have been altogether different. Still, even some of those who have otherwise severely cen-
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 facade of the building was put up, the higher magnitude of the great national gallery is hardly surpassed in grandeur even by Stye Head) to Langdale, and thence to Ambleside, or Coniston; the other, which is just practicable for light carts, from Seathwaite to Buttermere. Both these routes are very beautiful. There is a small path into the Seathwaite Forest, but the enjoyment of its wild beauty is greatly marred by the incursions of sheep and herds of cows. Borrowdale belongs to the central division of the Cumberland slate formation, which contains the highest peaks and the most romantic scenery. The most remarkable object in this valley is the great group of huge boulders, called "the Wast Water head," consisting of a large block of stone, estimated to contain 23,000 cubic feet, and a remarkable group of yew-trees (celebrated in verse by Wordsworth) between Seatool and Wast Water head, on the W. side of the valley. The largest is said to be 21 ft. in girth, and in perfect freshness and vigour; it is one of the most interesting vegetable productions which we have seen in England.

Borrowdale, a valley in Cumberland, remarkable for beauty of scenery. Its lower boundary may be placed along the stream which forms the waterfall at Barrow, about 21 miles N.W. of Keswick. The valley runs from the head of the lake (which extends slightly to the N. to the 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, the other descending from Esk Hause (the stack, 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 lake, 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 its junction; from which to Grange Bridge is about 6 miles. The breadth is everywhere remarkable. At the gorge where Castle Crag justabouts 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 from meadows, to the richly cultivated vale of Wasdale. Generally it is narrow, and the sides are lofty and abrupt; it is broadest at Rosthwaite, where the main valley throws off a branch running E. by the hamlet of Stonethwaite. This again divides itself into two branches: one hard by the road to the west point of the country, marks the Greenup, which is separated from Grasmere by a mountain; the other running nearly parallel to Borrowdale, is called Langstrath, a wild upland valley about 4 m. long, and in some places about 4 m. broad, entirely devoted to pasture land, and cultivated by Borrowdale tenants. Borrowdale is a chapel 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 800 acres of arable land, of which about 120 acres are ploughed annually. Hay is much more extensive in the higher parts of the valley, for it 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 pease-wood, but very little timber in the valley; hazel-nuts are so plentiful as to be considered as something of an advantage, and are sold to the small proprietors. Sheep-fair is held on the first Wednesday in September. There is state 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 the summit; it is now we believe discontinued. Traces of fortification attributed to the Romans were formerly visible on it; but the combined efforts of quarrying and planting have rendered it difficult to find them, and perhaps they are entirely obliterated.

The most remarkable product of the valley is the great collection of rocks, and fragments of rock, called "waste stones," which is found in one spot near the head of the valley, of quality far superior to any which has been discovered elsewhere. The population of Borrowdale was in 1851, 342; 1861, 310; 1871, 346; 1881, 356. They are almost exclusively engaged in mining and agriculture.

There is a tolerably good carriage-road from Grange Bridge to the farm of Seatoliar, between four and five miles; from thence to Seathwaite it is hardly practicable except for carts. From thence there is a horse-track across the mountains to the head of Wast Water head, which is the descent to Wasdale Head is as steep and considerably longer, comprising probably not less than 1200 feet of perpendicular descent, but the road is well adapted for horses. There is, however, a descent to Wasdale Head, which is shorter and less dangerous than 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 the top of the heights of Blencathra and the higher mountains; and another from Keswick, kept only by the persons who have the use of a vehicle, and is, therefore, only practicable for light carts, from Seathwaite to Buttermere. Both these routes are very beautiful. There is a small path into the Seathwaite Forest, but the enjoyment of its wild beauty is greatly marred by the incursions of sheep and herds of cows.

Borosd, Borschod, or Borosdaska, a co. in the prov. of the Hither Theiss, in the N. part of the kingdom of Hungary, is bounded by the following counties: on the N. by Gomór and Torna, on the E. by Abaújvár, Zemplin, and Szabolcs, and on the S. and W. by Heves and Szabolcs. Its area is 1365 sq. m. The mountains which traverse it in the W. are the last declivities of the Central Hungarian mountains, both of which subside in this county; the first separates it into two branches at Hámor, and forming the celebrated valley of Dics Gyôra. Both branches also throw out a number of subsidiary ones into the N. and S. of the country. The most remarkable of the two branches is that called the Neutra, Ostra, N. of Verbo, and the Nyíryuk near Vásnyô. The last branches of the Neutra range occupy a corner of Borosd between the Bodva and Sayô, and the mountains in the N.E. parts, likewise branches of that range, subside into the plains between Hida and Donoum, and the Karapáta. The S.E. districts are one continued series of beautiful hilly grounds, irrigated by rivers in every quarter. The principal rivers in Borosd are the Sayô, which enters its N.W. border at Putno, and winds in a S.E. direction to Onod, where it receives the River Hid, which enters the Neutra, and the Rhôna, after having received the Greater Hornád. The Hornád skirts the county for a short distance in the E. The Bodva passes into it from Torna, and flows past Szendrô and Edeînya, and the Theiss touches its S.E. extremity. The soil is of the highest quality, produced by the mixture of clay-slate, sand, and lime, and equally adapted for grain, the vine, and the rearing of cattle. The finest wheat in Hungary is raised in the neighbourhood of Miskolc, and of this wheat as well as of rye, barley, oats, and buck-wheat, considerable quantities are exported. The wines of the Bodva, the Bodva, and the Theiss, which is the growth of Miskolc, St. Peter, Kazán, and Harsany. 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 731,130 acres, about four-fifths of the whole surface of the country; and of these there are actually under the plough 367,800, converted into vineyards 40,000, and used as meadows 38,160. The remainder consists mostly of grazing lands, pasture and forage, meadows, and pastures, 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.

Borosd possesses considerable mineral resources; copper is raised at Rudo Banya, and excellent iron, from which the best common and cast steel in all the kingdom is manufactured, near Uppony, Tapolcán, and other places. A beautiful kind of marble is obtained from Fejö-Jarkány; the blue slate, which is nearly the only slate raised in the county, is obtained near Vásnyô; and coals are dug at Sayô-Nemény and Torda. In every respect indeed Borosd has justly been designated Hungary in miniature. The pop. is estimated at about 170,000, more than one-half of which is Roman Catholic; the county contains nearly 131,757 souls, 14,757, and 30,524, respectively. Many of the Jews settled in it are farmers; but the enterprising Greek has contrived to monopolize the trade of this and several other provinces in Hungary, and he has no
advocate however was now advancing on the clerk’s usurped province, and by the beginning of the following century Borthwick was in the Burslem, and about to retire from the world. His family was no mean neglected (for in Miskolts alone five different sects have distinct schools), more than common depravity is said to prevail among the people in general. Borsod pays 63,411 florins (about 63,000l.) as its quota to the war department, and in the year 1895 the tax was raised to 65,000l. It is divided into four circles;—Miskolts, in the S.E. corner of the country, which is the m. t. of the same name, a large well-built place on the banks of the Szyrva, and at one end of the valley of Dics Győr, with about 14,600 inh.;—Erleu, in the S.W., of which the chief towns are Mész-Kerevese (2500 inh.), and Mész-Küves (5600 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—Szendo, in the N.E., of which the Bolos is the principal place.

BORSTVITHNES. [DINKEP.]

BOS. [BISON, BUFFALO, Ox.]

BOS, LAMBERT, an eminent philologist, was born at Wurtem in Friesland, November 9, 1670, where his father was rector of the college. He was afterwards sent to Scotland for the sake of his education, and in the year 1687, he went to the University of Friesland, where his relation Vitringa was professor of the Oriental languages, divinity, and sacred history. In October, 1696, he was permitted to take residence in the University, and in the month of February of the following year, he entered on the professorship of Hebrew, the language in which he began to teach Hebrew at the University. In 1674, when the Greek professor in that university became vacant by the death of Nicholas Blanchard, the curators appointed Bos to be his successor, who on taking the chair read a dissertation on the propagation of learning by the Greeks a dissertation on the propagation of learning by the Greeks to the several tribes of the Roman empire. The dissertation was so well received, that he was said to have regretted every moment which was not employed in them. In his personal character he was candid, amiable, and pious.

The third book is occupied chiefly by a paraphrastic translation of the Greek poem of Hero and Leander, the first of the kind which appeared in the Spanish language. Boscan's work is elegant, but the imaginative power in the Greek is not sufficiently transfigured. To this free translation succeeds a love elegy, the Capitolo, abounding in pleasing images, but too much diluted in words, like most Italian poems of the same kind. In the Answer to Don Diego Mendosa, the best of Boscan's sonnets, he suggests the charm of domestic happiness and rural life. A narrative poem in the Italian style, called Octava Rima, closes this third book.

A festive meeting of Venus, Cupid, and other mythological personages, forms the fabric, rather carelessly executed, of this latter poem, which is otherwise filled grace and animation.

Simplicity and dignity, poetic form 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 his party the more liberal of his countrymen. The Id 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 Españoil, by Selano, contains a supplement to the biographical notices which Nicolas Antonio collected under the article 'Boscan'.

BOSCAWEN, EDWARD, second son of Hugh Lord Viscount Falmouth, was born 19th August, 1711. He was placed in the Navy at the age of twenty-one, and was lieutenant of the Hector. In 1730 he became captain of a twenty-gun ship, the Shoreham; and in the following year, under Admiral Vernon, acquired an honourable distinction for his intrepidity at the taking of the fortified city of Porto Bello, in the province of Darien. Shortly after, at the siege of Cartagena, he led on a body of seamen, and resolutely attacked and took possession of a likewise battery of fifteen 24-pounders, while exposed to the fire of five guns from an adjoining fort. On the 25th of December, 1739, Boscawen, who was now attached upon Boss Chica, Boscawen succeeded to 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. After the declaration of war with France, he took the command of the Dreadnought, captured in April, 1744, the French ship Medee, and landed at Spithead with 800 prisoners. As captain of the Namur of 74 guns, he greatly signalized himself, and by his conduct at the bombardment 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 was sent on a commission to Parliament, which was pointed 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 2000 soldiers. In July, 1746, his fleet appeared before the fort of St. David's, which is now the place of eight of Pendicberry. In the month of August, Boscawen marched his army to Pendicberry, and began 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. Ho soon afterwards sailed for the Spanish Main, where the treaty of Aix-la-Chapelle, by which 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 election which was perhaps the result of the report the commanders of the Fleet made to the Admiralty, 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. The coast of Newfoundland was entered in with signal success, and early in November, 1756, 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 House of Commons, and was promoted to the rank of admiral of the blue, was
appointed commander-in-chief of the expedition. In February, 1758, accompanied by General Lord Amherst and General Wolfe, he sailed with these forces for Halifax, and on the 2nd of June arrived off the fortress of Louisburg, which, with the island of 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, and pursued the French fleet of Toulon, consisting of twelve large ships of war, through the Straits of Gibraltar to the Bay of Lagos; 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 2000 prisoners. The French admiral, De La Grasse, was carried ashore and died, in consequence of being struck by a cannon-ball which carried off both his legs. Upon the return of Bosca

ewen to England, the thanks of parliament were again conferred, with a pension of 3000l. a year, and he was sworn a member of the privy council, and 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 was worth recording, as honourable to the humanity of the admiral, that a great many among his crew 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 cultivating a garden, in order that they might provide themselves with vegetables and fruits. On January 10th, 1761, he died at Hutchland Park, his residence, near Guildford, at the age of fifty, and was interred in the church of St. Michael Penkevel in Cornwall, where a beautiful monument by Ryabach was erected to him, in the form of a ship, whereon is engraved, 'Hic ab imo volo, wholy 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 observed, 'There are three persons in the navy, the people others commanders he heard of nothing but difficulties; but that when he applied to Boscawen, expedients were already suggested.

BOSCAWEN, ROGER JOSEPH, was born at Ragusa, 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 at Venice on the part of the republic of Venice, 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 Clifton, but the suppression of the society had prevented his 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 Paris a member of the society because he found the mistake of Sir Isaac Newton, and easily published an edition of his works in Italy, as Delambre supposes, or on account of the hostility ofCondorcet and D'Alembert, as Lalande affirms, or because he disliked the irreligion of the French means, as Hutton states, appa-

rently an instance of the principles of the English example of its superiority in that respect. The doctrine of Delamouth's has been found in works (which he has 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 (Hut-

ton from Fabroni), and died February 13, 1787.

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 would not do justice, and to whom the English would 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 disposed to supply the Laitonians with such a writer; and there is some truth in the account of Lalande with respect to D'Alembert. Delamouth 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 and length of his dissertations has made it well known that he has written on the whole, though there is not among them any point d'appui for the highest sort of renown.

Boscawen was one of the earliest of the continental New-

tonians, and introduced the doctrine of gravitation at Rome. His first appearance as a writer on this subject is in an ex-

planatory tract published at Rome in 1743; but it is well known that in consequence of his travelling to the south, there is not among them any point d'appui for the highest sort of renown.

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tribes who fell back to a wild state. Their language appears to bear some analogy to that of the Hottentot, although the Bojesmans and the Hottentots do not understand each other. They are a small, short, fat, and somewhat yellowish people, with black hair, one strong cheek-bone, and the yellow-brown hue of the skin, and that their physiognomy has the same distinguishing features of the Hottentots, their broad flat nose, 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 Hottentots, only more elongated, and which gives them a somewhat savage and warlike habits of life. They are neither husbandmen nor shepherds; 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 Bojesmans are generally very lean, and of a low stature, as 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 irons, and a poisoned spear, 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-cows in pits on the banks of the Orange river. They sleep in caves, or more commonly squatting on the ground. They do not associate 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 crafty expression of countenance,' says Lichtenstein, 'form a striking contrast with the frank open physiognomy of the Hottentot.' When the Europeans first extended their settlements to the Snow Mountains, there were no Bojesmans there; the country was peopled by settled tribes of Hottentots, but the report of the wealth of the soil, and the frequent visits of the Bojesmans from the north, where they lived near the banks of 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, however, now friendly, and with the Bojesman they are friendly, and with the Dutch colonists, who, in their turn, waged a war of extermination against them. At last, towards the beginning of the present century, attempts were made to establish some sort of truce between the Bojesmans and the Dutch, but with little success. There are also in the Orange region, tobaccos, tobacco, and other articles. In one instance, the colo- nists gave to a party of Bojesmans 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 Bojesmans. The Rev. John Campbell gives a more correct idea of them than the Rev. Mr. Thompson, who met them 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 Konranas Hottentots, and they appeared to behave well and faithfully in their respective capacities. His met krais of Bojesmans 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, but all 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 Bojesmans, who however are not wilder, nor more savage, than the Bojesmans of the Konranna Hottentots, who live five miles north of the Orange river, are also a check upon them. In fact, the Bojesmans are beginning to be surrounded by civilization, and consequently they must either become civilized themselves or become extinct. (Lichtenstein, Burchell, Campbell, Thompson.)

BOSKOWITZ, a t. in the circle of Brunn in Moravia, situated on the banks of the Breslava and some of the small riv. near the borders of the circle of Olmütz; the hill itself is encircled by the riv. Bila 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 the beautiful view it commands, which is surrounded by magnificent views of the Danube, Moravian plain, the multifarious collection of hamlets, of Alum, Bruna blue, potashes, glass, liquers, &c. Bosko- witz contains a pop. of nearly 4000 souls, among whom are 300 Jewish families, who live in a distinct quarter of the town. The Dietrichstein family have a palace at Boskowitz, and are protected by the Military Board of the town.

BOSNA-SARAI (or SARAJEVO), formerly the capital of the kingdom of Bosnia, and at present one of the principal towns in the Turkish eyalet or province of Bosnia, is built upon the ruins of the ancient Tiberiopolis. It still retains some traces of its former specialty, as it is 34° 50' N. lat., 15° 26' E. long. It stands on the Malsaka or Migliza, which falls into the Bosna at no great distance from the town, and has a massive stone bridge across it. The old walls which encompassed it when it fell into the hands of Prince Eugene in 1697, are completely decayed, and it is now an open place; its sole defence consisting of a citadel of considerable strength, upon the ramparts of which eighty cannon are mounted. This citadel is situated some distance to the E. of the town, and is usually garrisoned by 10,000 or 12,000 men, who are commanded by the Sultan in person. It is a large in circuit as Adriano; it contains 100 mosques, great and small, and among which that of Choarem-beg with its clock (a great rarity in Turkish towns) best deserves notice. One scari or palace, erected by the great sultan Mehmed, is founded on a small hill, 1000 paces from the Minorite order, a number of medressas or schools, baths, and charitable institutions; two large bazaars or beasestans, 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 Mohammedans, 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 steeple which embellish it. Bosnia was the residence of the governors of the prov. of Bosnia, were pashas of three halls, until the atrocities committed by one of them drove the ind. 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 arms, utensils of copper, which they gild and polish, and in which they are skilful. They have some 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 importance. It supplies the provinces with the E. of it, as well as of its situation on the declivity of the Dinara 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 Sarajevo.

BOSNIA, or Bosna, 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 43° 15' N. lat. and from 15° 30' to 16° 10' E. of longitude. According to the subdivision laid down by the Turkish government in 1824, it comprehends 6 sandabaks, or circles; namely, Travnik, Banyaluku, Srebrenik, Ivornik, 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 Bosnia in 1815, and bore the name of Rascia from its being watered by the Rases, and Hersek of the Herzegovina and Turkish Dal- matia. These six sandabaks are again subdivided into 48 circles, of which the Raska circle, so named from the riv. Raska which is bounded on the N. by Austrian Schavonia, the Unna, and Savo 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 largest prov. in the H.H., containing 6600 villages and 956,000 inhabitants, 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 18,000 sq. miles.
Bosnia is a mountainous country, and contains many deep valleys, but only one plain of any considerable extent. The general aspect of the mountains is rugged and abrupt, and the Alp-like character of the country, in general of a rocky and stony nature, adapted rather for rearing cattle than raising grain: except near Mostar, where the fertile valleys along the rivers 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 Novibazar and along the banks of the Una; the greatest corn- batteries are on the Una and Drina, and the produce is seldom made into bread, but consumed in the shape of cakes or mamlaga. Pease and beans are extensively raised; and flax and tobacco are grown in the neighbourhood of Zvornik and Novibazar. Fruit of every kind is abundant in summer, and in winter is kept, as it is the only stock which will, in some degree, sustain them through the winter. The vegetation consists of rocks thinly interspersed with wild rosemary, thyme, and other low plants.

The Save, the principal river in Bosnia, first waters its territory in the N.W. at the point where the Una 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 Bogoritza. The Una, one of the tributaries of the Save, rises in the heart of the mountainous part of Mostar, and, after receiving the Viyogo, not far from Oberumnau, runs to the N. past Bilsche and Novi, at which place it receives the Save, and ultimately flows into the Save, after forming part of the N.W. frontier on the Hungarian side; namely, from Iskandia to Zvoricica, somewhat south of Gradisca, where it enters the Save. The Una is navigable, though not, when not flooded it is from 6 to 7 ft. deep, and from 200 to 400 ft. wide. The Verhas, another Bosnian river, rises in the heart of the country at the foot of Mount Radusa or Rada, and, after the first chain of mountains which separate Turkish Croatia from the Herzegovina, flows in a N. direction to Bosasa and Banyaluka, receiving on its right bank the Veliki, Ugar, and Verbunia, and, on its left the Pliva, and unite with the Save to the E. of Gradisca, after a course of about 130 miles. The Bosna, rising on the S. slope of Mount Trebevica, part of the N. declivity of the Ivan Planina range, flows N., receiving in its course the Migliza, Stabina, Spreca, &c. on its right bank, and the Misna, Feinica, Lepencica, &c. on its left, and after running about 140 m., falls into the Save near the Luka- scher Schanze (L. Feft), below Brod. Vissoko, Zemun, Vranduck, Shebche, Dobi, Kotorasa, and Dobur lie upon its banks. The Drina, another considerable riv., springs from the foot of the Lusan range to the W. of Brnericica, divides the country of Bosnia from that of Servia, runs N. past Zvornik until it reaches Lebesbichi, where it enters a level country, and afterwards joins the Save opposite to Racsa, and not far to the W. of Shusez; its channel in this quarter is again narrowed by mountains. In its course it receives the Tam, Pima, and Limus. This riv., as well as the Verhas and Drina, is navigable for vessels of about 50 tons, and its waters, like those of the Verhas, bring gold-dust down with them, which the Turks, it is conceived from jealousy, will not allow to be collected. The chief mountains and hills are, in the S.E. part of the country, and the Moraka or Boysa, the sandshak of Hersek, which runs through the Boysa lake, and falls into the Adriatic on the Austrian coast; together with the Baba, Neretva, or Narenta, Rams, and other tributaries of these rivers. Bosnia has no lake of any importance, the largest being the Mostarska Bito. It contains a number of mineral springs, among which the warm-baths of Novibazar and Budimir, and the acidulous waters of Lepencica or Kiselac, are most in repute.

As to the temperature, 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 'bursts of water-spouts are of common occurrence, but they are highly beneficial in moderating the heat. The character of the climate is subjected to much variation in different climates; that wheat is harvested in July, and grapes in August. The air is said to be healthy at all seasons, though the dry nipping Bora, or north-easter, is frequently prevalent.

The soil of Bosnia, as might be expected from the moun-
Bosnia, Herzegovina, and Banjaluks. There are iron-ware manufactories about Bosnia-Serai; they include fire-arms, swords, and cutlery, and small faience. In the Shehe, Banjaluks, and Mostar. In Mostar Damascas blades are also made.

The exports of Bosnia comprise wool, honey, and wax, goats' hair, hides, morocco and other leather, timber and other forest produce, and particularly honey and wax. The principal seats of trade are Bosnia-Saraj, Zvornik, Banjaluks, Mostar, Dervent, and Berbir, or Turkish Gradišaca. Bosnia carries on a considerable transit-trade with the adjacent countries in Levant produce; the imports chiefly come in through the ports of Bosnia-Saraj, Travnik, and Nezarets; and export through the six deposits established on the frontiers, or by caravan to Zara and Spalato. The roads are had and almost impassable except for horses, as it is the case throughout the Turkish territories. Independently of the great road from Breg through Travnik, and thence to Bosnia-Serai and Constantinople, 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 300,000. His belief in his 'Brief Survey of Bosnia, Rascia, the Herzegovina, and Servia in 1829,' gives us in one portion of his work the following enumeration:—Bosnia, the aboriginal race, 220,000; Servia, 120,000; Turks, 240,000; Morlachians, 75,000; Croats, 40,000, or gypsies. Besides these, the Panticapeans, which are called the Turkish, are of 73,400, 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, 2000 Jews, and 600 Armenians; or 925,000 in all.

The inhs. of Bosnia are composed of Bosniaks, a race of Slavonian origin, who chiefly reside between the Verhas and Drinna; Servians, dwelling partly in the sandshak of Novihazar, and partly on the E. bank of the Drinna; Croats, whose chief places are at Vrbovski or Drinna, and Montenegro, principally situated in the sandshak of Horsek; Turks, who are settled in almost every town, and likewise people exclusively the district of Klinice; Armennians; a few Greeks; and lastly, Jews. The majority of the pop. are of the Greek faith; a portion of the Bosniaks and other inhs. profess the Roman Catholic faith; the Turks and many of the Bosniaks adhere to Mahomedanism.

The civil administration of Bosnia is on the same footing as that of the other eyalts of the Turkish dominions. It is governed by seventy brokers, or the heads 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 usually to reach the Turkish treasury. The chief revenues are from the Distractions, amounting from nine to thirty shillings a year, which every male Mohammedan pays after attaining his seventh year; of taxes on land, houses, trades, &c.; exise duties, customs dues, and judicial penalties.

These chief places in the six sandshaks are, in that of Travnik, which lies in the S.E. part of Bosnia Proper, Bosnia-Saraj on the Mijigizza; and Travnik, at the confluence of the Lashwa and Vorošica, where the pass through the province resides, about 8000 in.; Banjaluks, in the W. part of Bosnia, on the Vrbovski, with about 10,000 in.; Others to the W. and S., and one in the E. part of Bosnia, of which the chief town Novi or Venihazar 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 Hersek, formerly the Herzegovina, and in whose chief place, Travnik, are situated about 16,000 in. Other towns of Bosnia, of which the chief town Novi or Venihazar 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 next to this, Mostar, on the Narenta, a fortified town with a pop. of about 8000.

Bosphorus, often incorrectly written Bosphorus, is a pure Greek word (Bosphoros): according to mythological tradition it derives its name from the passage of Io over one of the straits so called, when she was transformed into a cow (Asch. Prom. 735); but the Bosphorus, as thus explained, literally signifies ' the passage of the cow.' Two straits are known by this name, the European or Old Bosphorus, and the Asiatic or New Bosphorus. One, now more commonly called the Channel of Constantinople, unites the Propontis, or Sea of Marmora, to the Black Sea. This narrow channel was often called the Thracian Bosphorus, by way of distinction from the other called the Clime. The name of the Old Bosphorus, now the Straits of Kafla or Yenikale, is the narrow passage which connects the Palus Moesiae or Sea of Azof with the Black Sea. (Azof.)

A narrow strip of low and fertile land on the S.E. margin of the Sea of Azof, the modern Crimea, formed the ancient kingdom of Bosphorus. It extended about 60 m. in length, direct distance, from Theodosia or Thubusosa, now Feodosia or Kaffa, on the W. to Panticapeum or Bosphorus, now Keratk, on the Straits of Yenikale. Both Theodosia and Keratk still possess the name of a cadi's or vicar's residence, as the seat of the Great Cadi, and as the lower courts of law. The straits are marked by fine natural harbours, and the old eastern port gives its name to Yenikale, and between them was Nymphium, which also had a good harbour. Panticapeum was a Mileian colony. Besides the territory already described, the Greek kings of Bosphorus possessed Phanagoria, now Taman, on the coast of the Caspian, which then formed the E. coast of the Old Bosphorus, now the Straits of Yenikale; and finally they seem to have become masters of the whole Crimea. The series of Greek kings from n. 430 to n. 30 (as far as yet known) is as follows:—Archeasorud (430) (B.C. 480); Spartanus L. 436; Servius, 435; Tachitorus, 432; see also 429; Spartacus I., 431; Satyrus, 430; Leonus, 392; Spartanus II. 353; Paryssades (Parisades on his medals), 318; Satyrus II., 310; Pyrtanias; Eumenus, 309; and Spartanus III., n. 304. (Clinton, Fasti, vol. i.) Of all these kings Leonus is best known to us from Demosthenes (Orat. Against Leptines), who may be considered his contemporary. During the reign of Leonus, and that of Satyrus his predecessor, the Athenians imported large quantities of grain from the Bosphorus: indeed Demosthenes asserts that the Athenian fleet on the coast of the Bosphorus had been authorized to import all the corn imported from all other foreign places. A mutual good understanding subsisted for some time between Athens and the kings of the Bosphorus.

At a later date the Bosporus formed part of the kingdom of the great Mithridates, who is said to have died at Panticapeum. The kingdom of the Bosphorus, with all the neighbouring districts, then fell into the hands of the Romans, who gave it to Pharnaces, the son of Mithridates. Pharnaces having invaded Pontus and exercised great power, took up his residence at Bosporus, and was afterwards defeated and killed. He fled to his kingdom of Bosphorus, where he was immediately murdered, and his throne was given by the dictator to Mithridates of Pergamus (about a. 47). This kingdom of Bosphorus continued under the pontid emperors, but is only known to us from the name of the straits of Cesar and de Cesars in the nomination of a king, or in attempts to restore tranquillity. (Tacit. Annal. xii. 15—21.) A race of half Greek, half barbarian kings continued to possess the Crimea and the neighbouring coasts of the Caspian, until the occupation of the Black Sea by the Russians, and the kingdom of Bosphorus 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 Panticapeum and other places of that kingdom. The name of the coins of Bosphorus. Coins of Leouc, of Parisades, of the town of Panticapeum, and others, have been found: some of these, such as the coin of Parisades, are exceedingly fine; others that belong to the period of the Roman Empire are ruder, Raoul-Rochette has published two media of Phocsea, and
BOSSU, Homer, who saw the Greeks constitutionally divided into a great number of independent states, which was the very cause of their disunion and mutual enmity, deigned in his Iliad the quarrel between Achilles and Agamemnon as productive of evil, in order that he might illustrate the advantages of a confederacy. On the reconciliation of those princes, victory, which had long been denied, is given to the Greeks, and where the Iliad does illustrate the effects of disunion, but are there not also other moral truths which are equally illustrated by it? The motive which led the Grecian chiefs to Troy was not unjust, and Homer certainly has no intention of representing it to be so. As the structure of the Iliad doubt not has been completed without their presence, the poet tacitly admits therefore that there may be sound reasons to induce a prince to absent himself from his dominions. Yet we are told that the design of the Odyssey was to inculcate a directly opposite doctrine— namely, that it is not Honour, but Selfishness, which will most resolutely prevail. As the Iliad then appears to us to be the more likely to prevail, we may, perhaps, be induced to speculate, now that a monarch quits the helm at which he ought to preside. If this be so, the moral truths inculcated by the Iliad will be the more surely examined by the Abbe Batteux in the 39th vol. of the same work; and at a later season inci-
dentally by La Harpe.

BOSSUE, Jacques Benigne, second son of a counsellor of the parliament of Metz, and descended from a respectable Burgundian family, for the most part engaged in the law, was born at Dijon, September 27, 1627. He was placed by a maternal uncle, president of the parliament of that city, in the college of the Jesuits, where he received a thorough and brilliant education. He appears as the champion of some of his exploded notions, which are more soberly examined by the Abbe Batteux in the 39th vol. of the same work; and at a later season incidentally by La Harpe.

BOSSU, Rene' DE, was born at Paris, March 16, 1631. His father was Jean de Bossu, Seigneur de Cour-

Lyon's Magna Britannia; Correspondence from Bos-
siey; the same was exhibited to the bishop of the See of Aux-

Lyons' Magna Britannia; Correspondence from Bos-
siey; the same was exhibited to the bishop of the See of Aux-

cans, in speaking of it, says—Bos-
eny hath been a bigge thing of a fischer town, and lath great privileges gruntled unto it. A man may see there the ruins of a great number of houses. 

Near this place is the castle of Tintagell, supposed to have been the birthplace 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 inapug-
nabile.' In its site he has occupied part of the site of the keep, which he calls the dungeon of St. Ulette, alias Uianne.

The church of Tintagell is supposed by the author of the Magna Britannia to have been appropriated to the abbess and nuns of the convent of the Order of St. Attes; his mother was Magdalene de la Lai; she studied at Nanterre, was admitted as a regular canon in the abbey of St. Genevieve in 1630, and took priest's orders in 1657. Twelve years of his life were occupied in teaching philosophy and the Belles Lettres; the remainder were spent in the solitude of his cloister, in which he died March 14, 1680. His first work Parallèle de la Philosophie de Descartes et d'Aristote, Paris, 1674, was not very favourably received at the time of its appearance, and is now altogether forgotten; but his second work, which was published only a few months afterwards, Traité de Poème Epicque, although it has ultimately shared a fate similar to that of its predecessor, at one time attracted considerable attention. The learned hypothesis of this chimerical essay teaches that an epic poem is a reproduction of a tragedy; thus by interchanging the names of the characters, Homer's Iliad is transferred to Tintagell, and this emulating his work, fixes upon some great moral text which he designs to illustrate, considers fables, machinery, action, character, and all other accidents of poetry only as so many modes subservient to his grand object. Thus,
sur l'histoire Universelle, which he published in 1681.

It consists of the first of which a century is 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

Voyages of which are equated, in honour to one of his cartular 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, to which three posthumous writings were afterwards added. The publication of his works, which, we believe, is still unfinished, after 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 commenced in 1655 with an essay, published under the title of 'Observations 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 Controverse' (1671) and his 'Histoire des Variations des Eglises Protestantes.' The former was composed in 1673 and was so well received that the Pope,Cardinal Dubois, after having perused it, is said that an accidental perusal of it greatly contributed to the conversion of the Maréchal de Turenne. It was circulated in M.S. long before its publication, and attained the final state which it now exhibits by very slow degrees. In the latter, the author, the name of 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 assured the most of the doctrines when preached by others were declared heretical and condemned. Clement IX. positively refused to acknowledge it, but two briefs were issued in its behalf by Innocent XII; one, Nov. 22nd, 1675; the other, July 12th, in the year following.

Tos Gallican clergy, assembled in 1682, declared that it contained no new doctrine, only an old one, 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 in public, by the learned or the unlearned, it is equally acknowledged, to be a full and faithful doctrine of their church.' It has been translated into almost every European language, but unhappily the English version by the Abbé Montagu in 1762 bears a bad reputation. It was supposed that it was translated by Dryden, a poet, not a papist too; may be one as his name, but not known till of late. Wake, afterwards archbishop of Canterbury, and M. de St. Baste, a French Protestant minister, are the most distinguished opponents of the points in it which it is generally acknowledged.

The 'Exposition' awakened much attention in France; and out of it arose a personal conference between Bossuet and M. Claude, whom the Protestants considered to be their head, held in 1681, in the presence and at the request of Madame de Duras, a niece of Turenne, who sought an excuse for her nephew's change of party. Bossuet was asked 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 concerning doctrine. The debate was conducted with much regard to courtesy; but terminated, like all similar 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 wide a difference of facts that they might be supposed to relate to wholly different 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 theologians a proverb. 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 things which were spoken with things which occurred afterwards, and the memory, which is a faithful interpreter of Bossuet from it, truth is often disfigured.' Bossuet was admitted to the academy in 1671, and his next great controversial work appeared in 1688. The first five books of his 'Histoire des Variations des Eglises Protestantes' narrate the rise and 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 eighth books contain the ecclesiastical history of England and during the reigns of Henry VIII. and Edward VI, of the first Act of Union of Germany. The French Calvinists are discussed in book ix., and the assistance afforded to them by Queen Elizabeth, on the ascribed principle that subjects might live war against their spiritual enemies. 'Maximino' asserts that there is a doctrine which Bossuet asserts to have been ineptuated by the reformers, forms the groundwork of book x. Book xi. treats of the Albigenses and other sects from the tenth to the twentieth centuries, who are usually esteemed precursors of the latter, and book xii. will treat of the Huguenot history till the sym of Gay. The xviith book is an account of the dissensions at Dort, Charenton, and Geneva; and the xixth and last book endeavours to prove the divine authority and therefore the infallibility of the true church, and to exhibit the mischiefs which have been brought to claim to that title. Basnage, Jurieu, and Bishop Burnet 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 pery. I saw, I applauded, I believed, and surely I fell by a noble hand.
The pious project of a union between the Lutheran and Gallican churches occupied much of Bossut's attention, and led to a correspondence of deep interest with Leibnitz. On matters of discipline the Bishop of Meaux preferred the ancient or customary way, while those of religion (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.

The French nobility of the clergy of France, convened in order to restrict the aggressions made by Innocent XII. on the régale: a right always claimed by the kings of that country, and almost always virtually tolerated by the Holy See, which vested in the Pope the government of the 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 parlements, 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 to things temporal, and that in temporal, kings and princes are not subject to the ecclesiastical power, and cannot indirectly or directly be deposed by power of the keys, or their subjects discharged by it from the obedience which they owe to their sovereigns, or of their allegiance. 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 fourteenth and third 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, by reason of the universal authority, and of the temporal, the canons shall be preserved. The fourth article, directly with the nuns of Port Royal, relating to the five condemned propositions in Jansenius, Bossuet exhorted himself to bring the fair enthusiasts to reason; and in like manner he opposed Quietism and Mad. Guillon, till he incurred opposition from Fenelon and displeasure from Mad. de Maintenon. The controversy with Fenelon 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 writings by which he availed himself were 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 no good fortune to plead, appear the worse by unseemly violence. He carefully watched the biblical labours of Pére 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 of which no lucubrations he ever composed, are ill calculated for the English taste. They belong to a style of composition for the stately 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 devotion to 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, disarmed by her licentious and unfeeling lover. Three volumes of the Benedictine dignitary, the third of which was dedicated to Madame de Maintenon, 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 the above has been transcribed.

A train of events which was visible at the general election of 1703 ends in a frightful precipice. We are told of this at the first step we take; but our destiny is fixed; we must proceed. Advance! advance! An invincible power, an irresistible force, impels us forward; and we must continually advance to the precipices, and crosseth, a thousand pains, fatigues, and disturbances, vex us on the road. If we could but avoid the terrible precipice! No! advance! You must run on; such is the rapid flight of years. Still on the way we occasionally meet with some objects that divert us, a flowery stream, a passing shower, and we are amused by them and we wish to stop. Advance! advance! We see that everything around us tumbles down, a frightful crash! An inevitable ruin! Still here and there we pluck some flowers which hide in our hands, some fruits which vanish while we taste them, which however comfort us for the moment. But all is enchantment and illusion; we are still hurried on to the frightful gulf. By degrees everything begins to fade; the gardens seem less fair, the flowers less lively, the colours less fresh, the meadows less rich, the woods less close; the grass grows on the ground, and falls away. At length the spectre of death rises upon us! We begin to be sensible of our near approach to the fatal gulf! We touch its brink; one step more and—horror now seizes our senses, the head turns, the eyes close, and the heart falls immediately flat. There but are no means of returning; all is fallen! All is vanished and gone." (Butler's Life of Bossuet, p. 135.)

The high rank which Bossuet still maintains among his countrymen, appears from the following criticism of La Crotte: "Bossuet, if I judge, is our nation, seems to me to have been more profoundly endowed than any other; since in his single person he has attained the highest degree of excellence in subjects belonging either to knowledge or to genius. It is Bossuet. He is unequalled in eloquence, whether it be that peculiar to the funeral oration or to history; whether that which is to sway the religious affections or to guide the controversial judgment. Yet at the same time no one is more deeply acquainted with a science without bounds and embracing many others by which he has made himself superior to them. He is the only genius of latter times who does most honour both to France and to the church: yet nevertheless he was not by any means a universal genius. In physics, in the exact sciences, in jurisprudence, and in poetry, he was altogether universe." Crotte's "Conversations, tom. ii., p. 238."

A life of Bossuet was published by M. de Burigny, Paris, 1752, 1761. That written by Mr. Charles Butler possesses a raciness which could not be imparted by any biographer unless he shared the Romanish persuasion; and yet, like most other writings of the same distinguished person, it is singularly free from the offensiveness of exclusive prejudices.

BOSSUT, CHARLES, was born at Tartarps, in the department of the Rhone and Loire, August 11, 1730. His education was obtained partly by his own industry, in that of the Bernoullis, Belgian, and espoused during the civil troubles, and partly by an uncle and partly by the college of Jesuits at Lyons. Happening to meet with the éloges of scientific men by Fontenelle at an early age, he was struck with the desire of making his own career resemble those of which he had read; and finding no one to advise him, he wrote to Fontenelle himself, who, though then ninety years of age, answered his letter, begged for an account of his future progress, and said he felt a presentiment that his young correspondent would rise to eminence. This bon vivant politeness (which is not to be expected from the Bossut of Paris, where he was cordially received by Fontenelle, and introduced to D'Alembert and Clairaut. The former became his friend and instructor, and so well versed Bossut in those of which he had works, that D'Alembert was accustomed to send those of whom he spoke to Bossut, as Newton did to De Moivre. Camus, in 1759, procured for him the professorship of mathematics in the
school of engineers at Mâtières, 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.

He continued at Mâtières sixteen years, during which time he received not only all the most important prizes of the academy. He divided one with Albert Euler (son of the Euler) another with the son of Daniel Bernoulli. He published during this period, his course of mathematics, which for a long time was in high reputation, and procured him the means of living when he 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 16 mathematical volumes. His articles are signed I.B. in that work. He gave, in 1779, 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 of that little Bosset may claim an important part. In a memoir which gained the prize in 1796, he endeavoured to account for the action of Pascal's moon's motion by the supposition 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. [Bonnycastle.] The second edition of this work was published in 1806, and is a most interesting sketch, but written, as it appears to us, in strong colouring. Delambre asserts that a misanthropical feeling, the consequence of his misfortunes, made him unjust towards his contemporaries; but at the same time it is the only compendium of the subject of the second division; it is at least not likely to be either intentionally unjust or complainant: Delambre remarks that his impartial intentions would necessarily be a consequence of that 'rideur de caractere' which distinguished him. Perhaps he copied his early work, D'Alembert: he certainly published a description of human nature [D'Alembert]; the tone of which is curiously like the one in the article cited.

Bosset was originally intended for the church, and was indeed an abbé, 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 Éloge in the Memoirs of the Institute for 1816. We do not know of any other account whatever.

BOSTANJI, from Bostam, garden. The class of men who now perform a curious variety of functions, and whose head or chief (Bostanji-Bash) is one of the grand dignitaries 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-gards at Constantinople and on the Bosporus, but the more conspicuous 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, to the city, and to attend to the execution of the numerous orders of the bostanj-bash. They were aggregated with the janissaries, with whom they formerly did military duty in the field, but the bostanjis were not suppressed at the sanguinary dissolution of that turbulent militia, although their number has been considerably decreased. When the Ottoman Court was in its splendid, the bostanjis armed about 2000 men, who were divided into corps, or companies, like the janissaries. The distinctive part of their costume was an enormous bonnet, or turban, made of scarlet cloth.

They, who were 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 and the island of Marmora, from the mouth of the Black Sea to the Delta of the Danube, the maritime 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 bostanj-bashi stands or sits behind him, and steers the magnificent barge, which is rowed by the bostanjis. This brings him into frequent contact and conversation with the sovereign, who never appoints any but personal favourites to this post. At court the bostanj-bashi is almost, but not quite, as important as the khan safra (chief of the black eunuchs) or the selector (the sultan's sword bearer). He used also to exercise the functions of provost-general, presiding at the bow-stringing of the Turkish grandees when the execution took place within the walls of the seraglio, and to be stationed at the gate of the prison, to force from obstinate ministers and government functionaries the confession of their guilt and the disclosure of their property; which latter was always conferred to the sultan.

Another very lucrative duty attached to this composite office was the inspection of the trade in wine, and lime, or 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 moneys formerly derived from the bostanj-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., t. on the Witham, par. and market of the deanery and hundred of that of Kirton. The church is in 53° 19' N. lat., 6° 29' W. long. Its measured distance from London is 116 m.; its computed distance, in a straight line, 93 m. It is 36 m. S.E. of Lincoln. Previous to the Reform Act, it was in the division of Holland, in the parts of Kesteven and Holland, which form the division of the county of Lincoln; 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 are the parish of Skirbeck and the hamlet of Skirlock-Quarter, or the fens of Skirbeck and Skirlock-Quarter, and two members to parliament since the 57th 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 origin and ancient history of Boston are 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 large quantities on the line of the road, and that there has been a con- tinuation of the drain from Lincoln to the Trent at Torksey, and appears to have been the work of the same hands. The Westlode, 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 bank erected along the coast, in order to render the drains safe from the influx of the ocean. (Dugdale's History 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 Derianus. The county of Lincoln was a part of the kingdom of the East Saxons under Cæsaræmis, 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, as the Caesarea of the Romans. Ptolemy gives the name of the Itinerary 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
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is by no means certain that there was a branch road to
the county. Kentish shire was a part of the kingdom of
with the city of London. The Saxon Chronicle informs us
that 'St Botolph built a monastery here, a.d. 654,' which
was destroyed in the thirteenth century. The
Bede says that St. Botolph had a monastery at Icancene.
London. The site of this monastery was the spot
where the monastery was built. From the testimony of
many antiquaries, Boston appears to have been the ancient
Icanhce, and the only site of St. Botolph's monastery.

Some topographers are satisfied with concluding that Boston is a
ruin of Botolph's town. Dr. Stukley says, 'Icancene, Icanhce,
allowed to the Bishop of London, or to the Abbot of
Dugdale, Wenno, supposed to have been the ancient
name of Boston; and also that it was the last bounds north-
wards of the Tcen; he therefore concludes its old name
was Icanhce. (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 Skir-
beck, 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 1264 it was a wealthy town; for when the
government was changing, the towns were allowed the
fifteenth part of land and goods, at the several ports of
England, the merchants of Boston paid 780L. London
paid 836L. (Madox's Hist. of the Exchequer.) London
paid the largest sum of any port, and Boston was the second in
amount, and the greatest sum of money was paid by
Hastings: 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 1261 part of
Boston was destroyed by fire; and in 1268 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
water. The account of the destruction of Boston's
doubtless a great part which was destroyed. It was one of
the towns, appointed by the statute of staple (27th Edward III.),
where the staple of 'wool, leather, woollens, and lead,'
should be held. A staple town was described by Weever as
a 'place to which, by authority and privilege, wool, 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. The 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
did rank high as one of the sea-port 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
gained a rich and considerable trade in the staple goods of
Brittany. *Boston furnished to this navy seventeen
ships and 361 men, a greater number of vessels than was
supplied to Portsmouth, Hull, Harwich, or Lynn; and
equal in number of ships, and superior in number of men
to those furnished by Newcastle, or by the other
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
did rank high as one of the sea-port 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.

About 1470 the town of Boston received a check in con-
sequence of some dispute, when 'one Humphry Littleby
made his plea to be able to kill one of the townsfolk (or
promised to be the same as the Hanseatic merchants),' this
caused the Exeterlunds to quit Boston, and syn the town
sore decayed. (Leland's Itinerary, vol. vii.) At the
time when Leland wrote his account of Boston (1530), the
community consisted of 600 burghers, and they had
the 'great and famous fair,' and of the 'old glory and
riches that it had,' as matters of history, and says, "the
stall and the stilliard houses yet there remaine, but
the stilliard is little or nothing at all occupation." The stilliard-
house was the ancient custom-house, and the merchants of
the steelyard were so called, from the circumstance of
their trading almost entirely by weight, and under the
steelyard as their weighing apparatus. Boston was still further
influenced by the dissolution of the monasteries by Henry VIII.
Some amends were made by Henry in granting the town
a charter of incorporation; it was thus made a free
borough, and in 1540, the date of 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
chapel and church, for supporting a school in the town, for
finishing the two almoners for the poor, and for
aiding the clergy in the parish church, and for the maintenance of four
beadsmen to pray there for ever for the good and pros-
perous state of the queen while living. This valuable endow-
ment, according to the original record, in the Chapel of the
Beaconstyle, comprised about 22,000 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 214 2s. 6d.' This difference is
accounted for partly by a previous exaggeration in the
measurements, and partly by the circumstance of many allot-
ments having been made to the corporation under
Inclusive Acts. (Corporation Reports.)

During the reign of Elizabeth the port continued to de-
cline. The town was in the hands of a mayor and burgesses a charter
of admittance, giving them power to levy certain duties on ships entering the 'Norman Deep.' In 1571 Boston and the
surrounding district suffered much from a violent tem-
est, an account of which is given in Hollar's History.
During the Commonwealth the town was in a state of
military occupation from 1643 to 1645 when it was
in 1643 had a similar visitation. In 1645 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 town were then in the service of the Protector.
In 1645, 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 some of the officers of the
new government, for the demolition of St. Botolph's
church, but it 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. Stukley 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
foundation of the ancient church.' The ruins of the
monastic church were divided by the king in the thirteenth
and fourteenth centuries; and from about the year
1332, the king granted them to various foundations
and private individuals. St. Botolph's church was
re-established. The Carmelite 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 ancient church survives. The site of the church of
the religious houses, its site was granted to the mayors and
burgesses of Boston. The Augustinian friars had also an establishment at Boston,
founded in 1307; and also the Franciscans, or grey friars,
one founded in 1332, and under the wardenship of the
monastery of York. More and more of these houses were granted to
the corporation at the Reformation. Some of the
religious houses are recorded as having existed at Boston.
Several associations, called Guilds, existed at Boston, some
of which seem to have had a mixed character. The
monks and friars were in common with many of their
beggar their first foundations. The guild
of St. Botolph was a fraternity of merchants and
they had only mercantile objects in view. The guild of
Corpus Christi is thought to have been a religious one; it
Dissolution it was called a college. The guild of the
Sisters of the Holy Cross, founded in 1533, had greater of importance, and in its
purposes partly religious. It was suppressed 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 by him to the
corporation on his election to the office of recorder of Boston,
in 1809. The guild of St. Peter and St. Paul was a religious establishment, and had a chapel, or an altar in the parish church. St. George's guild was a trading commune, and its functions were performed in nothing known. The possessor of all these guilds 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 1599, but the existence of a church at Boston is recorded from the time of the Romans. The present church is the gift of the corporation, and its annual value is 3601. (Ecclesiastical Reports), which is paid out of the grant of Philip and Mary. This church is one of the largest parish churches without transepts 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 Boston and Lynn Deeps. This lantern,' says Rickman, 'is panelled throughout, and each side is pierced with a large two-light window, having double transoms; this composition gives to the upper part of the steeple a richness and lightness scarcely equalled in the kingdom. The chancel is partly decorated, and the tower perpendicular, both excellent in their kind. The chancel is partly decorated 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 pinnacles over walls and buttresses, except the belfry story, in which the window is so large as nearly to occupy the whole face of the tower.' (Rickman on Gothic Architecture, p. 251.)

The altar-piece, set up in 1741, is in four compartments, and represents the Crucifixion, the Annunciation, and the Nativity. Instead of a fresco, 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 on Antiquity. (Browning's 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, and for Unitarians. Most of these denominations have their own Sunday-schools, which altogether educate nearly a thousand children.

The Haven:—The history of the Witham, and the harbour, 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. Speaking of the fall in the Witham from Lincoln to the sea, Mr. William Dugdale says, 'the descent of the river is so little, that the water, having a slow passage, cannot keep it wide and deep enough either for navigation or for draining the adjacent marshes. It appears, notwithstanding, that during the commercial prosperity of Boston, ships of a heavy burden could get up to the town, and when wrecked or cast away, the reparation 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 230 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 the decline 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, as to supply a valuable coastwise traffic, now broken by the tide. (Kinderley's Report, and Chapman's Facts and Remarks relative to the Witham.) An act of parliament was obtained in 1762, empowering the corporation to cut a canal, and to construct a great sluice, to assist in the drainage, and to remove the impediments in the navigation of Boston haven. This was done, and the sluice was opened in 1766. Various subsequent acts of parliament for minor improvements in draining, deepening, and embanking have also been obtained. The most favourable results have followed these measures, which began to be visible as soon as the larger works were completed. Expenditure of 1829.—Boston has been chiefly governed by the curate of Henry VII., 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, eight common councilmen, coroner, town-clerk, judge of the quarter sessions, the corporation of the borough, connected either with the borough or port. Freemen were created by birth, servitude, gift, and purchase. The number of resident freemen was about four hundred and eighty; that of non-residents, about forty. Under the new Municipal Act, it is placed in the second division 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 before the mayor, deputy-recorder, and other magistrates. There is a court of requests 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 requires, as 'there is no provision for a very few that are tried from the convicting,' 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, 265. For details respecting the value of the income of the corporation, see the 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 successful. In 1829, a depth of 600 feet was attained without finding a water. In dry seasons, the inhabitants have to buy water. It is well supplied with coal by the coal-vessels from Sunderland, Newcastle, &c. Its foreign trade is chiefly with the Baltic, whence it imports hemp, iron, timber, and tar; it exports corn, hides, and salt. In 1828, the value of the whole quantity of oats was 11,121, 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 9936; in 1811, 8180; in 1821, 10,372; in 1831, 11,240; of whom 5094 were males, and 6146 females. Under its extended boundary by the Reform Act, the pop. of the borough is 12,618.

Farmers employed in agriculture, 149; in trade, manufacturers, &c., 1234; not comprised in the above, 1104.

Annual Value of the Land, 31,899 Q. & 41; 410. This

Assessed taxes, for years ending 5th of April, 1829, 30,684. 13s. 6d.; 1830, 29,797. 1s. 6d.; 1831, 29,592. 14s. 7d.; 1832, 30,056. 4s. 6d.  Parochial assessments, for years ending 25th of March, 1828, 15,4651. 18s. 6d.; 1829, 15,181, 4541. 3s. 6d.; 1830, 9919. 19s. 6d.; 1831, 9355. 19s. 6d.

Number of houses, in 1833 (as charged to the house-duty), 104; and under 20l. rent, 310; and under 40l, 161; 40l. and upwards, 79. (Municipal Report.)

Public Buildings, Trade, &c. The town on the E. side of the river consists of one long street, called Bargate, 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-appointed market, which is held on Wednesdays and Saturdays. It is 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 penned during the time of sale. As an out-post in the centre of the agricultural 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 all other places in this respect. It is the market for coarse and fine gravel, and the sale of ditto, for which the town is noted. There are some few manufacturers at Boston for sail-cloth, canvas, and sack; there are some iron and brass foundries. By means of the Witham and the canals connected with it, Boston has a navigable com-
munition 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 butter, poultry, fish, and stock market-houses, and large and small public houses, which altogether forms a very handsome building, E. of the laven, and near the iron bridge. This bridge, which is of a single arch, and of cast-iron, is an elegant structure; it was commenced in 1802, and opened for carriages in 1807. Its convexity is slight, that the road over it is nearly level. It is 36 ft. 6 in., wide, and 39 ft. broad; it was built at the expense of the corporation, and cost, including the purchase of buildings, £22,000. The petty sessions for the waftakes of Kirton and Skirbeck are held every Wednesday. There is also a place, and the figures near the sky; 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 Reports.) The dispensary, commenced in 1796, is supported by subscription; the patients generally are 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.

Apprentices and 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 de- served by its size, its situation, and its being provided with 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 have also the establishment of a schoolhouse 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 during that period has been 1,500. 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 Carlile's Endowed Schools, and in the Corporation Reports.) The Society of Dissenting Ministers, founded the year 1713, by subscriptions and donations, is for the education of boys and girls. The master and mistress have 100l. a-year. The number of children in the school is 30 boys and 25 girls. The National and British Schools were both established about the year 1815; at that time, eighteen, penny a-week is paid by the children. The National School contains 94 boys and 80 girls. The British or Public School, 150 boys and 70 girls. There is also an Infant School, which takes charge of 120 children, Laughter's Charity 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 500l., since that time it has been increased. The usual charge for three children is the sum of money which, when given to them as an apprentice-fee, 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 blind, deaf, and dumb Charity, the Poor Friend's Charity, and 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 curious form, containing 215 steps, and a square angle, containing a flight of about twenty steps. It is said to have been a baronial residence of the Earls of Rich mond; it passed into the Rochford family, from thence into that of the Kymes, and finally esculated to the crown, in conse- quence 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 Anc. Royal, and The Life of Karen, its owner.)}

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 long, and in no part more than 1.5 miles wide. The land about 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. Boston was founded 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 clergyman at Boston in Lincolnshire, from which place he was driven by the religious persecution, to which the 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 right of religious liberty to their own country; 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 qualified to hold publick offices, or be elected or chosen, but he who was chosen a magistrate, or of serving as jurors, 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 to have objected to the injurious effect of it.

The scheme of taxing America by the British parliament, met with 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. At length, about the middle of the day serious riots took place in the streets of Boston; the buildings 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 dispute with England, which led to the recognition of the independence of the States. One of the most memorable events that accompanied this dispute, was the destruction in Boston harbour of the cargoes of tea which, bunched with an exception able duty, had been consigned to the port for sale by the East India Company. At the expiration of those warrants 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 end were entered into with the governor. 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 even ing 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 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, and all persons, full or partial inhabitants of the town of Boston, or 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 (1774), the charter of the province was in effect subverted, by vesting in the hands of the court of admiralty of all suits, civil and criminal, 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 hostilities for the colonials. But after a short time, 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 dislodging their opponents, but with a loss of 1100 killed and wounded, including eighty-nine officers. In the heat of the action, Charles-town, on the extreme right of Boston, on the north side of Charles River, containing a hundred buildings, 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 he continued to invest until the following Feb-ruary. During this engagement, the Massachusetts, with a considerable force, occupied 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 main land by six bridges—Chains River Bridge, leading to and from Charles-town, on the north, is 1503 feet long; West Boston Bridge, leading to Cambridge port on the west, is 7810 feet long; between these two is Canal Bridge connected with Lech-mere point, 2736 feet long; two bridges unite the penin-sula to a suburb on the main land, called South Boston; and the sixth connexion 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.

Boston Bay harbour is formed by numerous small islands, on one of which, at an 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 about a mile of all three harbours, and between the largest vessels to reach the town where they are moored alongside wharfs, of which there are about sixty, some of them of considerable extent: one, called 'Long Wharf,' is 550 yards long; and another, called 'Central Wharf,' is more than 400 yards long, and 400 feet broad, with a range of lofty brick warehouses along its entire length: vessels lie here in perfect safety from whatever quarter the wind may blow. The harbour to the north 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 well-seasoned parts of timber, and, in many cases, of well-seasoned pine. In the houses of better taste, the streets are wide and straight, and the houses spacious: several are constructed of granite. Many of the old streets have been improved, and the ancient wooden buildings replaced by others of brick and stone. Among the public buildings are, the State House, opposite the County Court House; the Municipal Court House; Faneuil Hall, in which the citizens hold their public meetings; two theatres, and several halls belonging to different associations. The State House stands on an elevated spot, and commands an extensive view of the bay and surrounding country: it contains a fine state of Washington. There are in the city between forty and fifty churches, some of which are handsome buildings. St. Paul’s Church, in Common Street, contains a monument to the memory of Dr. Warren, who was killed in the battle of Breed’s Hill. Dr. Warren, the birth-place of Franklin, is also the place of his burial. He was interred in the Granary burying-ground, where the spot is marked by a cenotaph.

The progress of the city will be seen from the following statement of the amount of its population at various dates from the beginning of the last century:

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1720</td>
<td>7,000</td>
</tr>
<tr>
<td>1722</td>
<td>10,567</td>
</tr>
<tr>
<td>1725</td>
<td>15,520</td>
</tr>
<tr>
<td>1727</td>
<td>19,038</td>
</tr>
</tbody>
</table>

From this statement it appears that the increase since the beginning of the last century has been rapid. The number given are exclusive of the population of Charlestown. The whole are free citizens, the constitution of the state having declared that "all men are born free and equal," which declaration was decided by the supreme court of Massachusetts in 1783, to be equivalent to the abolition of slavery.

The trade of Boston is very extensive, both with foreign countries and with the southern states of the American Union, to which it sends large supplies of salted meat and cured fish, as well as domestic and European manufactures, receiving in return cotton, rice, tobacco, staves, and flour. The quantity of shipping employed from, and belonging to, the port of Boston, and the nature of their employment, may be seen from the following table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Ships.</th>
<th>Tons.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829</td>
<td>550</td>
<td>2,881</td>
</tr>
<tr>
<td>1830</td>
<td>600</td>
<td>3,550</td>
</tr>
<tr>
<td>1831</td>
<td>650</td>
<td>4,200</td>
</tr>
</tbody>
</table>

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>Imports.</th>
<th>Exports.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829</td>
<td>1,565,450</td>
<td>870,000</td>
</tr>
<tr>
<td>1830</td>
<td>1,748,650</td>
<td>1,350,000</td>
</tr>
<tr>
<td>1831</td>
<td>2,001,450</td>
<td>1,670,000</td>
</tr>
</tbody>
</table>

The imports consist principally of woolen, cotton, linen, and silk manufactures, sugar, coffee, indigo, hemp, and iron; the quantity 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>Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1829</td>
<td>3,271,450</td>
</tr>
<tr>
<td>1830</td>
<td>3,241,600</td>
</tr>
<tr>
<td>1831</td>
<td>3,351,270</td>
</tr>
</tbody>
</table>

nearly the whole of which was under the American flag; the amount of customs duties collected at this port in 1831 was 5,227,000 dollars, and the State received 1,012,000 dollars.

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 article BANK and BANCING, vol. iii. page 388.] There are also twenty-nine companies incorporated for fire and marine insurance, the aggregate of whose capital is 15,000,000 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 150 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 indefinite 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 Boston: its jurisdiction extends over one judge, who has cognizance of all crimes, not capital, committed within the city and the county of Suffolk, in which it stands.
Boston contains several literary institutions. Among these the Athenaeum 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. The New England Historical and Franklin Institutes are the most extensive in the United States. There are, besides, a Gallery of Fine Arts, an Academy of Arts and Sciences, and a Mechanic 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 possesses a very extensive library. 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, and bought the best houses in the city, for the purpose 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 (15th July, 1835) the population is composed of two hundred 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 means of 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 needlework, and the use of the loom, knitting, embroidery, 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 improving 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 reposed in it, is contained in 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 paper, etc., is done 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 in the precise value which they occupy. In the books printed at Paris there is 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 de-

nominate 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 196,929 dollars. Harvard University, the best endowed institution of the kind in America, is at Cambridge, three miles N.N.W. of Boston.

The provident institution for savings in the city of Boston possessed on the 15th July, 1834, deposits from 11,516 depositors, amounting to 1,709,399 dollars ($34,000). 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 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, established in 1813, under the title of Christian Observer; a work which was changed in its last 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 Easton, 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 principles as that at Auburn. This prison was first kept 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 aim is to effect a reformation, and the increase of the prison in this 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 given by Mr. Crawford, it appears that the means derived 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 256, whose ages were:

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 15 to 20 years</td>
<td>193</td>
</tr>
<tr>
<td>30 to 40</td>
<td>76</td>
</tr>
<tr>
<td>40 to 50</td>
<td>38</td>
</tr>
<tr>
<td>50 to 60</td>
<td>9</td>
</tr>
<tr>
<td>60 to 70</td>
<td>2</td>
</tr>
<tr>
<td>70 to 80</td>
<td>2</td>
</tr>
</tbody>
</table>

The terms of imprisonment to which they were sentenced were:

<table>
<thead>
<tr>
<th>Time</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>For six months</td>
<td>6</td>
</tr>
<tr>
<td>Between one and three years</td>
<td>99</td>
</tr>
<tr>
<td>three and seven</td>
<td>69</td>
</tr>
<tr>
<td>seven and fourteen</td>
<td>19</td>
</tr>
<tr>
<td>fourteen and twenty</td>
<td>19</td>
</tr>
<tr>
<td>For life</td>
<td>40</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 fifteen years from 1819 to 1833 was one to five; the proportion to the number of those originally detained 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 Almanac and Companion, 1808; Gravett’s Reports of the Legislative System of the United States; Tables of the Revenue, Population, Commerce, &c., of the United Kingdom, part iii.)

Bostrichus (Latreille), a genus of insects of the family Xylophago. Genera: characters—body oblong, cylindrical, and retraceted within the thorax as far as the eyes; eyes distinctly projecting; antennae 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, in which they lay their eggs; from these they generally construct their burrows under the bark.

Bostrichus capacitus (a rare species in this country) is about half an inch long; the head, antennae, thorax, and legs are black; the rest of the body is brown.

Boswell, Robert. He wrote a pamphlet, Edinburgh, October 29, 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 the first, who has been termed 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 1756, and made many acquaintances both in the fashionable world and among the literati. In 1763 he 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, of the man he was to become. The most 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 1763. 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 countries, he returned to England, and continued his education 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 Voltaire. He then returned to London, where he was recommended to Dr. Johnson, and introduced 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 asadvocate for the French cause in the celebrated pamphlet, which was considered creditable to his abilities, entitled 'The Essence of the Douglas Cause,' being a defense 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 present Lord 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 come back from his travels so full of the Corsesian 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 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, 1769, he married his cousin, Miss Margaret Montgomerie, and soon after went to England, and maintained 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 posing another profession and to enter the army, the Defence of the Court of Session upon the question of Literary Property, in the cause John Hinton, Bookseller, London, against Alexander Donaldson and others, Edinburg. It is a mere report of the judgments delivered by the Lords of Session in the cause cited above. He was an advocate of the Department of the Ministry of the hazard, and for the preservation of the rights of the Press and the freedom of the press, and for the continuance of the Declaration 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 is a mere report of the judgments delivered by the Lords of Session in the case cited above. It was published in 1775. In 1779 he wrote a pamphlet in support of the new ministry of Mr. Pitt, under the title of 'A Letter to the London Press of the Present State of the Nation.' His great friend Johnson died towards the end of the year, and in 1785 he published the first and not the least remarkable sample of his Johnsoniana, in a Journal of the Tour to the Hebrides. It appeared at Edinburgh in 1785, and was reprinted in London in 1786. He published another 'Letter to the People of Scotland, respecting the alarming attempt to infringe the Articles of the Union, and introduce a most pernicious innovation, by diminishing the number of the Lords of Session.' Becoming engaged in various enterprises, he 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 two volumes of his 'Memoirs of the Life of Samuel Johnson, Litt.D., LL.D.,' which is 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, by the other men of his time, it may be said, the works of Boswell have 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 feverently 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. quarto, edited by Mr. Cruikshank. In 1794, John Johnson, having been appointed bookseller to the 'Journal of the Tour to the Hebrides,' and also 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 Hypochondriac, 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 'Biographia Britannica,' appeared at London in two volumes quarto, and again at Edinburgh in 1796. He had been a friend of Alexander Boswell, who was editor of Chalmers's Edinburgh Journal, No. 193, for Nov. 21st. 1853.}

Boswell, a genus of balsamic plants belonging to the natural order Burseraceae, and consisting of two species, one of which is believed by Colebrooke to be the Libanos of Theophrastus, and the other the Chamaecyparis of the Romans. For the reasons upon which this opinion is founded see Aristae, Researches, vol. ix.

It appears that the gum resin called olibanum is the frankincense that was used by the anti-trout in their reli-

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[THE PENNY CYCLOPAEDIA]
present day for religious purposes, the Mohammedan writers on India on materia medica apply only the term Cannur to olibanum. This Cannur has been ascertained by Messrs. Conolly, Hunter, and Roxburgh to be the subject of the present article.

Boswellia thurifera, as botanists call it, is a large timber-tree found in the mountainous parts of Hijaz, yielding a most fragrant resin from wounds made in the bark. Its leaves are pinnate, and consist of about ten pairs of hairy serrated oblong leaves, which are broader below and narrower above, and a half in length. The flowers are pale pink, small, and numerous. The calyx is five-lobed, the corolla of five many petals, the disk a fleshy, crenellated, and the stamens ten, alternately shorter. The fruit is a three-sided, three-valved capsule, containing a single-winged pendulous seed in each cell.

From this Roxburgh distinguishes as a different species Boswellia glabra, 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 leaflets being often toothless, and in its flowers being pinnated.

Boswellia thurifera. (Colebrooke, Asiatic Researches, ix. p. 377; Roxb. Fl. Ind., ii. p. 383.) It is necessary to notice here the confusion of names which arises in this plant, as it is very uncertain whether it be the same as the B. serrata of Stackh. ex. 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 Prodromus Fl. Peninsul. Orient., vol. ii. p. 174. A native of the mountainous parts of India (see above) yields the gum-resin (improperly termed gum) olibanum, the frankincense or thus of the antients. This substance was long supposed to be obtained from various species of Juniperus, and consequently called Cephalanthus, the Genista, Linn., J. lycea, Linn., J. tetragona, Münch., the J. thurifera, Linn., or J. hispanica, Lam., and even from the J. oxycedrus, Linn. Some persons are still of opinion that the Arabian olibanum is derived from a juniperus; while the olibanum of Persia is derived from a species of the Indian Juniperus, which is very improbable, for as Nees von Esenbeck justly remarks, the conifer yields only pure resins, or resins consisting of resin, volatile oil, and sub-resins, but in no case gum-resins. Indeed, if the Arabian olibanum be not obtained from a Boswellia, it is most probably yielded by a Balsamodendron (Kafal? Försk. possibly only a variety of B. Kafat. Försk.) at least the wood of this tree is used to burn as a perfume in the mosques.

A substance analogous to olibanum, and used in a similar manner in various parts of the world, is procured from several different trees, such as, in America, the Crotom nitens (Schwartz), C. thurifera (Kunth), C. adpressa (Kunth); in Columbia, Batillaria mertjofolia (Kunth), yields the American frankincense; also the Amyris (Arites) Tucumanae, Kunth., Amyris Costaricensis, Kunth., Amyris Linn., Kunth., the resin coumarie, likewise called American frankincense.

Laeitia apetalata (Jacq.) also yields a substance similar to frankincense.

Olibanum occurs in commerce of two kinds, the Arabic 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 olibanum electrom, or in granis; sometimes of the size of a mustard seed, the other olibanum commune, or in sortis, also foenimentum. 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, or a deep chestnut-brown, and are side 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 splinter fracture.

The second kind 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 olibanum 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 sour 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 has the odour of lemon. The Indian olibanum is not so highly appreciated as the Arabian, or the under or the first kind is often substituted. The latter is frequently intermingled with mastic, gum-sandarac, or Burgundy pitch: when there is much of this last article, it may be discovered by the greater solubility in alcohol.

Olibanum, generally in medicine: it possesses the properties common to balsamious 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 astringent, especially as a powder, in the treatment of ulcers and 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 Gastro, a par., and in the hund. of Sparkenho, co. of Leicester, 55 m. N.W. by N. from London, and 12 m. W. from Leicester. It is called Boswold 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 a son as among the occupants. After mentioning Boswold and some other demesnes, it concludes rather curiously,—

"all these lands Saxi held, and might go whithersoever he pleased." This Saxi lived before the Conquest, it would seem, and he held our Bobby, 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 any kind but the making of butter, and it 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 horses and cadavers, the one on the 6th May and 10th of July every year. The parish contains fifty-five houses, and was in the pop. of 1806, of whom 2520 were females.

There is a free grammar-school at Bosworth, founded by Sir Wolstan Dixie, lord mayor of London in the reign of Elizabeth. He built in his lifetime the plain but neat school-house, which has with deep decay, has been taken down and rebuilt in a more commodious form. The endowment produced, some years since, upwards of 700l. per annum. Sir Wolstan also founded two fellowships and scholarships at Emmanuel, College, Cambridge, for the benefit of students of either race or education at the school. Owning to the charity being mismanaged by the founder's representatives, a suit in Chancery was instituted, which continued above twenty-five years, and the operation of the charity was suspended; but the premises of the school-house, the funds, and the endowment were reassessed 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 mathematician (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, near the town of Bosworth Field, in the 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 or settlement.

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 original appearance remains except the general form of the 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
BOTANICAL GARDENS. [GARDENES.]

BOTANY is that branch of science which comprehends all that relates to the vegetable kingdom. The term Botany is derived from two Greek words, βότανα, signifying any kind of grass or herb, and βοτανική (botanike) 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 considerations, form each 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 that is usually formed by the ordinary twine-minded that are willing to confine themselves in classifying plants is the great end of the science, and not one of the most humble of its means, unless it is conducted upon general views and sound philosophical principles.

In an article of this kind it would be impossible to enter upon a detail of this whole subject; for indeed all of it, as well in man, is conducted upon general views and sound philosophical principles.

There are several points which it is necessary to consider, before we can form any distinct ideas on the subject; and these points are, the nature of plants, their classification, and their 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 practical purposes which it now possesses, and may be applied to.

Botany is divided into two branches: 1. Systematic Botany, which is the study of the natural classification of plants, and 2. Practical Botany, which is the study of the uses of plants. The former branch is the basis of the latter, and the two are closely connected.

There are several points which it is necessary to consider, before we can form any distinct ideas on the subject; and these points are, the nature of plants, their classification, and their use.
be discovered. Thus, cellule adheres to cellule; a dodeca-
and polygonal a cellule 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 cellule grows
to cellule and fibre to fibre, so do contiguous masses of such
and such parts, but with one another, thus arriving at a most com-
plete state of hermaphroditism; and finally, one plant may
be made to grow to another, that in a short time no traces of the union are left, and to our senses a complete
amalgamation of their respective individuality is effected.
As a plant increases to 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
supply 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
stems, shoots, and branches, and yet capable 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
fluids in all directions through its membranes. This mem-
brane is so thin that water is capable of passing through
it with little loss, as much so as glass or taffy; it is also perfectly continuous,
without the slightest trace of perforation or pore. It has
been supposed, indeed, to be furnished with pores visible
under the microscope, but all observations tend to the
effect that the finest of these is the fluid that flows
through the water and substances held in solution by it, which pass
the water through the membrane with the greatest facility. Hence,
notwithstanding the want of distinct orifices by which nutri-
tive substances pass from the blood into the tissues, or ex-pelled, 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-
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 roots: in such a case as this the nourishing system 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,
buds, flowers, and finally fruit, are arranged in a certain
order; and to consider an individual plant as of a nature ana-
logous to that of an individual animal, having a term of life
within which the duration of its life is fixed. Thus
there are plants that are born and die in a day, such as the
pitcher-plant or sundew; and there are others that 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 vege-
table world having; like the higher orders of animals, no
fixed period for the duration of life seems to have been
ordained. Undoubtedly, in one sense, a plant is to be considered as an
individual, but not in the sense to which we have ad-
verted. In an individual animal the loss of any limb is pro
fane destructive of its functions: the removal of a leg or a
long appendage is attended with the loss of an eye, 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
perishes. And again, the individual animal has but one
apparatus for propagating its species, which, once removed or injured, can never be replaced. Not so plants. From
an individual plant limb after limb may be lopped away with-
out detriment; its head, its roots, may be mutilated, or even
removed, and yet its vitality remain unimpaired; its very
heart (i.e. heart-wood) may be scooped out or rot away by dis-
esse, and yet all its life and all its functions go on as before. If
deprieved of the power of procreation in one part, a 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
use only. The root is the first point in the order of things;
the plant, indeed, is a defensive, or at least a protecting
organ, and its injuries are to animals of constant
occurrence 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
snatched from them to administer to the pleasures or necessity
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
exact way in which the two distinct kingdoms of vegetable
vitality, and to discover how it happens that the
individuality of the two kingdoms is so essentially dif-
fent.

The first person who ventured 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
analogous 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 theory was that plants are parasitic to animals,
which may be easily accounted for by the facts on which he
relied, being so much mixed up with fanciful and inaccurate
matter, that discarding was cast upon his whole theory.

And yet it cannot now be doubted that the analogy that he
la-
dered to demonstrate between plants and animals is every
day becoming more apparent; thus there is a distinct
union of a plant and an animal, the joinings of which may
be discovered here, and which may be accounted for by
considering the facts of the points of contact. Look at the
nature of the union in the case of plants, and the animal
which is connected with the plant, and you will find the
analogous union in the case of animals and the plant. Thus
the analogy is found to be present in both the plant and
animal kingdoms, and we should proceed to examine
it.

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,
and fibrous and vascular tissue arranged in a particular
manner round it; exactly the same tissue arranged in the
very same manner will exist in every division of the stem.
So that except in diameter there is no essential difference
between the trunk of an oak, for example, and its most
slender 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 an 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 of all the shoots. Thus a shoot made in
one way 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
remarked that the original twig, produced upon germination,
spreading from a vital point, or bud, never varying in
the least in the disposition that existed in the seed; that the second race of twigs or shoots was generated from new vital points or buds formed in the first shoot, and invariably in the same position with
relation to the leaves of that shoot as the first or seminal
differs from the second; that the shoots followed the same
manner did the buds develop; that while the seed sent a
stem upwards to bear leaves and to generate vital points,
and a root downwards, to support them, so does each bud
send upwards leaves and other buds, and downwards roots:
and it is found that these twigs and branches, or the roots,
which sprang from a vital point, or bud, keep the same
order, and are in the same relative position to one another, as
the shoot creep beneath the soil.

Such observations as these cannot fail to lead to this con-
clusion, that the cause of plants bearing the most extensive
mutations with impunity, in which they so especially differ
from animals, is the great extent of the plant's parts, in
compound individuals, with as many distinct sets 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.

It is obvious therefore that in reality bear a close analogy to animals, and that the analogy is improved the more we go 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 characteristics, would exist, but the organ of digestion, for instance, which is consisted of stomachs, is used to

sees how wide a difference exists between the larger animals and the more conspicuous plants: the less indeed we are acquainted with the subject, the more easy is the task of distinguishing them, but to those who are acquainted with the infinite variety of forms, and numbers, 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 true parts 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 organ of digestion.

As a comparison is instituted between the highest form of development in either kingdom, between a human being and a tree, the differences are so striking to escape the most ordinary observation. We see that animals are endowed with a more or less degree of somatic function, 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 its nutritive properties are transmitted 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 are incapable of locomotion, except by growth, or movement connected with 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 sensorium commune, and to have but one provision made by nature for the support of the species; the animal is capable 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. As a result, 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 identically the same, have been produced by the half-dozen potatoes brought to Europe by Raleigh, in 1584, and this without any aid from the fertilizing 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 increasing their numbers. 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 mastication, which enable them to make the food of nature suitable for its consumption. As their food is once procured by a exertion of the part of the animal, and as this exertion is not continual and interrupted, but only takes place at intervals of time, they are also provided with an internal reservoir in which the food that is so procured is retained till the time comes to use it. In the vegetable, the absorbent vessels conduct the elaborated 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 capability of distinguishing between the useful and the harmless objects of nourishment, are compelled by nature, 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 cessation to the supply of food, are not provided with nature 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 into an internal cavity, but by the power of food on the 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 texture or substance before it can be used, or to be digested, nothing which has to be 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 it 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 it is in that direction that all the absorbent vessels of the vegetable are directed. The consequence of these two laws is, that while in animal nutrition the absorbent vessels of the several 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 cedar of Mount Lebanon are said to add a foot and a half of height every year, and a century's growth is 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. As plants are also animals, having both sensibility and consciousness, 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 nature which are termed vegetable, there is nothing in which sensation is indistinguishable, and from which the two kingdoms seem to diverge as from a common point, even then we find the polypae, 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 in which it was once the outside has to perform the duties of a stomach.

But with this exception we know of no absolute external distinction which can set apart animal and vegetable beings and vegetables. The ingenious idea of Mirbel, that animals live upon organic, vegetables upon inorganic matter, must, as respects the insensible animalculae, be a purely hypothetical difference, and in more perfect animals is not true, as has been shown by Mr. William McLeay, who asserts that 'many animals of the lower tribes, and some heteromorous Coleoptera, have been observed to feed upon inorganic matter.' (H. Entomol. ii, 193.)

If we now reconsider the observations which we have just made, we find that the constitution of most animals and vegetables is really reducible, we shall find that it consists in animals being organic beings, possessed of sensation and locomotion, and sustained by the absorption of nutriment through an internal canal, while plants have the same sensations and locomotions, and are nourished by absorbance through their external surface. How however are 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 food for these curious productions. When we place a drop of water and a few fragments of confervae under a microscope, we shall probably discover an abundance of little bodies shaped like a weaver’s shuttle, transparent at the extremities and in the middle, with two or three circular pustules on the sides, which, when fully grown, 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 five-hundredth to the hundredth of a line, and have, when full grown exceeded these dimensions considerably. By Müller, a standard writer upon infusorial animalcules, they are considered animals, and referred to his genus Vibrio, part of which consists of bodies of an undoubted animal nature, and which have been named Navi- eula. When young they are attached to confervae by 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 Navi-eula 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 they acquire the movement of animalcules, which may be observed clearly, and continue their vegetating state when young to that of the Polype, called Vorticella, an undoubted animal, if rapid and varied motion can make it so.

Among confervae in ditches are often found little fragments of organized bodies; some like ribbands, separable into separate indefinite narrow translucent 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, Fragilaria, Exiliana, Achnanthes. Are they animals or plants? When they have grown, they are motionless, with all the appearance of confervae, 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 call them, with M. Bory de St. Vincent, animalcules? It is no more agreeable to the animal kingdom than it is to the vegetable kingdom, for difficulty no one has seen them assume; or shall we not be rather justified in viewing them as links between the animal and vegetable kingdoms, and endowed with the characters of both.

Carcinospironistella, or Draparnallia, is a plant-like body, which, according to Mesna, Mertous and Gaillon, is sometimes an animal, sometimes a plant. The former says that he has frequently seen it undergo transformation, particularly in August, 1822. On the 3rd of that month he observed one of the Caricospironistella, which, on the 5th it had disarticulated into portions distinctly moving in water, which on the 6th began to unite, and on the 10th became finally combined into their primitive state of confervae. (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 productions of living eggs by birds, reptiles, and mollusks makes them vegetables.

In which kingdom then are we to station the curious Polyphysa, a most undoubted polypl, according to Lamouroux, Leman, and De Blainville; an equally certain plant if we are to believe Turner, Agardh, and Gaudoubaud, 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 flat, capitellate, greenish stalk, about an inch or two in length, the base of which is 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 contains a multitude of little round green globules, which finally expand, but stick through capillary attraction in the sacs in which they are included. They are filled with a green unctuous matter, and the colour of the parent body is entirely due to their presence, for when they have all escaped from their sacs, the mother body is perfectly colourless.

To which kingdom are we to refer the beautiful Sal-macias and all the tribe by some botanists called Confervae, and by others, a form of animal life? We think De Blainville asserts 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 of which is filled with a gelatinous substance, with 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 they are coniguous tubes or filaments unite in a manner completely animal in appearance, uniting at one period, separating at another, and finally combining themselves into a single and uniform being.

Lastly, where are we to place the oscillaria confervae, those slime-like masses which cover the earth in damp and shady places, or form mucous patches among the confervae and polytopes 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 ingenious Swedish naturalist, have once possessed an animal life, of which they now only retain the appearance. These oscillariae consist of articulated tubes filled with green granules, and grow and increase like confervae, and the reproductive parts are of the same species. Perhaps the separation that is apparent. But the tubes themselves have a writhing, twisting, undulating, creeping, distinctly animal motion, which it is impossible to mistake; they are more active in warm than in cold weather, and in the latter can be excited to motion by the addition of sugar; when chemically examined, they have been found to exhibit marks of the characters peculiar to the animal kingdom; and when burnt, yield a carbon of the most flat odour, exactly resembling that of decaying animal substances.

Such is a sketch of the difficulties which that naturalist has encountered in fixing the limits between the animal and vegetable kingdoms. It is clear that the power of voluntary motion exists in beings having a distinctly vegetable structure, both in the most perfect state and in a state of disintegration; that the absorption of nutriment from the inside of the organism is the same in both; that the family, in the one, is a character not appreciable in such creatures as the moulds, and the viving animalcules of flowering plants; and, finally, that chemical differences are destroyed by ana- beina and oscillariae. In this difficulty shall we admit, says M. Bory de St. Vincent, a new kingdom intermediate 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 those differences of opinion as a mere question between animal and vegetable nature as a striking proof of the beautiful harmony of nature, and of that unity of purpose 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 the systematists, and can find no place in a treatise, as its further history by the employment of the vineyards of Ladates and the gardens of Alcinoe, for the employment assigned to Lycon, the son of Prion, of pruning figs in his father’s garden.

The earliest tangible evidence that we possess of the real age of botany is found in the treatise on the botany of the remains of the writings of Aristotle and his school, which are abstrusions of the root-cutters (rhizalomii) 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 body of the rhododendron has been well oiled, some at night, some by the shadow of a gourd. Food was itself considered preparation for procuring this herb, a draught of wine for that, and so on. But in fact at this very time the Peripatetic philosophers were in possession of a considerable mass of correct information concerning the nature of vegetable life, mixed up with much that was fanciful and hypothetical, 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 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 (c. 324) no idea seems to have existed of classification, nor indeed was it necessarily 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 that the names were chosen in part after the appearance of the plant in the leafstalk, especially his attraction. 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 inos (loci); leaves are correctly said to have their veins concrescent, which is the first understanding of what 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 liber and cortical integument, and the loss of the former is attributed to the irritation of some active properties of leaves are clearly pointed out, and the power which both surfaces possess of absorbing atmospheric nourishment. Some notions appear 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 there is no allusion in the most ancient texts of the hazel to the galls of the Kermes oak.

These points are abundantly sufficient to show that among the Peripatetics a considerable amount of tolerably exact knowledge of botany really existed, and that a solid foundation had been laid for their successors.

And in fact it appears that the impulse they gave to investigation did for some considerable time afterwards produce a perceptible effect; for by the time of Pliny it is evident that a considerable addition had been made to the number of plants, which were disfigured by the poets, who, then, as now, appear to have had only a smattering of the science of their day; but it is incredible that they should have been able to glean that smattering out of any other field than a very rich one. For example, the sexuality of plants of Aristotle had been explained, which Theophrastus had adverted to, is spoken of in positive terms; grafting, in moros 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. The

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having comprehended several combinations which are re-

cognizable at the present day: Cucurbitaceae, Stellateae, Gra-
iminae, Lobatae, Boraginaceae, Leguminoseae, Filices, were all
discovered in his time; and it may be supposed that under

the name of Asphodel he grouped the principal part of modern
monocotyledonous. The reasons however why such

groups were constituted were not then susceptible of de-
nition; the true principles of classification had to be elicited
by the long and tedious study of arranging the forms to take up this important subject was Cescan-

pinus, a Roman physician attached to the court of Pope
Sixtus V. This naturalist possessed a degree of insight into

the science far beyond that of his age, and is memo-

rable for the justness with which he appreciated many of the

leading observations which his predecessors had over-

looked. For example, he was aware of the circulation of

the sap; he believed that its ascent from the roots was

cured by heat; he knew that leaves are corylial expan-

sions traversed by veins, proceeding in part from the liber;

he estimated the pith of plants at its true value, and seeds

he compared to eggs, in which there exists a vital principle

without life; but he denied the existence of sexes in the

vegetable kingdom. Improving upon the views of Gesner,

he showed how great is the value of the syste

matization in systematic and physiological flower he

considered to be what is called the corollum, that is the
double cone of plumule and radicle which connects the

cotyledons. In general his views of vegetable physiology were much

more just than those of his predecessors; and if he did not

avoid the error of supposing certain plants to be mere abor-

tions of more perfect species, as many grasses of corn,

he amply redeemed his fame by the correction of other mis-
takes. From differences in the fruit and the seed of plants,

he estimated the value of their parts, and fixed the limits

which these had never employed, had the merit of calling attention

strongly to the existence of a class of important characters

which had previously been either overlooked or undervalued.

But notwithstanding the attempts thus made by a few

directors of systematic and physiological flower he

contrived to reduce it to some general principles, it still con-
tinued to languish and to remain for the most part in the

hands of the most ignorant pretenders, and in no country

more so than in England. We find, upon the authority of the

celebrated Ray, that in this country in the middle of

the seventeenth century it was in the most lamentable state.

At that time the standard book of English botanists was a
publication called Gardiner's 'Herbal,' which, as Ray tells

us, the production of a man almost entirely ignorant of the

leaves of plants to the left hand; and we see that at that time written. The principal part of the work

was pirated from the 'Perpetales' of Dodoens, turned into

English by one Priest, and, in order to conceal the plunder,

the arrangement of Dodoens was exchanged for that of

Lavater, which was made from the woodcut of

Tebenemontanus' Kräuterbuch, often unskilfully trans-

posed and confounded. At last a change, as sudden as it

was important, was produced in the science by the applica-

tion of the microscope to botanical purposes.

The Third Era.—About the middle of the seventeenth

century this instrument was first employed in the examina-

tion of the elementary organs of plants, about which noth-

ing had been previously learned since the time of Theo-

phratus. The discovery of spiral vessels by Heshaw in

1661, the examination of the cellular tissues by Hook,

accompanied by a description of the arrangement of ob-

servers, and led at nearly the same time to the appearance

of two works upon vegetable anatomy, which at once so

nearly exhausted the subject, that it can scarcely be said to

have again advanced till the beginning of the present cen-
tury. New and rich inventions find no salutation but more especially the former, combined with rare powers

of observation a degree of patience which few men have ever
possessed. They each examined the anatomy of vegetable

in its minutest details, the former principally in the abstract,

the latter in the concrete, and they wrote:

Various forms of cellular tissue, inter-cellular passages, spir-

als vessels, woody tubes, ducts, the nature of hairs, the true

structure of wood, were made at once familiar to the bo-
tanist; the real nature of sexes in plants was demonstrated;

and it is quite surprising to look back on these days from

the present high ground on which botany has taken its

alad, and to see how little the views of Grew at least have

subsequently required correction. From him physiological

botany, properly speaking, took its origin. Clear and dis-

tinct ideas of the true causes of vegetable phenomena gra-

dimly conceived by the ancients, and even by the moderns,

have been the source of all the progress in the study of

plant physiology which has taken place since his time. From

his time indeed the progress of the science has been

steady and regular; but Grew in his time was the only

botanist of the first rank who had a comprehensive view of

the whole subject. The study of plant physiology, for

though it has been his business to prove, is not his business

to explain. He had shown what plants are, and what they

do; but it was for others to show how they act, what

forces are necessary to produce their effects, and how

to explain them. But it is not to Grew that we owe the

origin of the science. He was the discoverer of the two great natural classes into which the flowering

part of the vegetable kingdom is now divided. Grew, however, was no systematist; it was re-

served for another Englishman to discover the true princi-

ples of classification, and to apply them to the botany of

the earth by degrees.
...those variances, and the 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 lessened the science. In public estimation, and done as much as 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 his great successor. As early as the twenty-sixth year of his age, he was engaged in the works of nature; and the maxims of Linnaeus to the exigencies of science, without encumbering himself with its pedantry. He knew the impossibility of employing any single character to distinguish objects so variable in their nature as plants; and he clearly saw to what extent such a character would lead to erroneous conclusions. Without pretending then to the consciousness 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 took a far more active part in the arrangement; 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 correctly nearly the same, and which are a demonstration of that beautiful but still imperfect superstructure, which has been erected by the labours of Brown, de Candolle, and others. If the system of Jussieu were not a return to that of Ray, modified only and improved by modern discoveries, we should certainly have taken this period for the commencement of

The sixth and latest era in our science. But it was reserved for a man whose fame lies chiefly in the literary world to effect the last great revolution that the ideas of botanists have undergone. In 1790, one year after the appearance of Jussieu's Genera Plantarum, the German poet Goethe published a pamphlet called 'The Metamorphosis of Plants.' At that time the various organs of which plants consist had been pretty well ascertained, the divisio...
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seems altogether to have escaped the observation of botanists. Entirely unacquainted with the writings of the two latter naturalists, but aware of the Prolegomen Plantarum of Linnaeus, Giotto took up this important theory, and demonstrated that all those organs to which so many different names were applied, and which, in fact, have so many dis-
similar situations, in the same tree, can be reduced to a single common type—the leaf; that the bract is a contracted leaf, the calyx a combination of several, the corolla a union of several more in a coloured state, the stamens contracted and coloured leaves with their parenchyma in a state of disinte-
gation, 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 doctrine was explained in so lucid a style and philosophical manner, that the many circum-
cumstances of its not having been immediately received all over the scientific world shows in the clearest light how baneful the influence of Linnaeuan botany had already be-
come; 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 regard-
ing the nature of plants which has already produced the most momentous effects by laying open the most com-
plexed and unintelligible distinctions and descrip-
tions 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 an-
ounce as having produced a sudden and universal change in the science; its general principles are apparently well under standed. 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 observa-
tions, to combine into one consistent whole the multitude of species whose attributes are as numerous as themselves, and to produce the harmonious result under the seemingly dis-
cordant 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; while the system of Linnaeus has con-
tinued 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 maintain a footing in the middle classes, where any headway has been made, steadily 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 expla-
nation of the most remarkable. Agriculture and horti-
culture are the two arts with which it is related the most; although a certain knowledge of natural practices in each of them 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 unless by the appli-
cation of vegetable physiology. The first part of it to which these arts belong, is little accustomed to trace to their source the common practices with which it has been familiar from its infancy; and it is far from sus-
pecting that many of the operations which are intrusted to the care of nature have one or other connection with the results of 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 of which a given space of earth is capable of pro-
ducing.

To improve the quality of any one plant, and to render it better adapted to the uses of mankind upon scientific prin-
ciples, 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 fine without being aware of the manner in which the plant grows, how it is affected by light, air, and earth. The flavour of some fruit is too acid; it was shown how a man who could have discovered how to increase the quantity of saclarchin matter. Potatoes are sometimes watery and unfit for food; we learn from vegetable physiology that this is often caused by the leaves, in which the nutritious fluid of the plant is most frequently, that by being sufficiently ex-
posed to solar light, the great agent in causing the production of vegetable secretions. The leaves of the tea plant are 

in harmless and only slightly stimulating in certain latitudes, they become narcotic and unwholesome in others; this shows how a difference between climate and vegetation, a purely botanical question. Certain races of plants may exist, of which one is too vigor-
ous, the other too debilitated for the purposes of the culti-
vator; the botanist shows how an intermediate race may be created, having the best characters 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 yield grapes capable of making such wine as even the most insignificant canoe of Madeira or Jamaica; and the leguminous plant of northern Asia is a proof that the gen-
eral principle 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 ends in the waste of time and loss and trouble.

The quantity of produce which may be procured from a given space of ground varies much very much according to the skill of the cultivator, but that skill is in reality the mere application of the rules of vegetable physiology to each partic-
ular case; and a similar folly as that of supposing the climate and vegetation, a purely botanical question. Certain races of plants may exist, of which one is too vigor-
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immediate nature. But as this is a branch of the science of comparatively modern origin, there are few instances of its application: one of the most striking was the declaration of Mr. Royle, that cotton might be obtained in the East Indies equal to the finest from America, a prophecy which has already been fulfilled in consequence of the practical adoption of the plan by a class of powerful individuals, and affecting the pecuniary interests of Great Britain as much as any commercial problem ever did; the botanist, and the botanist only, can give a safe and certain answer to it.

The cases hitherto cited refer chiefly to the objects of vegetable physiology; systematic botany bears upon practice not less usefully, in a different way. If the only advantage of classifying plants were to acquire the power of discovering their scientific names, even that would have a certain kind of interest, because it would insure a uniformity of language in speaking of them; if it had the additional property of demonstrating the gradual connexion that is discoverable between all the beings in the organized part of the creation, of proving that there is an insensible transition from one form of living matter to another, without break or interruption, and of explaining in a certain and distinct manner of that which is to be theoretically supposed, however powerful remember so extensive a series of facts; and if, under such circumstances, botanists whose whole life is occupied in the study should be unable to master the difficulties, systematic botany could never be applied at all to any useful end, because it must of necessity lead beyond the acquisition of those persons who would be most likely to have occasion to employ it. But it was long since suspected that plants which agree with each other in organization also agree in the secretion which may be supposed to be the result of that organization. Linnaeus, in his dissertation on the properties of certain species of the genus possess similar virtues; that those of the same natural order are near each other in properties, and that those which belong to the same natural class have at some relation to each other in their sensible properties. This discovery, which is adapted on all hands, among men of science, to be inconvertible, and places the practical utility of systematic botany in the most striking light. Instead of endless experiments leading to multitudes of incongruous and isolated facts, the whole history of the medicinal or economical uses of the vegetable kingdom is reduced to a comparatively small number of general laws; and a student, instead of being compelled to entangle himself in a maze of specific distinctions, is enabled to make himself acquainted with the more striking groups; and having accomplished this, he is enabled to judge of the properties of a species he has never seen before, by what he knows of some other species to which it is related. Some of the uses to which this power of judging of plants prior to is practically useful may be formed from this—that supposing the vegetable kingdom to consist of 100,000 species, arranged in 6 or 7000 genera, the vast mass of characters required to distinguish them will be collected under about 300 heads, a knowledge of not more than two-thirds of which will be required for the purposes of the general observer. Thus the common hedge mallow is a mucilaginous, inert plant, whose woody tissue is tough enough to be manufactured into cordage; it has certain botanical characters, which are readily observed and remembered; and it belongs to a group of plants consisting of not fewer than 700 species. It is only necessary to understand the structure of the common mallow to recognize all the remainder of the group, and to be aware of their uses and properties; so that a person in a foreign country who finds a plant agreeing with that of mallow in the Maltaceous order is known, although he should never have seen or heard of the plant before, would immediately recognize it to be mucilaginous and inert, and would expect to find its vegetable fibre tough enough to be manufactured into cordage. It is this class of facts which alone can lead to any certainty to the discovery in one country of substitutes for the useful plants of another; it has shown the similarity between the violet roots of Europe and one of the kinds of Ipomoea of South America; that the astringency of the alun-root of the United States is the same as that of the genciums of England; that madder has its representative in the Isle of France, cinchona in India, and that Indian-rubber trees exist in the East as well as in the West.

It is not however every kind of systematic botany which leads to these important results. Linnaeus, however clear, which depend upon accords in one or two arbitrary and unimportant points of structure; but it is that philosophical view of nature which separates to the greatest distance species which are the most dissimilar in their organization; for which plants be more like each other than anything else, filling up all the space between such extremes upon exactly the same principle; till at last, take a species where you will, it will be found in the midst of its nearest kindred and most natural allies. This, which is called the natural system, will be explained hereafter under the head of CLASSIFICATIONS in botany.
Blunts, in two places, paired end to end
Binty, growing in pairs
Bipartite, divided into two deep lobes
Bipinnate, twice pinnate
Bipinnatifid, twice pinnatifid
Brachyty, when branches stand nearly at right angles to the stem from which they arise
Bract, the leaf or leaflet from the axis of which a flower grows
Bulb, a scaly, underground bud
Buccinal, a round, underground stem resembling a bulb
Colocasia, falling off sooner or later
Comminata, of bluish internode
Cordyline, growing in tufts
Colora, n spur or horn; so in the nasturtium
Colorata, having a spur or horn
Conduplicate, rolled to one side of the outside of a calyx, or of an involucre
Coryphina, the hood of a moss
Calyx, the external envelope of a flower
Combination, a vessel secreted in the spring between the bark and wood of
Exocarps
Compound, bell-shaped
Coniculate, channelled
Conceolita, a leaf which has veins without connecting parenchyma
Convolvulus, growing in a head
Capitulum, a collection of flowers in a head
Capsule, any dry many-seeded fruit
Capsnata, having a kind of keel
Carpel, a part of a compound
Carpel, one of the parts of a compound pistil; a single leaf rolled up into one of the pistils of
Capitanata, a seed having fusing external excretions growing near its hilum
Caragopaxa, a dry one-seeded fruit resembling a seed, but with no distinction between the seed coat and pericarp
Caulicle, prolonged into a sort of tail
Caulina, of belonging to the stem
Caulis, a stem
Chilopsis, a spot on a seed indicating the place where the nucleus is united to the seminal integument
Clavate, fringed with hairs like an eyelash
Coneus, ash-coloured
Cuneata, rolled inwards from the point to the base
Cinctuate, dividing into two parts by an apophyseal transverse separation
Cerica, terminating in a tendril
Cereat, club-shaped
Cerebr, the top of a petal
Crepus, resembling a round bucker
Cephalic, resembling the bowl of a spoon
Cephalophallus, where the stem and root are combined
Columella, a central part of the fruit of a monoeous plant, round which the spores are deposited
Column, the combination of stamens and style in Orchidaceous and other plants
Comose, having hairs at one or both ends, if spoke-like of seeds, being terminated by coloured empty bracts, if applied to inflorescences
Conspectus, doubled together
Confluens, flowing together so that the line of junction is lost to the sight
Conjugate, growing in pairs
Convents, growing together so that the line of junction remains perceptible
Concente, the fleshy part that combines the two lobes of an anther
Conchial, united by the bottom, as the anther of a potato blossom
Convolvulous, approaching a conical form
Continually, proceeding from something else without a separation
Contacted, twisted in such a way that all the parts have a similar direction, as the segments of the flower of an Olearia
Corycalea, mixed together
Corollum, the rudimentary axis which constitutes the coryleous of the embryo
Corolla, heart-shaped
Coriaceus, of a leathery texture
Corum, a solid, roundish, underground stem, as in Crocus
Cornea, of a hairy texture
Corynolat, shaped like a slender horn
Corolla, the second of the two envelopes that surround the stamens and pistil
Corollaform, a combination of barren and stamens into a disk, as in Stapelia
Corymb, when the branches surrounding a common axis are shortest at the top and longest at the bottom, so as to form a level- topped wheel
Costa, the midrib of a leaf
Corydala, the leaves of the embryo
Coryneform, shaped like a goblet
Crenated or Crenelated, having rounded notches at the edges
Crested, having some unusual and striking eminences on the back of the disk
Crocus, when four parts are so arranged as to resemble the arms of a Maltese cross
Cordatum, heart-shaped
Cordata, hooked, rolled inwards so as to conceal anything lying within
Calm, the straw of grasses
Corm, delphy, or surrounded with the gelatinous flesh as in crassiflorum
Cyme, an inflorescence having a corymbous form, but consisting of repeatedly-branching divisions
Cymbiform, having the form of a boat
Cyme, resembling a cyme in appearance
Corymbose, having ten stamens
Deciduous, falling off
Delicate, curved downwards
Dendroid, lying prostrate, but raising again
Denticulate, produced round off with a projecting point in the middle
Cicatril, the external skin
Cystidiiform, cup-shaped, more or less contracted in the middle to the criniform
Cyathium, a smallaceous flower composed of a single flower
Cyathus, having the form of a boat
Cyrtid, resembling a cyme in appearance
Cyrambose, having two stamens
Dichotomous, repeatedly divided into two branches
Dichotyledonous, having two cotyledons
Dichotomia, having two pairs of stamens of unequal length
Dichymus, growing in pairs, or twins; only applied to solids and not to flat surfaces
Dichogyne, finger-like diverging from a common centre, as the fingers from the palm of
Dimorphic, half-formed, or halved, or split into two halves
Disas, having two wings
Discal, with the central part of a flat body differently coloured or marked from the rest
Disk, a fleshy circle interposed between the stamens and pistils
Disproperly, the vertical partitions of a
Discophora, arranged in two rows
Disuncliniar, diverging at an obtuse angle
Dolichocladus, having 12 stamens
Dolichocladus, arranged in two rows
Dried, such a fruit as the peach, consisting of a stem surrounded by flesh or fibrous matter
Ducts, spiral vessels that will not unroll
Dens, having a compact bushy form
Duromen, the heart-wood of timber
Echinata, covered with hard sharp points
Elateri, little spirally-twisted hymenogamae threads that disperse the spores of Jungermannia
Elementary organs, the minute parts of which the texture of plants is composed
Emarginate, having a notch at the point
Endocarp, the hard lining of some pericarp
Ensiform, a plant which increases in diameter by addition to its centre, as a palm-tree
Euphyllous, having 9 stamens
Euanther, having the form of a straight and narrow sword blade
Epipetal, the outer layer of the pericarp
Epicarp, the skin of a plant, in the language of some writers; the cortical integument according to others
Epigynous, growing upon the top of the receptacle, or ovary
Equitant, 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 Iris
Estivation, see Estivation
Eugenia, a plant which increases in diameter by the addition of new wood to the outside of the old wood; as an oak-tree
Fortunata, mealy
Fusca, brown
Fuscated, collected in clusters
Fusilier, when the branches of any plant are pressed close to the main stem, as in the Lincoln
Filament, the stalk of the anther
Flata, slender and round like a thread
Flavescent, tubular but closed at each end; as a leaf of
Fimbriatella, fan-shaped
Flagelliform, resembling the whiff of a whip
Flagellate, wavy
Flacca, covered with little irregular patches of woolliness
Fiori, a little flower
Flavescence, light yellow
Floccosa, having the colour and texture of a common green leaf
Foliation, the arrangement of young leaves within the leaf-bud
Follicle, a simple fruit opening by its ventral suture only
Folliculus, the passage through the integuments of an ovule by which imparipinnate matter is introduced into the nucleus
Folliculus, the fertilising principle of pollin
Fond, the leaf of a fern or of a palm
Fruit, the full-grown ripened pistil
Fugacious, lasting but a short time
Funiculatis, resembling to fungus, that is, irregular in form and feathery in texture
Funiculus, the stalk by which some seeds are attached to the placenta
Funiculatus, abaxially-ribbed, the fruit set in the middle, and tapering to each end
Galeatus, a small cone whose scales are all consolidated into a feathery ball, as in Juniper
Galea, the upper lip of a labiate flower
Galeata, umbellata, in which a stem bears suddenly in its middle
Globosa, prominent, projecting
Glabros, having no hairs
Glandulae, the same as eximia, but broader and shorter
Glandulae, 1. the fruit of the oak, the haste, &c., 2. an elevation of the cuticle which usually secretes either acrid or resinous matter
Glanulare, covered with glands of the second kind
Glaucescent, covered with bloom like a plum
Glaucidate, covered with hairs which are rigid and hooked at their point
Glauco-peltate, one of the bracts of grasses
Gymnospermous, having seeds which ripen without being enclosed in a pericarp
Gynoecose, an elevated part of the growing petals that bear the flower-bud, ribs extending between the carpels and throwing them into an oblique position
Gynoecium, see Circinate. Also, surrounded by an elastic ring, as the thecae of ferns
Hainate, having the form of a halberd-leaf; the best-developed one-celled group, crowned at the base by two lobes of a similar form standing at right angles with the centre
Heterot, the hooded upper lip of some flowers
Heterostylous, having different kinds of stamens
Hexandrous, having 6 stamens
Hilum, the scar left on a seed when it is separated from the placenta
Hopping, covered with harsh long hairs
Hyogenous, the gills of a mushroom; that part in Fungi where the spores are placed
Hypanthius, salver-shaped; having a cylindrical tube surrounded by a flat border spreading away from it
Hyposous, arising from immediately below the pistil
Icosandrous, having 20 or more perigynous stamens
Ictiopeial, overlapping, as tiles overlie each other on the roof of a house
Incumbent, lying upon any thing
Intact, not opening when ripe
Independed, doubled inwards
Inclusion, the membrane that overlie the sort of ferns
Inferradial, is said of a calyx when it does not admit the pointed end of a straight insect; is said of an ovary when it does adhere to the calyx
Inferradial, the collection of flowers upon a plant
Innate, the form, shaped like a funnel
Innate, growing upon any thing by one end
Innate, the young shoots of mosses
Intercellular, that which lies between the cells or elementary bladders of plants
Internode, the space between two nodes
Interrupted, when variations in continuity, size, or development alternately occur in paraxial or sometimes in transverse form; as when pinnate leaves have the alternate leaflets much the smallest, and when double spines are here and there broken by the extension of internodes
Involute, a collection of bracts placed in a whorl on the outside a calyx or flower-head
Involucre, rolled inwards
Labelatum, one segment of a corolla, which is larger than the others, and often pendulous
Labelate, divided into an upper and a lower lip, as the corolla of dead nettle
Laciniate, having large deep depressions or excavations on its surface
Lamina, the blade of a leaf
Laciniolate, shaped like a lance-head; that is, oval, tapering to both extremities
Lateral, originating from the side of anything
Leafage, the vital fluid of vegetation
Leaves, not compact or dense
Leaflet, a division of a compound leaf
Leaves, a kind of fruit like the pod of a pea
Leaved, small, depressed, and doubly convex
Lepidote, covered with a sort of scurfiness
Leprous, the same
Leprous, newly-formed inner bark of Exogens
Ligula, a membranous expansion from the top of the petiole in grasses
Limb, the blade or expanded part of a petal
Linetal, very narrow, with the two sides nearly parallel
Lip, see Labellum
Loricata, when the carpels of a compound fruit dehisc in such a way that the cells are broken through at their back
Lorican, the episkel, or collection of florets of a grass
Lomentum, a legume which is interrupted between the seeds, so as to separate into two processes surrounding the office of the theca of a moss
Lunatin, formed like a crescent
Maniculate, when hairs are interwoven into a mass, can be easily separated from the surface
Marginal, of or belonging to the edge of any thing
Medullary, of or belonging to the pith
Microphyll, a small passage through the seed, called the foramen when speaking of the ovule
Monosepalum, conical, hollow, open at the base, and either entire there or irregularly cut
Monosepalum, with the stamens united into a mass
Monospermous, with one stamen only
Monosiphon, shaped like a necklace
Monopetalous, with several petals united into one body by their edges
Mucronate, tipped by a hard point
Multifid, divided into many shallow lobes
Multispored, divided into many deep lobes
Multitubercled, covered with short, broad, sharp-pointed tubercles
Murriforam, resembling the bricks in the wall of a house
Nariculate, shaped like a very small boat
Nectary, any organ that secretes honey
Nervicinal, having hairs on the back
Node, the part of a stem from which a normal leaf-bud arises
Normal, according to general rules
Ovary, the central part of an ovule, or a seed
Obclival, a small hard seed-like pericarp
Obclival, larger on one side than on the other
Ochrea, two stipules united round the stem into a kind of sheath
Oleanderous, having eight stamens
Omalocarp, the lid of the theca of a moss
Ovary, the hollow part of a pistil containing the ovules
Ovate, having the figure of an egg
Ovule, a rudimentary seed
Patella, the lower surface of the throat of a corolla
Patellariform, oblong, narrowing towards the base, and contracted below the middle
Pandeloid, a compound raceme; 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 Delphinium
Perianth, the pulp that connects the veins of leaves
Pericarpel, growing from the lining of any thing
Pectinately, divided into long, close, narrow teeth like a comb
Pedate, palmate, with the lateral segments of the corolla
Pedicel, one of a great many peduncles
Pedunculate, a flower-stalk
Pedate, attached within the margin
Petaloid, having five stamens
Perforate, surrounding a stem by the base, which grows together where the margins touch
Persimmon, a collection of floral envelopes, among which the calyx cannot be distinguished from the corolla, though both are present
Pericarpel, the shell of a fruit of any kind
Perichenium, the leaves at the base of the stalk of the fruit of a moss
Perichaetial, same as albuinum
Pericyclus, a habit of the two processes surrounding the office of the theca of a moss
Pericline, laid thickly over with a woolly substance ending in a sort of meal
Peridium, a pericarp of the lower lip pressing against the upper lip
Petals, one of the parts of a corolla
Petiolate, resembling a petal in colour and texture
Petiole, the stalk of a leaf
Petiolate, of or belonging to the petiole
Petiolum, a petiole transformed into a flat leaf-like
Pileus, the cap of a mushroom
Pileus, covered with short fine hairs
Pinnate, divided into a number of pairs of leaflets; bipinnate, each leaflet is also pinnate; tripinnate, each secondary leaflet pinnate also
Pilose, covered in a pinnated manner nearly down to the midrib
Pistil, the combination of ovary, style, and stigma
Pitted, the central column of cellular tissue in an Exogen
Pentricia, the part of the ovary to which the ovules are attached
Plano, quite flat
Plumula, the rudiment of a stem in the embryo
Polypetalous, when the petals are all distinct
Polygamous, a fruit like the apple, pear, &c
Polygynous, same as Estivation
Prickly, same as acicular
Primose, the external integument of the ovule
Pseudobulb, the solid above-ground tuber of some Orchidum
Pseudocarp, covered with very fine soft down
Pulmonate, covered with a powdery appearance
Pulmonate, same as Endocarp
Pyramidiform, shaped like a pyramid
Quarantine, the innermost integument but one of the ovule
Quinote, combined in fives
Quintine, the innermost integument of the ovule
Raceme, an inflorescence like that of the currant
Rachis, the axis of inflorescence
Radical, arising from the root
Radial, the rudimentary root in the embryo
Ramentum, soft, ragged, chaff-like hairs growing upon the petiole of ferns
Reap, the line of communication between the hilum and chialasa
Raphides, acicular or other crystals scattered among a cellular tissue
Remiform, kidney-shaped
Resupinate, inverted, so that the part which is naturally lowermost becomes uppermost
Reverted, having the veins having the appearance of network
Rhachis, blunt, and turned inwards more than obtuse
Rheum, having the veins like that of Iris
Ringlet, same as Personate
Root-stock, same as Rhizoma
Rosaceous, furnished with a sort of head
Rosulate, having the leaves arranged in little rose-like clusters
Ruminated, pierced by numerous perforations full of chaffy matter like a rutabeg
BOTany bay is situated on the E. coast of Australia, which coast is commonly called New South Wales, but should properly be called Cook's Land, having 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 about it as either a swamp or flat as 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 swamps do not render it incapable of cultivation, may be cultivated without cutting down one of them; between the trees the ground is covered with grass, whereof is abundance. The great quantity of plants found there by the naturalist accompanying him in his first voyage indicates that it is a suitable place for a new settlement.

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 directly for it, having been soon convinced that this was the land of which he had been informed 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, especially from the N.N.E. and 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 soil about it as either a swamp or flat as 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 swamps do not render it incapable of cultivation, may be cultivated without cutting down one of them; between the trees the ground is covered with grass, whereof is abundance. The great quantity of plants found there by the naturalist accompanying him in his first voyage indicates that it is a suitable place for a new settlement.

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pler of Claude (to whom only he has been considered interior), 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 these survived by falling into a canal at Venice, in the year 1650, returning late to 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 John, the landscape-painter, perished 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 an outline. A faithful copy which occasionally preserves 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 counseled. 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.

BOTINIA, or BOTENNA, 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 Quaren. It is from the name of the coast. But for W. Bohus, but the former has been ceded to Russia, and constitutes the greatest part of the lately-erected government of Uleaborg.

Western Botinia constitutes with Lapland the most northern portion of Sweden, and contains about three-eighths of its surface. On the N. E. it is bounded by Ruden, on the S. by the Muonio-Elf and Kielen-Elf. On the N. and N. W. the range of the Kielen (prosn. Tiilen) mountains separates it from Norway. On the S. it joins the Swedish provinces of Jamtland and Angermanland, and the remainder of its boundary on the S. is the Norra Anna. It has no point, north or south, that is nearer to a 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 62,545 sq. m., or a little more than half the British 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 W. Bohus, and on the level of the river. The greatest part of the plain runs along the boundary of Russia, on the banks of the Muonio-Elf and Tornea-Elf. At the foot of the rocky range which divides it from Norway 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 m., the plain has the appearance of a full-tilled tract, and some mingles with the pine (pinus sylosordes); lower down grows the fir (pinus abies). About half way towards the gulf, and before the Muonio-Elf falls into the Tornea-Elf, the country is less than 400 ft. above the sea, and is covered with forest trees. The height of the hills, which has been introduced within a century and has made considerable progress, though the climate only allows the cultivation of barley, oats, and potatoes.

Along both banks of the Upper Tornea-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 Tornea-Elf rises in the lake of Tornea (Tornea-Trick), which is imbedded in the rocky mountains of the Kielen, and falls by a waterfall of 100 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 insuperable 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 72 ft. in perpendicular height. The Muonio, which through its whole course is the boundary between Russia and Sweden, is called in its upper part Känga, and is navigable for many miles above its mouth, though it has some rapids. When the Tornea-Elf turns to the E. to unite with the Muonio-Elf, it sends off a branch to the right called the Tarende-Elf, which, after a tortuous course of about 30 m. to the S., joins the Calix-Elf, forming in this way a natural canal between two river systems. The Calix-Elf nearly separates the S. S. and falls into the N. part of the Gulf of Bothnia, a few miles below the town of Tornea.

The Calix-Elf rises at no great distance to the S. of Tornea-Trick in the Kielen mountains, whence it carries off the waters of four or five large lakes. It descends on the same plain to the S. of the great group of iron hills, and runs nearly parallel to the Tornea-Elf E. S. E. for about half its course. Where it receives the Tarende-Elf it turns to the S. and continues in that direction. It is less rapid 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 a region of small lakes, where stupendous rocky masses 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 the Lulea-Elf is a great range, the Kurwafel of Gelivare, which is never entirely free from snow, and consequently may rise to above 4000 ft. To the N. of it lies another group of iron-hills, less extensive than that on the banks of the Tornea-Elf. These heights divide the plain into two portions different in character. Between it and the Kielen range the country is covered with swamps here and there with reinder moss; the dwarf-birch is rarely met with. This proves that this portion of the plain rises to about 1800 ft. above the sea. The same description applies partly to the country between Mount Dundur and the large forests of the north. Its length is 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 to the S. of the two ranges of high rocks, of which the N., the Norra Ananas, is the highest; and here the first 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 the valley does not widen; the current is often split on its banks, numerous rapids and considerable cataracts render it entirely unfit for navigation, except a few miles from its mouth. It enters the Gulf of Bothnia about 2 m. below the town of Lulea, after a course of 200 m. Its largest tributary is the Lulea-Elf, which joins the Lulea at the Lulea, the Lulea-Elf is a separate river, but it joins the Lulea-Elf, its bed lies in a deeper valley; it forms fewer and smaller rapids and cataracts, and its banks are inhabited by ski and fisher people.

The country between the Lulea-Elf and Skelleftea-Elf is nearly equally divided between mountains and plains. In its part the Kielen range rises to its greatest height in Mount Sultelmna, and extensive ranges of it are always
covered with snow. The ridges branching off from it extend from 60 to 80 m., and are divided by wide valleys, which in their upper parts rise above the line of the birth (2000 ft.), and are only covered with swamps and reindeer moss. In the lower parts of the forest these 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 covered with swamps, in which a great number of loose stones occur. Almost 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 would cover the greater part of the country.

The Pitea-Elf rises in the extensive lake of Peskejare, 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 cascades. 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 Pitesa, 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 Nasa-fäll, 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 naming the cities. It runs S.W. and 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 cascades, so that the salmon ascend nearly to its sommet. It rises near 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, covering 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 short 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 most S. portion of Bothnia the mountains in the W. are more V-shaped, rather than gorges. Some miles N. of 65° N. lat. a range branches off from the Kilren 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 Sildfa, rises to about 1500 ft. above the sea. Through its tracts 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 Kilren and running nearly N. and parallel to the Sildfa-Elf. 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 Angerajo 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 Kilren-range about 66° N. lat. It first runs S., traversing some lakes, and then turns to the S.E. and flows into the large lake of Stora Ume. 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 Kilren range, about 68° 30', on the S. declivity of the Nasa-fäll, and descends in a S.E. direction with numerous凭借着，is a more frequent river, and in the lower part of the forest its cascades are much milder than the others parts of the globe in the same latitude. Winter lasts, in general, about 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 the great degree of heat. In the beginning of June all traces of winter have disappeared, and the grain is harvested by long days, or 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 nowhere remains in the ground more than ten weeks. Nevertheless it is sometimes injured 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 warmth.

The quantity of snow which falls during the winter is very great; but in summer rain is scarce: which circumstances 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 twice a year; the first time in the beginning of July, after melting of the snow in the lower parts of the country; the second towards the middle of July, when a succession of long days 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 maintain a much larger stock of cattle during the eight winter months.

The soil is of an indifferent quality, sandy and stony, except along the Tornen-Elf and Muonio-Elf, where it is much more fertile. The worst portion is that along both sides of the Lulea-Elf, and the high valleys along the foot of the Kilren. Along the shores of Bothnia the land is much better, and the crops sufficient for the consumption of the inhabitants; but they are only cultivated in a small extent, and only in the first ten years or twenty. 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 66° N. lat., and barley to 68°. But it is only sown and cultivated for six years, on the average. Pasture-walks are so extensive, that many 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 kept in the S. districts, and their wool is coarse. Hogs are not kept. The Laplanders have considerable herds of reindeer, 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 species of fish. The salmon rises in the rivers to the head, but sometimes enters it from the sea as far as Umea. The salmon ascends to the streams where they have high cascades, and the salmon ascends to the streams where they have high cascades, and the number of fish taken is considerable.

The greatest part of the country is still covered with forests. Only the high plains between the Calix-Elf and Lulea-Elf rise above the line of the birch trees. This district and the upper parts of the mountains, with the higher valleys, are only covered with reinder moss; the remainder forms nearly an impenetrable forest, especially in the mountains. The most common trees are pine, birch, fir, alder, and aspen. The birch grows to a stately tree on the banks of the Tornen-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, who are a smaller, and more simple nation, live chiefly along the banks of the Muonio-Elf and Tornen-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 district, and chiefly consists of herdsmen of reinder 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 been

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some agriculturists, and partly adopted the manners and customs of the Swedes. The Swedes occupy the country along the shores, and extend always further up into the valleys along the larger rivers. They occupy themselves nearly in the same manner as the Norse people a few miles back, in the inland districts, who gain their sustenance by fishing in the lakes.

Botnia with Lapland is politically divided into two lands or districts, of which the S. is called Westernbotten, or Ume-Län, and the N. Nordbotten, or Pite-Län. (Buch's 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 68° N. lat. Between 68° and 69° N. lat. lies the remnant of the line of the N. E. its whole length may be nearly 450 m. Its entrance is formed by a strait called Alands 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 Alands Haf to the Quarken is called Botniska Haffet (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 farther separated by the Swedish island Halk 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 as far as the northern extremity of the gulf. N. of the Quarken is properly called Botniska Wicken (the gulf of Bothnia).

The coast of the Quarken are rocky though not high on both sides of the gulf, but in general higher on the western side, on which the English earl of Wicken, has his seat. 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 hut likewise low. The largest part of this northern portion is formed by an alluvial deposit brought down by numerous rivers.

Under Baltic (p. 347) is noticed the small degree of saltness 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 for a short distance. The well established practice of navigation.

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 series of piles on the ice 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 rarefied 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 trade to the independent government of Stockholm. Russian 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 Stockholm, when nearly all the midwinter ice is melted, when the coast S. and N. of Hennosand 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 short time. The fishermen's name for it is eustroming, and it is called eurstroming. 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 second son of the 1st Earl of Bothwell, and married, in 1585, the famous lady, Mary of Lorne, daughter and heiress of Edward, Duke of Lennox. For a considerable time he was the chief minister of James VI. and I. He took the surname of Bothwell from the place of his birth, and was created Earl of Bothwell and Lord Liddesdale in 1545. He died in 1589.

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[THE PENNY CYCLOPÆDIA.]
was thus a part, was frequently disturbed by his violence, his contests with the earl of Arran, his brother-in-law, and his matches with other nobles. For instance, he consigned him to the castle of Holy Island on 24 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 queen declared that she forgave him. On 8th May, 1562, having put her brother in possession of the forfeited earldom of Murray; and detaining her in captivity till she should acquiesce in their measures. But Arran having revealed the matter, he fled. Bothwell was consequently committed to Edinburgh castle, whence however he escaped; and after again identifying himself whilst in his own retreat at Hermigate, got to sea, but was taken again at Holy Island. Randolph press'd his detention much, representing him as the determined enemy of England, and of the earl of Huntly, and also against herself, calling her the cardinal's (Baton) whore: she hath sworn unto me her honour that she shall never receive favour at her hands. The following month we find a despatch from Bedford to Cecil, in which Bothwell is represented as a determined foe, and an enemy of the peace; 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 any where. Murray followeth him so earnestly, as he doth say, thou wilt not hold him. But the directions of the government, 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 Argyll, the justiciary, and the earl of Murray, came to Edinburgh with their train of 5000 men, to hold a justice court, and bring Bothwell had embarked at North Berwick for foreign parts, and not appearing at the trial, was outlawed.

In this depth of delusion 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 middle of October of the same year, he found 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 Randolph writes to Cecil, that Lord Bothwell, for his great victory, had been made Earl of Atholl. This rising spring, Bothwell, then at the age of 41, married Lady Jane Gordon, sister of the Earl of Huntly, 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 appears to have fled with the child, for whom Bothwell had the custody. The king and queen soon after returned in a sort of triumph to Edinburgh and proceeded to the castle, where they immediately sent for Argyll and Murray, and had them reconciled to Huntly, Bothwell, and Atholl. Bothwell had obtained the appointment of the friendship 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 servants on that occasion making a confession; and on 20th August, 1566, Bedford wrote to Cecil that 'the Lords Maxwell and Bothwell are now enemies. Bothwell is generally hated, and is more insolent than ever. David Rizzio was. With the sovereign however Bothwell was, as this write's his favor, had a great hand in the government affairs.' He attended the king when he went to Tweedale in August, 1566, to enjoy the amusements of the chase; he returned with him to Edinburgh, where we find him in the council held in September of the above year, and also in the great council which voted a supply of 12,000l. for defraying the expense of the infant prince's baptism; and from Edinburgh he had got his absolute rode off from Jedburgh, where she then was, to Hermigate castle, a distance of about 40 miles, through a rugged country, to visit him, and returned to Jedburgh the same day—a journey which, from the anxiety and exertions attendant on it, brought on a violent illness from which he died. On 10th October, 1566, he arrived he was attacked and severely wounded. On the 8th October, 1566, he was, says Birrel, 'deceivedly wounded by John Ellete, alias John of the Park, whose head was sent into Edinburgh thereafter.' The queen, on hearing of the instance, Bothwell had succeeded in getting off from Jedburgh, where she then was, to Hermigate castle, a distance of about 40 miles, through a rugged country, to visit him, and returned to Jedburgh the same day—a journey which, from the anxiety and exertions attendant on it, brought on a violent illness from which he died. On 10th October, 1566, he arrived he was attacked and severely wounded. On the 8th October, 1566, he was, says Birrel, 'deceivedly wounded by John Ellete, alias John of the Park, whose head was sent into Edinburgh thereafter.' The queen, on hearing of the instance, Bothwell had succeeded in getting off from Jedburgh, where she then was, to Hermigate castle, a distance of about 40 miles, through a rugged country, to visit him, and returned to Jedburgh the same day—a journey which, from the anxiety and exertions attendant on it, brought on a violent illness from which he died. On 10th October, 1566, he arrived he was attacked and severely wounded. On the 8th October, 1566, he was, says Birrel, 'deceivedly wounded by John Ellete, alias John of the Park, whose head was sent into Edinburgh thereafter.' The queen, on hearing of the instance, Bothwell had succeeded in getting off from Jedburgh, where she then was, to Hermigate castle, a distance of about 40 miles, through a rugged country, to visit him, and returned to Jedburgh the same day—a journey which, from the anxiety and exertions attendant on it, brought on a violent illness from which he died. On 10th October, 1566, he arrived he was attacked and severely wounded. On the 8th October, 1566, he was, says Birrel, 'deceivedly wounded by John Ellete, alias John of the Park, whose head was sent into Edinburgh thereafter.' The queen, on hearing of the instance, Bothwell had succeeded in getting off from Jedburgh, where she then was, to Hermigate castle, a distance of about 40 miles, through a rugged country, to visit him, and returned to Jedburgh the same day—a journey which, from the anxiety and exertions attendant on it, brought on a violent illness from which he died. On 10th October, 1566, he arrived he was attacked and severely wounded.
his relation; Huntley's forbearance was reversed, and Bothwell had its lands and offices, both hereditary and acquired, confirmed to him. The preamble of the statute in this last case was a little singular. It sets out the queen's consideration of Bothwell's great and man
cinful good service and perform not onlie to her hieres honor well and estimation, but alsa to the common weal
of the realm and leiges thereof, and thenceupon follows a declaration of this great and splendid heritage, and of the capty
ship of Dunbar castle. On the 21st April, next following of the
parliament, the leading persons of the government met and
had a supper at Ainsley, where they signed a bond in Bothwell'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,
the 24th, she was met at Almond bridge, near Linlith-
gow, by Bothwell and a great company who seized her
person, 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 not. 'Captain Blackwater (he adds)
alsed it with the queen's consent. And then the queen
could not but marry him, seeing that he had ravished her
and lain with her 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 of June they were tried in the same court sepa
rately. Bothwell now brought the queen to Edinburgh,
where the bans 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 removing theEarl of Bothwell, his accomplices
in his 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 rec
corded the same day. Next day the marriage was solemn
ised at Holyrood by Adam Bothwell, abbot of Holyrood
house and bishop of Orkney.

Bothwell had now gained the summit of his ambition;
it was attained with guilt, and from his height he was
quickly precipitated into everlasting infamy. An indignant
cry went up against 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,
which he reached the day following, 16th June, from a sub
settlement he was made at the 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 Malmoy. He left no children, and all his
house and main estates were forfeited to the crown.

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. Bothwell and the town of Daymouth, near
Hamilton, the assiss of the Regent Murray, stretches along
the N.E. bank. The ruins of Bothwell castle, for
mery 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. [Covenanter.] Bothynoderes (Entomology) a genus of Coleop
terus insects of the family Curculionidae; generic charac
ter—body oblong; rostrum longer 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 first, the following short; the eighth rather
broader than the last; the remaining or terminal joints
form a spindleshaped club. Thorax narrower before than
behind, the base with an impression in the middle. Elytra
oblong, with an oblique tubercle towards the apex. Legs
mascular; femora simple.

This genus apparently links the genera Clomus and Lieux
together; the species are in general very prettily mottled,
the common colours being black, or grey, and white. In
this country but one species has yet been discovered, and of
this only two have been found:—it is about half an inch long and of a white colour, having the
central part of the thorax, together with a fascia and four
spots on the wing cases, black. The species here described
is the Bothynoderes albidus—Curculio albidus of Fabricius.

Bothrylly (zoo.) a genus of the second tribe
(Entomology) (Entomology) of Ascidians, a family of the fourth
order (Heterobranchiatia) of Apechelaphorous (headless)
Mollusks, according to De Blainville.

The genus was observed by Gresier, and afterwards
established as Bythynoderes. Olivier makes the first
Aggregata (Aggregade Animals), the second family of his
Apechelaphous Mollusks without shells. Lamarrack arranges it
as the ninth genus of his first order of Tunicated animals
(The Agglomerated Tunicata or Botryllarians). 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 Sivagny, whose labors
in this department has been so conspicuous, has shewn how
they have contrived [for example] to form an oblong,
grey, small, soft, irritable, and contractile, changing their form with the slightest move
ment.

Ellis, as Lamarrack observes, regarded the stars of Botryl
ly as being formed of as many different animals as there were rays.

In Owen's Syllabus, which, founded as it is on a most
industrious and clear-sighted search into animal organization,
we recommend to the attention of all zoologists and compar
ative anatomists, these animals will come under the founda
tions of De Cuvier's great system. Many of whose nervous system are disposed more or less irregularly
over the body, which is accordingly more or less asym
metrical in figure.

The genus Botrylly has been subdivided by authors, as
we shall presently see. De Blainville, who evidently dis
regarded the observation 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 submara
ine bodies by its dorsal surface and by its sides to other indi
viduals of the same species more or less numerous, so as to
prevent the appearance of a complete 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 provided with six tentacular pilules, 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 Dianoma (Sivagny).

Of this division the Botrylly of the Mediterranean (Bot
rylly 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.

• * Synonym of a Elementary Course of Lectures on Comparative Anatomy.
By Richard Owen, Esq.R.B.S., delivered in the month of April, 1850, at St. Bartholomew's Hospital.

Dianoma is comparatively large in size.

21
a. Body triply divided.

Genus POLYCLINUM (Savigny).

Of this section the violet Botryllus (Botryllus violaceus) is an example.

b. Body entire; disposition radiating; eight tentacula, the four smallest of which are at the external orifice.

Genus POLYCLINUM (Lamarck).

Of this section Renier's Botryllus (Botryllus Renieri) is an example.

* * *

Body entire; disposition radiating; eight tentacula, the four smallest of which are at the external orifice.

Genus BOTRYLUS (Lamarck).

Of this division the stellated Botryllus (Botryllus stel-
edus), is a form which he can escape on each side of its mouth.

The species are European.

[Image of Botryllus stellatus.]

a. A group of Botryllus stellatus upon Ascidian intestinales; b. A disk magnified.

BOTRYLITE. [DATHLITE.]

BOTRYLIS, one of the obscure parasitical genera of fungi, to which is called mildew is often attributable. The plants consist of little cells adhering end to end; of these a part lies prostrate on the surface of the plant that bears them, the other rises erect from the surface and bears a collection of roundish seed-cases at the extremity. From the spores contained in these cases the plants are propagated, and seeing that their size is so microscopic in all cases as to escape our vision unaided by glasses, and that what seems to the naked eye a thin brownish white patch upon a leaf is in reality a dense forest of such plants, their power of dissemination must be very great. They attack the fibres of vegetable fabrics, such as linen and cotton when placed in damp places, and the decayed stems of various plants, decaying apples, pears, grapes, &c. &c. They are always superficial and never intestinal.

BOTS are the larvae or caterpillars of the gad-fly, belonging to the order Diptera and the genus Ostrus, and distinguished by this peculiarity, that they pass the larval state of their existence within some living animal, and feed on the juices or substance of that animal. There are numerous species of them. Every quadruped on which they prey has its peculiar fly. The notice of a few of those most commonly known will suffice.

The Ostrus equi, or gad-fly of the horse, belongs to the species (the genus of some entomologists) Gasterophilus, so called from its larvae inhabiting the stomach of that animal. It is distinguished from the Gasterophilus of Cfrini by the smoothness of the thorax, and by the eyes in both sexes being equidistant from each other, not quite half an inch in length, with gauze-like yellow and brown wings, its chest of a rusty colour approaching to a brown hue on the sides and with a yellow tinge posteriorly, its belly of a reddish brown superiorly and a dirty grey beneath, with its extremity almost black; the whole insect is thickly covered with down. The gad-fly is seen in the latter part of the summer very busy about horses: this is the impregnated female depositing her eggs. She selects some part of the horse which she can reach with his tongue, and which he is in the frequent habit of licking; she balances herself for a moment, and then, suddenly darting down, deposits an egg on one of the hairs, which adheres by a glutinous substance that surrounds it. She continues her labour with wonderful perseverance until she has parted 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 its tongue. In two or three days these eggs suffuse and 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 influence of the warmth and moisture of it, the ovum is broken, 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 runs through the stomach, and, by means of a hook on each side of its mouth, affixes itself to the cuticular 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 cuticular 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, so that 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 lives in a cell 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 form a number of eggs for deposit under 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 hollowed out; in a few instances they have been decidedly injurious; having mistaken the upper part of the windpipe for their residence, and, fastening themselves on the edges of the opening into it, have produced a cough which no medicine could alleviate, and which increased so much in violence until a degree of irritation was excited under which the animal sunk. 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, have probably some degree of mischief 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 hornet has been turned out of its habitation in August, and therefore almost necessarily has bots, enjoys just as good health as another that has been stabled during this period.

He is as well condition, and as fully capable of work when the cuticular coat is crowded with full-formed bots as he is at any other time. The bots 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 habitation 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 triturating of the food; but the function discharged by the triturating portion is one of mere attrition, and 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-owners 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 cuticle that no medicine 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 no ground for the assertion that the red-bot is more dangerous than the common bot.

A third species, the *Bistrus hemorrhoidalis*, or fundament-bot, is better known. The fly is considerably smaller than the common *Botryllosis equi*; it is of a brown colour, with the extremity of the body rounded and yellow, and the mouth, an orifice approximately circular. The bot, when the fly may be seen darting between the thighs of the horse and around its group, 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 is not until the end of May that the bot is generally noticed at the same time that the common bot does from the stomach. These bots are often seen within the vergo of the anus, and occasionally seem to be productive of a slight degree of irritation. They are smaller than the common bot, and are distinguished from it by the intensity of its operations. An injection of linseed-oil will generally dislodge them.*

The *Bistrus ovis*, or *Bistrus* of the sheep, is a more formidable insect. It is smaller than the *Bistrus* of the horse: its body is of a dark-brown colour, spotted with white, the whole of which is so much prevailing as to give a greyish hue to the fly. It may often be seen in copes, and particularly on tails 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 mostly in June and July, and is sometimes an inordinate 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 *Bistrus* 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 sinuositie of the passage, and finds its way to some of the sinuses 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 turbinate bones of the nose, or the sinuses of cavity of the upper jaw, or the frontal sinuses, it fastens itself on the membrane, and with the two hooks which, like the others, it is provided, and there it remains until April or May in the succeeding year.

There are seldom more than three or four of these bots in each sheep; and when they have reached their appointed home, like the bots in the stomach, they never leave it. Some strange but groundless stories have been told of gleet from the nose, giddiness, and inflammation of the brain having been produced by them.

The larva or bot remains in the sinus until it has fully grown. It then detaches itself from the membrane, creeps out of the same way by which it entered, and again easily annoys the animal for a little while, the sheep making the most violent efforts to sneeze it out. At length the grub being dropped, burrows in the earth, becomes an ovum and motionless chrysalis, and, six weeks or two months after, breaks its壳 and flies off. The work of propagation being effected, the male, like that of the *Bistrus equi*, dies; the female linger on a little while until she has safely deposited her ova; she takes no food, for she has no organs to receive or digest it; she accomplishes her task and expires.

The *Bistrus boris*, or gad-fly of the ox, is larger than either of the others. Its chest is dark-brown, with a yellow patch on the back, and the rounded abdomen has alternate rings of brown and orange colour. The fatty and cellular substance beneath the skin of the ox is the resistance of its larve. The fly almost uniformly selects a young beast in good condition, and slighting on the back, a little on one side of the spine, it punctures the skin and drops one of its eggs into the perforation, and with it, probably, some acid fluid which causes temporary but intense pain. The ox darts away, and runs bellowing over the field with his head protruded and his tail extended. His companions, starting from the same pain, or dreading a similar attack, also gallop wildly in every direction, hastening, if it be in their power, to some pond or stream, where their enemy is afraid to follow them*.

A small tumour, a carbuncle, presently appears on the back, which being carefully examined is found to contain a little white worm. This worm grows and assumes a darker colour, and becomes a perfect bot; and there it remains, abundantly nourished by the fatty matter around it, until the following June, when it begins to eat its way through the wall of its cell. Many a bird, aware from the unanseance of the beast of what is going to happen, has been seen to fly in to the back of the bot, as it is forcing itself through the aperture which it has made; and the cattle too, instinctively crowd to the water in order that the intruder may fall into the stream and thus be lost. In one of these ways the great majority of the larve perish; but a few reach the ground, speedily burrow into it, pass through their chrysaline state, and reappear in August in their last and perfect form. They also immediately set to work to secure the perpetuation of their species, regardless of the annoyance to the animals within whose frame they find a refuge.

* Both the red-bot and the hemorrhoidalis belong to the species gastero-philus; and to the larve of these three the term bot has been by many authors restricted: but as the larve of all the castri 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 (Georgie. 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 *Otas* are not well known.

BOTTARI, GIOVANNA, was born at Florence in 1689, studied Latin and belles lettres under the learned Biscioni, and Greek under Salvinii, and afterwards philosophy, mathematics, and music, in which he took his 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 Martinii. This laborious work lasted several years, and the new edition was published in 1738, in 6 vols. Bottari was also made superintendent of the grand ducal printing establishment at Florence, where he published new editions of several Tuscan writers with notes and comments, such as Vasari, Galiani, Leopardi, Caramelli, Boccaccio &c. In 1736, he published *Lettere da Firenze a d’Arezzo,* &c. In 1729, he wrote *Lezioni tr tro tremuto* 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 canonry, and also the chair of ecclesiastical history in the University of Sapienza, and employed him in 1732 together with Rastachino Manfredi, on a survey of the Tiber throughout Umbria, in order to ascertain whether it could be rendered navigable. The result of this survey was published: *Relazione sopra uno sperimento per far arrotondare una Nuova Galleria di Perugia fino alla foce della Nera.* Bottari made a similar survey of the Teverone. His next publication was a learned work on the monuments found in the numerous and vast subterranean vaults near Rome, commonly known by the name of the catacombs or *Sculture Sotterranee,* ed ora nuovamente datate e in loco colla spiegazione ed indici, 3 vol. fol. Rome, 1737—54. He used the plates of the Roma Sotterranea of Bosio, which Clement XI. had caused to be engraved, but with care that the said to be entirely Bottari's. He also published *Storia dei SS. Filippa, 4 Giosafate ridotta alla sua antica pureità* di favella col motto degli antiachi testi: *a penna con prefazione,* 4to, 1734. Clement XII. being pleased with his works, bestowed on him several benefices, made him a prelate of the pontifical court, and librarian of the Vatican. Benedikt XIV., who succeeded Clement in 1740, made Bottari take up his abode near him in the Pontifical Palace. In 1741, he was appointed to the benefice of S. Bartoli inciso, 1741, fol. Bottari contributed to this work an important preface, with a dissertation on the age of two MSS. of Virgil in the Vatican, and notes, variants, &c. *La vendita del palazzo Apostolico Vaticano*, opera postuma di Agostino Tjaja, was published in 1755, and contained the imagini d'uomini illustri, &c. and afterwards *Musei Capitolini tumos secundus, Augustorum et Augustarum hermas continens,* cum Observationibus,* fol. 1750. Also *Antiquissimi Virgiliani Codicis Fragmenta et parte ex Virgiliani Bibliothecis princeps,* fol. 1752. Bottari took up his residence in Rome, near the site of one of the ancient thermal baths of Tjaja had begun this work, which Bottari recast and completed. Bottari died at Rome in June 1775, at the age of 86. He was one of the most distinguished scholars at the Roman court in the 18th century. Among his minor works are: *Dialogue* on the origin of the *Letters* of Palemon; *Two Lectures* upon Boccaccio, in which Bottari refutes the charge of insufficiency brought against that writer; *Two Lectures* on Livy, defending the Roman historian against the charge of great credulity in narrating prodigies; *Letters* on the fine arts, Dialogues on the same subject, &c. (Guzzlini elogio di Monignori Bottari; Mazzucchelli Scrittori d'Italia.)

BOTTLES, GLASS, in common with other descriptions of glass, were first subjected to a duty by the 6 and 7 Will. and Mary, but the duty then imposed was much increased, and various modifications, was repealed four years after, by an act, the preamble of which recited that it was "found by experience that the duties on glass and glass-wares are very rection of the works of several of the most noted artists, and should the same be continued would lessen the duty on coals much more than the said duties on glass-wares would amount to," which would improve the glass manufactory to a great extent, and endanger the loss of so beneficial a manufacture to this kingdom. The experience thus recorded did not however prove the duty to be had to glass as a means of raising revenue. The duties that were imposed on the materials used for making different kinds of glass in Great Britain, and among the rest 2. 6d. per cwt. upon the materials of which common bottles were made; in 1778 this rate was increased to 3. 6d. per cwt. From this year it was increased to 3l. 10d.; and in 1787 to 4l. 03d., at which it continued until 1804, when it was made 4l. 1d. In 1813, the duties upon glass, generally, were doubled, and the rate upon bottles became 9l. 2d. per cwt.; at which it remained until 1825, when it was reduced to 7l. 8d., and at this rate it continued until 1836. Until the year 1826, Ireland enjoyed an exemption from duty upon all kinds of glass made at home, with the exception of common bottles, upon which a duty of 1l. 34d. per cwt. was imposed in 1797; this rate was continued until 1826, when it was advanced to 7s. per cwt. the rate payable in Great Britain, and no alteration has since been made. At the time the duty on glass bottles was doubled (1813), a tax of 2l. 6d. per cwt. on stone bottles was imposed at the instance of the makers of glass bottles, who feared that the increase of the duty upon bottles would increase their own expense, and to their advantage to the makers of stone bottles. This rate was doubled in 1817. This duty on stone bottles never produced much beyond 3000/. per annum on the gross receipts, and it was repealed in 1834.

The quantity of bottle glass made in Great Britain, upon which excise duties were paid at different periods from 1790, are as follows:—

<table>
<thead>
<tr>
<th>Year</th>
<th>Duty Paid (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1790</td>
<td>215,084</td>
</tr>
<tr>
<td>1795</td>
<td>205,330</td>
</tr>
<tr>
<td>1800</td>
<td>167,200</td>
</tr>
<tr>
<td>1806</td>
<td>183,334</td>
</tr>
<tr>
<td>1810</td>
<td>159,157</td>
</tr>
<tr>
<td>1815</td>
<td>152,872</td>
</tr>
</tbody>
</table>

The amount of duty collected, and drawback paid, in the United Kingdom, during the five years from 1830 to 1834, was as follows:—

**Great Duty.**

- 1830: £19,277
- 1831: £20,845
- 1832: £19,295
- 1833: £13,295
- 1834: £19,460

The whole duty is drawn back on exportation. The manufacture is treated of under Glass.

**BOTTOM HEAT.** A term in horticulture expressive of an artificial temperature communicated by means of fire (or other contrivance) to the plants. It is usually obtained either by leaves, or as a stable-litter thrown into a heap, and enclosed within the walls of a brick pit, the surface of which is covered with soil. The object of the cultivator is by such means to prevent the rapid cooling of the plants in the air, below either 50° Fahr. or more than 90°. The plants to which this kind of temperature is applied are pine-apples, melons, cucumbers, &c. and certain tropical plants cultivated in stoves.

It is probable that this operation took its rise at a time when it was extremely difficult to procure an equal temperature of the atmosphere by other means; and when, if the heat of smoke in flues was employed, it had the effect of drying the air in which plants were cultivated till it was unfit for their respiration. Fermenting matter, the tempera-

...
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 blind imitation, that a great deal of time and trouble will be saved by science. In procuring this bottom heat large sums are generally expended, which could be saved by using the smallest return. All that bottom heat possibly does is better done by ordinary heating apparatus, and the cost of the bottom heat is altogether thrown away.

It is an axiom in horticulture that the more closely we approach nature in our most artificial operations, 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 for in equatorial climates. Now the data that we possess concerning the action of the sun on water and air in the climate of the equator, and their effect in the least intervals of time, are sufficient 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 soaked from the direct action of the solar rays; we cannot suppose that bottom heat has any existence there. On the contrary when any such temperature as that is communicated by bottom heat shall be proved in any part of the world, we are to look for it in the regions of the cold, the shores of the north coast of Holland, or the frozen plains of Peru, where it has been noticed by M. Boussingault, the effects of it are so prejudicial that vegetation can scarcely struggle against it.

Another question was whether it was not the case that the melons of Cashmere derive their nourishment from the cold waters of lakes; that in Persia, and even in Spain, the earth in which the roots of such plants feed is perpetually cooled by the evaporation of the water by which the soil is irrigated; and that bottom heat must not have been in use in those countries. Some experiments hitherto unrecorded that in other cases it is equally false. It has been used in a similar manner in the air in a 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.

BOTTOMRY, BOTTOMREE, or BUMMAREE, is a term derived into the English maritime law from the Dutch or Low German. In Dutch the term is Bommere of Bodemery, and in Low German Boden or Bodern, which is derived from Boden or Bodern, 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 was originally used in a similar manner 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, by which 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 continue his trade. It is a security, which is usually expressed in the form of a 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 tackle reach the desired port, they become immediately liable, as well as the person of the borrower, for the money 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 casualties of the voyage, which the borrower may receive in the course of events. 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 Boden- meri, 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, then the borrower is said to take up money at respondentia. In this distinction as to the subject matter of the security, consists the only difference between Bottomry and Respondentia; the rules of English maritime law apply equally in either case.

The practice of lending money on ships was common in Athens, and in other Greek commercial towns. Money thus lent was sometimes called (vaukoi xoAina) ship-money. Demosthenes (I. Against Aphobus), in making a statement of the property left him by his father, enumerates seventy-nine miro nonty 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 (etvpyaij; fond).

(Demosthenes against Phormon, and against Dionysodorus, c. 6. 10.) The most curious instance of the use of Bottomry is shown in the Oration of Demosthenes against Dionysodorus—3000 drachmae were lent on a ship, on condition of her sailing to Egypt and returning to Athens; the money was lent on the double voyage, and the borrower contracted to write to return direct to Athens, and not dispose of his cargo of Egyptian grain at any other place. He violated his contract by selling his cargo at Rhodes, having been advised by his partner at Athens that the price of grain had fallen in that city since the departure of the vessel.

Money was also lent, under the name of pecunia tracia, 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 same risk, but usually the rate was not excessive. If the ship or cargo were lost, the interest was claimed and the full amount of the bond.

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 Etzch (Adige) from the river of that name which runs through it, first in a S. direction from its sources to Eisack and at Meran, where it bends to the S.E. as far as the confluence of the Eisack near Botzen, from whence the united stream flows direct S. towards Trent. The valley of the Etzch from Glurenns to the confluence of the Eisack, a length of 140 English miles, is the circle of Botzen; which was originally called the Tyrolean circle, and afterwards the circle of Andrae, because it was that of the Tyrolean 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 Passeyschthal, about 10 m. N. of Meran. The Etch and Eisack rivers form a water-course 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 wine and fruit in abundance. The system of irrigating 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 Pusterthol or Eisack; on the S. by that of Trent; on the N. by that of the Oberinntal, and on the W. by the Rhine.

The circle of Botzen consists of three districts; the Rhine-Alps; and on the W. by the Valley of the Valtellina and the Munsterthal in the Grisons, being divided from the former by the Stifter Soch and the Order, and from the latter by the Wormser Soch and the high ridge called Surses. The population of the circle of Botzen are Meran and Glurenns, each with a pop. of 2000 and 3000 in., 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 de la Bavière; de Brany; Inglis's Tyrol; Mattei Bruno'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 riv. Etsch, an affluent of the Etsch or Adige, and just above the confluence of the two rivers. The traveller coming from Innbruck, 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 measure 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.

Botzen is a neatly built t. of near 8000 inh., and is known chiefly for its fair, which is 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 Roveredo and Trento to Innbruck, which was the only communication between but one Tyrol and Lombardy, before the opening of the new road over the Stilfser Joch. [Bormorto] 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 Malz near Gurena. From this point the traveller commencing by the Stilfser Joch can go to Innbruck, either by Botzen and the pass of the Brenner, or proceed from Malz up to the sources of the Etsch and then descend by Nauers into the valley of the Inn which he then follows to Innbruck, meeting at Landeck the road leading from Salzburg to the Etsch. Botzen is 32 miles 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 Escaut or Scheld, and the Aa, a tributary of the Scheld, which are navigable above the town. It is about 10 m. from each, and 115 m. N.N.E. from Paris; 50° 17' N. lat., and 3° 17' E. long.

In 1711 the Duke of Marlborough invested Bouchain, having, by the most skilful manuvering, 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 siege of the town was a work of considerable difficulty, for the nearest support of the French army was at the E. of the town, about two miles distant, and was made up of some 10,000 men, which, with a strong garrison of seven thousand men, was not a little out of place. The French were in possession of the town, and the 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 a strong garrison. But the skill of Marlborough triumphed over their strategy; for he passed the river Aa, which runs past the town 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. Bouche was re-taken in 1712 by Maréchal Villars, and the possession of the town now over 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 at present by the sea. This town is surrounded by 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 1129: we have no later authority.

Boucher, Rev. Jonathan, born 1737, died 1804, a divine, a political writer, a general scholar, and an English philologist of the last century, to whose memory history has hitherto been imperfectly rendered. Being appointed by his patron, Mr. Boucher, a clergyman of a little town of Wigton, at a place called Blencogro, 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 the people of the town and country," and "no more than the peasants," which was intended to rebuke and check the spirit of a love of emolument. 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 always flourished in America. He was one of the popular enthusiasts; 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 prayers, and to read the prayers in public at all, to conform to the unmitigated 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 conscious, but because it is expedient for God himself. In his old days he led quiet and peaceable lives, in all godliness and honesty.

Inclination, as well as duty, confirmed 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—

Good health to the king.

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 public dislike that his person was in hourly danger, and, in 1775, he finally quitted the American colonies. Some of his friends and 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 preferment till 1784, when Parkinson, a clergyman, the author of two well-known scripture lexicons, to whom he had become known through the publication of a small book, was given to him, 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 literature. He published, in 1797, a work which profoundly impressed many people, and prefaced it with a dedication to Washington, whom before the war he had been upon terms of intimacy, and for whom he never ceased to feel a high personal respect. He added also a long preface, entitled the whole collection 'A View of the Causes and Consequences of the American Revolution.' He printed also two extensive 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 in such danger. He was also by all means a highly useful preacher. 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 other persons, appeared at various fullnesses. He addressed his Cumbrians on the backwash 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 Relph, a Cumbrian. He was also 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 especially English philological literature was extended, and he enjoyed the intimacy 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 books. By archaical, he meant words which were in use in the days of the ancients, in the days of the early English, and which have perished: 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 archaical, he meant words which are found in those writers, though never regarded as obsolete, and which are not now, 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 had thought it 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 of purpose, and even with an unswerving perseverance 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 Cumberland and Westmorland, where perhaps more of peculiar terms remain than in other counties, which he had acquired when a youth, a time of life when such knowledge is best attained. He made a large collection of books applicable to his purpose, and he established a prospectus of his work for the counties of England, from whom 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 antiquities; so that his work may, in many portions of it, be read as a historical and philological survey, as consulted as a dictionary for the illustration of the words which it contains. In this respect it resembles Dr. Jameson's valuable Dictionary of the Scottish language.

Mr. Boucher began this work in or about 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 maturity that he issued a prospectus of the work, and placed it in the hands of his publisher. His health 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 completed any part of the large programme of the project.

Of two 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 by his scientific contemporaries; and an unswerving perseverance, by those 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 his family, when it came into the possession of his daughter, and to a little volume printed at Carlisle in 1829 entitled The Life and Literary Remains of Thomas Sanderson. BOUCHES DU RHÔNE, a dep. in the S. of France, containing part of the former military government of Pro-
vence. 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 bounded by the dep. of Vaucluse, from which it is separated by the Durance; on the E. it is bounded by the dep. of Var, and skirting the S. bank of the Durance in the upper part of its course, reaches into the Bouches du Rhône, and cover the E. parts. Other eminences extend from these towards the W., presenting a more or less abrupt surface; 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 are named the Salin d'Aniane, and those of Var. The Île de Carmague, are of considerable extent. The islands and marshes render 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 part of the dep. is marshy, and comprises 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 phillyrea. The pasturage of this dep. is chiefly resorted to in winter; in summer they are abandoned for the pastures of great extent on the marshes, and on the more refreshingly plains of Drôme, Isère, and Hautes and Basses Alpes. The use of the plain of La Crau for this winter pasture has been already noticed. It is said that 700,000 sheep and an immense number of goats are reared in this plain, and the level of the pastures of the Crau is also very great; and a large number of light active horses are produced. The Île de la Carmague is chiefly occupied in pasture. The cattle are here left at liberty night and day, from which cause they are very wild. There are in this island nine or ten very large country houses, and nearly 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses. In this island nine or ten very large country houses, and nearly 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses. In this island nine or ten very large country houses, and nearly 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses. In this island nine or ten very large country houses, and nearly 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses. In this island nine or ten very large country houses, and nearly 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses. In this island nine or ten very large country houses, and nearly 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses. In this island nine or ten very large country houses, and nearly 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses. In this island nine or ten very large country houses, and nearly 350 farms, the occupants of which rear annually 40,000 sheep, 3000 oxen, and as many horses.
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 salt (achovies, sardines, tunnies, &c) caught and cultured by the fishers of the coast. 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 by the canal of Aries which runs from Arles to the sea near the town 1 to the limit of the stream of the Rhône. The canals de Craponne, du Rial, de Boisgelin, and du Véguéryal, are rather for the purpose of irrigation or drainage. The canal de Craponne runs from the Durance to the Rhône at Arles, with branches to Istres and to St. Chamtont; both the former are near the limits of Étang de Marseille. The canal du Rial is in the N.W. part of the dep. that of Boisgelin runs from and again into the Durance: that of Véguéryal drains the marshes E. of Arles. The Durance, 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 Eyguieres; and contains 27 cantons and 165 communes. The pop. in 1839 was 359,473: about 154 or 155 to sq. m. The pop. at the previous census of 1826 was 363,502, showing an increase of 35,171, or of more than 10 per cent. The pop. 1851 was 598,714: the admin. and military communes: arrond. of Marseille, 178,806; arrond. of Aix, 102,574; arrond. of Eyguieres, 77,933. The dep. for ecclesiastical purposes is divided into the diocese of Marseille, including that city and its arrond., and the arch-diocese of Aries, which is separated into four suffragan sees; and the Dorthe, among the dioceses of Aix, Arles, and Marseille: but the diocese of Aries is now (it is probable) incorporated with that of Aix, the archbishop of that see taking his title from Aix, Arles, and Embrun. The Bishop of Marseille is one of the suffragans; and is under the jurisdiction of the Cardinal Archbishop of Arles, the primate of France, and of the Cour Royale d'Aix; and is included in the VIIth 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 theology.

The chief towns (with their pop. in 1832) are:—Mar-

seille (121,279 inh. in the town, 151,115 in the whole comm., on the sea; Aix (15,916 inh. in the town, 22,573 in the whole comm.); Arles (14,894 inh. in the town, 29,236 in the whole comm.), Tarascon (9925 inh. in the town, 10,967 in the whole comm.), on the Rhône opposite Beaucaire; Martigues (5385 inh. in the town, or 7379 in the whole comm.), on the canal communicating between the sea and the Etang de Berre; La Ciotat (4344 inh. in the town, 5246 inh. in the whole comm., close to the sea S.E. of Marseille); Salon (4187 inh. in the town, or 5997 in the whole comm.), upon that branch of the canal de Craponne which branches off to Istres; Aubagne (3925 inh. in the town, or 6549 in the whole comm.), on the river Var; Toulon (12,257 inh. from Marseille to Toulon; 16,373 inh. in the town, or 5320 in the whole comm.), also on the river Verme; and St. Remi (3213 inh. in the town, or 5464 in the whole comm.), on the canal du Rial.

The population returns for 1832 give the following com-

munes as containing above 2000 and under 5000 inhabitants:

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<tr>
<th>Population of the Town, or Comm.</th>
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<td>Ailans</td>
<td>429</td>
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<td>Barbatante</td>
<td>1,664</td>
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<td>Chanas</td>
<td>2,502</td>
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<td>Château Renard</td>
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<td>Eguilles</td>
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<td>Eyguieres</td>
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<td>Fontvieille</td>
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<td>Fuveau</td>
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This department has produced several eminent men. Potironus Arbiter, a Latin writer of some note; Adamon, the naturalist, who was a native of the dep.; and the illustrious Marillac, one of the chief orations of the French pulpit. Nostradamus, Vanloco, the painter; Tournefort, the botanist, and traveller, &c.

BOULIERS, LOUIS-FRANCOIS DUC DE, descended from one of the most ancient and noble families of Picardy, the second son of Francois II, count of Bouliers 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 Marsel in Lorraine. In the following campaign he was engaged in an expedition to Gigier in Africa; and so much talent did he afterwards exhibit in Flanders, that he was at the time of the battle of Denoncourt from the Duke de Lauzun the colonelcy of the royal dragoon corps. At the enterprizes of Turenne he bore a distinguished part; and he was severely wounded at the battle of Woerden, under the marshall of Luxembourg, in the winter of 1675. Having returned to serve in Germany, he again joined his king at the battle of Eisenin in 1677, 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 peace of Nimogué, in 1676, was employed on active service. He was afterwards commanded in Dauphine and Spain. His gallantry at the siege of Lucemburg was rewarded with the government of that city and province in 1688; and the seasonal detachment of a corps from the army of the Moselle, which he commanded in 1690, decided the event of the battle of Fleurs. In 1691 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 Namur, by which he was enabled to keep open the passage to Flanders. In the following 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 to the relief of Namur, Bouliers was selected to oppose him. In 1695 the Duke of St. Simon, whom he had previously told not to engage in a battle of this nature, was elevated to the dignity of marshall of France, and received the new order of St. Louis. He defended Namur against the allies, commanded by William III., for sixty-three days of open trenches in 1695, and repulsed four substantial assaults. He was annually created a comte of the army, and was not yet a prince of war for a fortnight; and the king, in recompense for his great services, erected the county of Cagni and some adjoining domains in Beaufaisis into the dukedom of Bouliers. In 1698 he superintended some preparations for a great attack in Picardy. In 1701 he commanded in the army 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 Bedmar, he obtained a signal advantage over the Dutch at Eckarn, for which he received from the king the order 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 declined the terms of a capitulation. He had now the command of the army in the Netherlands, but the citadel 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 capital in March, 1709, and the universal applause with which he was received, were a great reward to the nation; for no army we hath ever known that returned from a campaign in which the Earl of Malplaquet. This was his last public act; he died at Fontainebleau, March 22, 1711, in the sixty-eighth year of his age, and was buried with great military splendour in the church of St. Paul at Paris.

The story 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 annals of Europe. Many detached anecdotes redound 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 that siege at a table, which, on other occasions, was served up with all the splendour of a princely court. It was the banquets with which Bouliers regaled his officers, while he held the command of a mimic camp formed by the king at Compiègne, for the instruction and amusement of his grandson the duke of Burgundy, that Louis XIV. never failed to mention with admiration. The king, with a view to separate the services of Bouliers from those of his brother, the Duke of Burgundy, advised the appointment of his grandson to the command of the army in the Netherlands, a position of less consequence, and remain content to be a guest. The detention of
BOUVAINVILLE.

BOUGAINVILLE, JEAN PIERRE DE, was born at Paris December 1st, 1722, and during his short career distinguised himself by the publication of several papers, among them was a French translation of the Anti-Lucrétius of Cardinal Polignac, and a Parallel between the Expedition of Kolhi Khan and that of Alexander. Some poems, among which is the germ of Pope's Universal Prurger, and several papers in the Mémoires of the Academy, also were printed by him. He held numerous employments of high literary distinction, as secretary to the Academy of Inscriptions, censor royal, keeper of the antiquities in the Louvre, and secretary in ordinary to the Duke of Orleans, &c. He died at Loches July 22nd, 1763.

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 Orleans, and military school, at Tours. His time was devoted to mathematics, and instead of commencing as an advocate at the Palais, he surprised his friends by enrolling himself in the Mousquetaires Noirs, and by publishing a treatise on the integration of horns of figure, within fifteen days from his enlistment. 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 under longitude, with some distinction till 1749; and in 1763, when the merchants of St. Malo wished to colonize the barren territory of Falkland's Islands (the Malouines, as they were called, from their pretended discoverer), Bougainville was active in promoting 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 deprived the French of all advantage from their possession, was 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, on the islands of the Falklands, which had been discovered, and named by him, the 9th of April, 1766, for the purpose, and he was then deposed 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 height and strength, by stating that he had put his ship to flight by firing a gun to the extent of fifteen pounds, and the Patagonians then appeared to be giants of gigantic dimensions. Storms, mists, sunken rocks, difficult currents, and an archipelago which apparently received the name of The Dangerous, were encountered before he arrived in sight off Othitehe on April 2nd; his crew was so terrified that they appeared to have exposed him to scarcely less peril than he had undergone at sea. At parting he carried with him as a volunteer Aoutourou, the son of a native chief. The youth's talents appear unhappily to have been very slender, and his mind had the misfortune not to be blemished by the civilized world at Paris. Even that little was of no advantage to his countrymen, for he died on his homeward passage in 1770. Almost the only circumstance demands notice in the remainder of Bougainville's voyage was the discovery that one of his crew, named Beri, was a runaway negro. He had always believed 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 29th at Bougainville, having been afloat for ten months and a half, cast anchor off Batavia, which miserable station was not inaptly named by Aoutourou in his native language, Enoua noble, 'the land which kills.' At the Isle of France he parted company from L'Étoile, the services of which, however, were necessary in the recovery of one of his vessels which had entered St. Malo, having been engaged upon his expedition two years and four months.

Bougainville commanded a ship of war during the American revolution contest. He died at the advanced age of eighty-two on May 1st, 1811.

BOUGAINVILLE ISLAND. [NEW GEORGIA AR-CHIPEDLAGO.]

BOUGUER, PIERRE, was born at Croisic, in Basse-Bretagne, February 16, 1698. The father was professor of astronomy at the university of Caen. He studied mathematics and the constructions of his father in mathematics, and making considerable progress by himself, taught first at Croisic, and afterwards at Hâvre-de-Grâce. In 1727 he gained the prize of the Academy of Sciences for a memoir on the method of masting 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 published a memoir on the period of the moon's revolution; in 1737, a work on the relative altitude of the pole and the equator; and in 1738, one on the observed places of the comet of 1739. M. Biot speaks in high terms (Biogr. Univ.) of this work, which he treated the subject on the theory of Des Cartes: he was the last of the academicians who held by that system. In 1729 he published a memoir on the gradual extinction of light in passing through successive imperfectly transparent substances, which was followed by others, together with two Spanish commissioners, to proceed to Peru, for the purpose of measuring a degree of the meridian. Thither he accordingly departed in 1735, and remained till 1743. The most essential parts of the operation necessarily fell upon his own hands; the remainder was 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 not disposed to impart to the foreigners any part of the gold and silver mines; and supposed 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 surgeon of the expedition, they were induced to escape the consequences by procuring a verdict of lunacy against both himself, and another by taking orders. The country itself
BOU 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, the latter, as well as the sacred sentiment 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 be esteemed an author of errors, while the near accordance of the three in their results was a favourable presumption for their accuracy. The results did not differ from their average by a five-thousandth part of an arc in the length of a degree of the equator.

The leisure which imperiously occasioned by gav 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 altitudes assuming the two reasons to suspect the effect of the attraction of Chimborazo 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, as to the history of navigation, from the discovery of America, by La Caille in 1769, and reprinted in 1781 and in 1799, 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 whole affair was worth reading, at least (an observation both of Condorcet and Driot), 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 Dominick 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 1, 1762, at the age of 53. He had been employed on the gradual extinction of light, which was afterwards completed and published by La Caille 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. This it is not necessary to think of Captain Dugald Stewart 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. [Micrometer.] Bouguer attacks the Royal Society, which had recently published the proceeding mentioned in the life of Audouin, 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 circumstance to which we have just referred, and, as Dalmare 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 these important discoveries, and one of the most difficult kind of scientific investigations.

BOUHOURS, DOMINIQUE, was born at Paris, 1628. 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 disqualificed 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 quit to relieve the immediate and supposed necessities of the sons of his country, due de Longville. That nobleman, who regarded him with singular affection, died in his arms, and Bouhours published an account of his illness and last moments, Paris, 1663. His second publication was Histoire de la Monarchie de France, 4 vols., 1658, the whole of 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 Française, and Les Entretiens d'Arlette et d'Éugène, 1671. In the latter occurs a question most offensive to German national pride, 'Whether it be possible for a German to write a history of critical events, and to extol a boisterous people for a century in knowledge of French siles et de localisation: and the Jugemens des Savans contain more than one very favourable opinion from the censor of Trevoux. Ménage, on the contrary, stated that Bouhours wrote with politeness, and without the least attempt to prove himself acquainted with Greek and Hebrew, scholastic divinity, and canon law; that he had not read the fathers, the councils, nor ecclesiastical history; that he was but a poor gram- matical critic, and the most ignorant person in the world as to the precise use of prepositions. Of all these errors, 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 made his great parade; that he was an unskilful etymologist, and an unsound critic. Nothing can be more absurd than his 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 Seignelis. His other chief works were Dialogues sur la manière de bien penser dans les Ouvrages d'Esprit, 1637, in which the interlocutors Eudoxo and Philanthe address each other in a strain of adulatory compliments little suited to the investigation of truth. Vouet is mentioned as the most happily essayed, as fully equal to Virgil. This false criticism received a very severe re- proof from Barbier d'Aucour, the writer of Les Sentiments de Cléante, 2 vols., 1671-2, in La Harpe's opinion the only piolemat tract, excepting Les Provinciales of Pascal, which is far the more plausible. The Marquis de Condorcet, in 1693 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 prayers Ann 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 protectors.' A judicious abridgment of the 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 indefa- tigable missionary, would be a work of deep interest, and might be a useful addition to the utility of the French version of 1697, a French translation of the Vulgate New Testament, in which he is confessed on all hands to have failed. Some minor devotional pieces may be added to the list of his writings. He died in the college at Clermont at Paris, May 17, 1679.

BOUILLAUD, or BOUILLAU, latinized BULLIALDUS (ISMAEL), born at Loudun, Sept. 28, 1602, died Nov. 25, 1694, at Paris. He was originally a Protestant, but became a Roman Catholic, and retired into the Abbey of St. Victor, at Paris. He traveled in various parts of Europe in the service of John Castiglione, king of Poland. Nothing more of his life is remembered; but such of his works (which were many, see the Biog. Univ. and Lalande Bibliogr. Astron.) as by themselves or their consequences could entitle him to this place. Bullialdus was a combination of a fanciful speculator 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 entitles him to the first appellation, and his Philosophie astronomique 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 antients who advocated, or at least supposed, the movement of the earth; either Pythagoras, Aristarchus, or Philolaus. The chief work we shall notice of Bouillaud is his Philolaus, ou de nero Systeme Mundi, 1639. After this he gave an edition of Theon of Smyrna, 1644, and in the following year his Astronomicae, or Philosophia Sola, 2 vols., 1645. In his library he calls it Astrologia; which contains: 1. Prolegomo- mena 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 that which asserts the planets to move in ellipses. Each ellipse he treats as the section of an oblique cone, one of the foci of which is in the axis, (the sun being in the other focus,) and he asserts that the planets describe equal angles in equal time rounds the axis, or rather that a plane passing through the sun and that focus in equal times. The celebrated hypothesis of Dr. Seth Ward, consists in supposing the planet to describe equal angles in equal times about the focus in which the sun is not. Both hypotheses are very nearly true for ellipses of small eccentricity, and of those of Boullon is said to have been a little nearer. Seth Ward replied to Boullon in his De Trigonometria Demonstrata, &c. Oxford, 1654, and the latter rejoined in a tract entitled Astr. Phil. Fundamenta clarius explicantia, Paris, 1657. 3. A set of tables, styled Phalacorae, calculated for some months of Uranibus (Tycho Brahe's Observatory). Boullon 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 Titius [Astronomy, vol. ii. p. 532]. 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.

Boullon imagined that the laws of the planetary motions were only derived from geometry and reasoning. He blames Kepler for attending to too other methods, and for terminating 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 planets are in no wise affected by the attracting force of the sun, if such a thing be, cannot be 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 attraction, and do not proceed to repel the sun. But as much as may be, which (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 Astr. Phil. Virtus autem illa, quis sol prehendat seu harpagat planetas, corporalis quam ipsi pro manibus est, ligna recta in omnem mundi amplitudinem emissa quasi species solis cum illis corpore rotatur: cum ergo sit corporalis, imminuitur, et extenuatur in majori spatii et interraso, ratio autem hujus imminutionis eadem est, sc. luminis, in ratione inversa aequantur. Interwallerum, sed etiam. Hoc non negaret Keplerus, attamen virtutem motricem in simplici tantum ratione interwallerum contendit intimi: &c.

We shall also mention of Boullon his Opera novum ad Arithmaticam infinitum, Paris, 1662. This is a continuance of the De Trigonometria Demonstrata, in which Ward is referred, but not applied to geometry: and also his Catalogus Bibliothecae Thaumae, made by him in conjunction with James and Peter Dupuis (Puteanus), Paris, 1679. This is an excellent representation of the state of a library of the time, 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 Philoalacrae are the Rudolphine catalogue of stars; the catalogue of southern stars furnished to Bayer by America, and by Popius, and others, which was also given to the world by Bayer. In 1586 some Persian tables brought into Europe by George Chryscoceras.

BOUILLON, the capital of an ancient duchy of that name, now forming part of the prov. of Luxembourg; is situated on the left bank of the river Semois, and 14 m. from its junction with the Maas, in 49° 48' 11. lat. and 4° 59' E. long. The duchy is on the W. side of Luxembourg, between it and Champagne, and under the French empire was included in the dep. of the Sarrebourg, and the Maas. It is a town of small size, but of the middle of the Ages. Bouillon is a small nearly built town and contains about 2500 inh. It has two communal schools, in which 178 boys and 180 girls are instructed. The castle of Bouillon, which was formerly thought to be the prerogative, is built upon a small hill near 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 vendor or his immediate heirs. Godfrey having died in 1100, the duchy passed to his son Henry the Holy Roman Emperor, who bequeathed it, both to his heirs and the bishop, each party having recourse to arms in support of their pretensions. After this petty war had been renewed at so many different times as to obtain for the duchy the name of 'The delectable land,' it was finally settled for some centuries by the present king of Bohemia, by a partition of 1657. In the reign of Louis XIV, the town and castle of Bouillon were seized in 1672, and at the congress of Nimègue in 1678 stipulated that France should retain possession, until arbitrators to be appointed should have decided between the claims for the duchy set up by the descendants of the heirs of Godfrey and the Bishop of Liège. In the meanwhile Louis had invested the family of La Tour d'Auvergne with the duchy. A descendant of that house, Philip d'Auvergne, a captain in the English navy, assumed in 1792 the title of Prince of Bouillon, which he continued to bear until his death in 1816. The long disputed territory was adjudged by the congress which met at Vienna in 1814, to belong to the king of the United Netherlands, in his quality of Duke of Luxembourg: in the division of that duchy consequent upon the revolution of 1830, Bouillon fell to the share of Belgium.

Bouillon is 45 m. W. from Luxembourg, and 6 m. N.N.E. from Sedan, the French frontier being about midway between. Section, historical, and modern. Bouillon is on the Aisne-Bas; Kempen; Recueil, &c., par Van der Maelen.)

BOUILLON, GODFREY (GODEFROY), DUKE OF, in the Ardennes, was the eldest son of Godefroy II, count of Boulogne, a descendant by the female line from Charlemagne, and the great-grandson of Godfrey of Bouillon, Duke of Lower Lorraine. The date of his birth is not given, but the marriage of his parents took place in December, 1099. In his youth, Godfrey bore the great standard of the empire in the service of Henry IV. At the battle of Mersberg, October 2, 1100, he distinguished himself in the charge of the duke, and defeated the Saracens led by the eldest son of Godfrey of Bouillon, who, in the battle of Bouillon, October 2, 1100, was also defeated. He was afterwards defeated by the Saracens at the battle of Courtrai, in 1302, and was taken prisoner, but was released in 1303.

His captured in 1306, and was released in 1307.

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that a litter became necessary for his conveyance over Mount Taurus. On arriving at Jerusalem he encamped his division on Mount Calvary, and after five weeks of severe campaigning in the streets of the city, was carried 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 Godfrey were wholly inadequate to restrain the lawless passions of the Crusaders; and Godfrey, in consequence, became a Bachelor of the Christian army, after much intrigue, proclaimed him first Latin King of Jerusalem; but his piety and modest forbearance secured the title; and even when in the end he consented to assume the inferior style of Defender and King of the Holy Sepulcher, he was ordered 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 honourably elevated, by totally overthrowing the myriad's brought against him by the sultan of Egypt at Ascalon, Aug. 12, 1096. With the assistance and advice of those pilgrims who were best skilled in European jurisprudence, Godfrey compiled and promulgated a code named Les Assises de Jerusalem; which, as finally revised towards the close of the fourteenth century for the use of the Latin kingdom of Cyprus, is printed in old law French in Beaumanoir's 'Coutumes de Beauvaisie.' Bouges 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 known through the account of his son Godfrey, and through them are they fully avouched by the concurrent testimony of historians frequently differing on other points.

BOULAC (Cairo). BOULAINWILLERS, HENRI DE. Count of St. Sauveur. He was the pride of an ancient and noble family, of Picard extraction. He was the eldest son of Francois, Count of St. Saur, and of Susanne de Manneville; born at the place from which he derived his hereditary title, October 21st, 1588. He studied at St. Julien, where he particularly addicted himself to the somewhat peregraneous pursuits of genealogical history. After a short period of military service, embarrased family circumstances, arising chiefly from an imprudent second marriage which his father contracted late in life, induced him to quit the army, and to live upon his estates in St. Sauveur. 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 points of the feudal history of his own country occupy three volumes folio, and are characterised by a very superlative exactness and profundity. He is a false system, as to permit their author to appear 'n' bon critique, n' bon publiciste.' Montesquieu and Voltaire however give a more favourable judgment. A marked antipathy to revelation pervades his writings, and exhibits itself in his declarations and comments on the deistic, or rather on a false system, as to permit their author to appear 'n' bon critique, n' bon publiciste.' Montesquieu and Voltaire however give a more favourable judgment.

BOULARD, or BOULAVERT, a French word corresponding to English burrow or burrow, and derived from burrow, the word of which it is obviously akin to the French 'boulevard.' The word, according to Duchange, is an altered form of Bourg, the territory of a Bourg, or collection of houses. It is applied to all the space occupied by a bastion or curtain; (Dict. de l'Acad.) the space which is occupied by houses, the houses which are within the double wall of the city; and which in some French towns have been formed on the site of fortifications now demolished. Thus the promenades which surround the city of Bourges have the title of 'Les Boulevards Villeneuv.'

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, at the distance of fifty feet; these are divided by a semi-circle, rather a semi-ellipse, and extending in length to nearly three miles, from the church of La Madeleine to the site of the Bastille. They are about midway between the river and the wall of Paris, which again is surrounded by a road planted with trees, and is called the Boulevards du Roi. The Boulevards du Roi 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 more promenade.

The boulevards on the S. side of the Seine are planted and laid out like those above mentioned, but are more extensive, and approach in some places close to the wall and suburbs; and thus the BOULANGER SUR-MER (i. e., on the sea), a sea-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-sur-Mer. It is a straight line, or 137 m. by the road through Bouvaiis, Abbeville, and Montreuil; in 50° 49' N. lat. and 1° 36' E. long.

Boulenger 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 Gesoriacum, according to the testimony of Mela, a geographer who flourished in the time of Emperor Claudius. The manner in which Mela speaks of it implies that it was of Gallic origin; and it was in his time a city of some magnitude. Some writers, and among them Montfaucon, Cluverius, Sanson, and Le Quien, have endeavoured to show that Boule-anger was also the Portus Itius, from which Cuius Cesar embarked for Britain, in its first (according to Strabo) and second (according to Ptolemy) attempts. The story is rejected by D'Anville, who agrees with Du Cange, and with our own antiquary Camden, in fixing the Portus Itius at Witsand or Wissan, a small town near Cap de Gris Nez. Gesoriacum became, under the Romans, the chief port of commerce, and the great mart and emporium of the coast of Gaul, the residence of numerous emigrants from the interior; but the Roman name was altered by time into Boulenger. It is a small town, about 60 miles from Calais, and is the chief harbour of the country on the coast of Flanders; and the port of Calais is about 5 miles to the west of it. It is the capital of the county of the Morini, and the most remote of the Gallic nation; and there is nothing so little to be known about the town, which is called Gesoriacum.
laid waste by the Northmen, who had landed just by.

(D'Anville; Expiity, Dict.) From the discovery of a ring to which the cables of vessels were fastened, it is thought that the foundations of the first fort was on the N.E.

Boulogne, in which case Gesoriacum must have been at the bottom of a small bay.

Several Roman antiquities have been discovered at Boulogne; among these were medals and tombs. During 1825, 1826, and 1827, several tombs were discovered. Those discovered in 1826 were of the Romans.

The cocoa surfaced ready in regular order, and the bones (some of which bore the marks of</p>
in the country: an infant asylum for children from 18 months to 6 years, provides for 120 young children of destitute parents. There is a humane society for the recovery of drowned persons. There are two girls' free-schools, managed by the Baptists, for 750 children; elementary free-schools for about 1200 boys under the direction of the Frères de la Doctrine Chrétienne; a Lancasterian free-school; a free-school for navigation, and two or three institutions which may be described as preparatory schools. There appear to be any College 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 oddities, and a colony of objects of art, &c.; also a good public library of above 22,000 volumes and 300 MSS.; an agricultural society, a society of the friends of the arts, and a philharmonic society. Of places of amusement may be mentioned the theatre, and the splendid bathing establishment, comprising reading, music, assembly and cast rooms. Horse-races have just been established, and balls, and several fêtes in the neighbourhood called Ducasses fill up the circle of amusements.

The harbour of Boulogne has been much improved of late years, but is still difficult of access, and has not water enough 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 mouth of the riv. to a point about 2000 ft. into the sea. The trade of the town is considerable 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 fisheries of the coast. The fisheries form a particular class in society, and are considered of importance. The 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.

Before the Revolution Boulogne was the seat of a bishopric; it was the residence of the bishop of the former diocese of Tournouer. It has now 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 Thurt, an eminent French naval officer: Le Sage, the author of 'Gil Blas,' and the English poet Churchill died here.

Boulogne is the capital of an arrondissement, which contains 345 sq. m., and has 52,000 inhabitants. The inhabitants, by the census of 1832, were 98,099.

About a mile from Boulogne on the Calais road is the column voted by the grand army to Napoleon as an expression of their esteem and admiration. It was also designed to commemorate the latest battle of his life, 18th Brumaire, 1799. 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 commemorate the return of the Bourbons, and in place of the statue of Napoleon, by which it was to have been surmounted, 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 the effigy of the Emperor is intended to receive the bronze for the intended statue. The column is of the Composite order, above 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 surmounts the column, from which gallery a very extensive prospect. The column is composed of marble from the quarries of Marquise in the neighbourhood. In the envois of Boulogne is the botanical garden, formed in 1784 by the Baron de Cournet, considered to be one of the finest of its kind in Europe. It contains a numerous and beautiful collection of plants, and is much visited by the inhabitants or visitors of Boulogne.

BOULOGNE, a village in the immediate neighbourhood of Paris, to the S.W. of that city, is upon the right bank of the riv. Seine, and is situated in a fertile district called Menus. About the fourteenth century a brotherhood 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 from Paris, and the vil. acquired the name of Boulogne, from the Latin Bulga, a popular name given to the town to Boulogne-sur-Mer.

The whole pop. of the com. was, in 1832, 5391; of the vil. itself, 2410. Between Paris and the vil. of Boulogne extends the Bois de Boulogne, an extensive wood intersected in all directions by alleys and roads. Many of the fine trees which have been planted are of the largest size. This wood has been lately inclosed, and is now the scene of an extensive coxcomb thriller 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, held in memory of King Louis XV. and the Château de Madrid is said to have been built by Francis I. after his return from captivity. This was destroyed at the Revolution; of the present condition or use of the Château de Muette 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, parta set apta 'small but convenient,' gives the true character of the place. (Planta's Par. of R.)

BOULNOIS, a district in the former prov. of Picardie, 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, and affords every thing necessary to good nourishment, from whose milk good butter is made. Some coal is dug and there are mineral springs. The Boulnois was bounded on the N. by the district in which Calais is situated, called the Pays Reconquis, on the E. by Artois, on the S. by Ponthieu, and on the W. by the sea. It formed part of the country of the Moçins, a Belgian tribe. It had a short existence as a separate dioc. 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. (Expilly, Dict.)

BOULTON, MATTHEW, was born Sept. 3rd, 1728, at Birmingham, where his father carried on a business of a hardwareman. He received an ordinary education at a school at Deritend; and also acquired a knowledge of drawing and mathematics. At the age of seventeen he effected some improvements in shoe-buckles, buttons, and several other articles which were then made of pewter and brass, and his father left him in possession of considerable property; and in order to extend his commercial operations, he purchased, about 1762, a lease of Soho, near Handsworth, which though only two miles from Birmingham, is not in the same county, but is in the parish of Northfield, for the purpose of selecting a more striking instance of the beneficial changes effected 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 brick 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 artizans. These workshops were described by Mr. Boulton as a place where the world was striking both for their neatness and magnificence. In 1797 Mr. Boulton purchased the fee-simple of this estate with a considerable portion of land adjoining.

To Mr. Boulton's active mind this country is eminently indebted for the manner in which he has applied its forces, and brought into repute its manufacturing ingenuity. Water was an inadequate moving power in seconding his designs, and he had recourse to steam. The old engine on Savery's plan was not adapted for some purposes in which it was required to be of a light nature, but Mr. Boulton was a man of delicacy and precision of soul. 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 patent in respect of the steam-engine was obtained by Mr. Boulton for improvements in the steam-engine; and on his entering into partnership with Mr. Boulton, the Soho
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 use all that time with very slight repairs. Not only was the steam-engine itself brought to greater perfection, but its powers were also extended. These improvements were not accidental, but the result of that constant and intimate application which is the success so remarkable as in the machinery for coinage, 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 preceded. The coining of a whole lottery ticket, for instance, was done in an hour. The manufacture of plated wares, of works in bronze, and or molu, such as vases, candelabra, and other ornamental articles, was successively introduced at Soho, and the taste and excellence which these productions displayed soon obtained for them an unrivalled 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 we have described.

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 (continuous to the most difficult series of operations, and the ablest application) and the most intimate mixing with 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 invariable and constant attention to them 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 exerted a decided influence in the development of the steam-engine, before Watt perfected the construction and occasioned any return of profit.

Mr. Boulton died August 17th, 1809, in his 81st year. His remains 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 has left a wide sphere of experiment and speculation for posterity.

BOUNTY, a term used to signify a premium paid by government to the producers, exporters, importers of certain articles, or to those who employ ships in certain trades. (McCulloch's Dictionary of Commerce.) A distinction is made between bounty which is applicable to the purposes of art, to the 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 exerted a decided influence in the development of the steam-engine, before Watt perfected the construction and occasioned any return of profit.

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BOURBON, CHARLES DE, Constable of France, commonly called the Constable 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, viscount 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 seat of the branch of the Bourbons, of which the dukes de Bourbon, situated in the centre of their large estate, 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 thus neglected, his mind was left to develop itself as it pleased, 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 many domains to accumulate in the person of the duke d'Alençon, and there being also a doubt respecting Suzanne de Bourbon's title, Louis XII. appointed a commission, composed of princes, ministers, seigneurs, councillors of state, and lawyers, to examine the respective titles of Suzanne de Bourbon and the count of Montpensier. The commissioners concluded that the title of Montpensier appeared the right of the dukes of Bourbon, and that of Bourbon was inalienable, but they proposed to settle the dispute by marrying the two claimants. Louis XII. approved of the recommendation, and the marriage took place accordingly. It required small persuasion to reconcile the dowager duchesse de Bourbon to this arrangement, for she was resolved that Suzanne de Bourbon should have her own property, and not one of whom she had had under his education, or the superiority of the young count of Montpensier, in mental as well as bodily accomplishments, in capacity of understanding, as well as 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 favour of the survivor; 2nd, that the children who should be born of the marriage should inherit all the domains of the house of Bourbon; 3rd, that, on failure of children, the cession should devolve on Francis, Monsieur de Bourbon, only brother of Montpensier; 4th, Montpensier assigned a jointure of 10,000 livres a year to his wife on the Bourbonnois. The king renounced for himself and his successors the pretended rights which the union of the houses of Bourbon and Orleans 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 in France, who have not been crowned with the sword 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 nobility of his domains, and his principal officers, who composed a court little inferior to that of a first prince.

The first essay in arms of the duke was in the expedition which Louis XII. made in person into Italy. In this expedition Bourbon devoted himself with much industry and
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seal to the study of strategies. He selected for his friends and masters La Tremoille, Bayard, and others, who were distinguished as military leaders. He conversed with them on plans of campaigns, marches, encomiems, on the details of victory. He is said to have appointed a special committee 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 fight for immortality.

Bourbon returned to France in 1509. In the war of the league of Cambrai he had an opportunity of displaying his talents for war. 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 openness, more gaiety, and less taciturnity. 'Nothing is worse,' added he, 'than the water which sleeps.'

Upon the succession 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 magnificence of the duke de 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. He was the first in a number of government establishments what France then was. 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 prince, was the first who established noble consideration of administrative talent; and his unbending austerity in enforcing the rules he had laid down showed that he fully understood how much a severe discipline conduces to victory. The salutary effects of this system were shown very soon in 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 that determined his character and shaped his destiny. And those even 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 no inconsiderable degree the destinies of Europe, and hence to our present topic.

When Francis I. returned to France in 1516, he left the constable in Lombardy as his lieutenant-general. While here he proposed to the court the conquest of the kingdom of Naples. But while he was making preparations for this expedition, an unexpected change took place. 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 pioneers, by means of a loan, which his high character enabled him to raise. This was in condition to grant him any aid, he applied to Albert de la Pierre, a renowned captain of the canton of Zürich; and he obtained, by his own credit, permission to levy a body of 12,000 Swiss. But after considerable delay, having at length arrived at Milan, the general 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 new prince, on the direct demand 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, Louise of Savoy, Duchess de 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 have entertained a violent passion for him, and advanced with coldness and even disdain. The rage of a woman thus slighted had become proverbial; and Louise of Savoy was not one to belie the proverb. The king espoused the quarrel of his mother, of 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, counts 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 mother, was always 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, gallant, 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 chief minister. It was his purpose to lead the enemies of 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 capible of shaking his fidelity:—'No, sire, no, not the offer of three kingdoms for a purse.'

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 perverting the use 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 rent 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 informed him of this, treated the French queen with the favourite 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 sooner incur the reproach of having degraded 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 in litigation should be sequestered: but Bourbon, which was in the possession of his wife, was not affected.

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 position of 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 by station and by talent and energy, the probable result would have been that he would have become one of 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 by station and by talent and energy, the probable result would have been that he would have become one of 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 by station and by talent and energy, the probable result would have been that he would have become one of 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 by station and by talent and energy, the probable result would have been that he would have become one of 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 by station and by talent and energy, the probable result would have been that he would have become one of 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 by station and by talent and energy, the probable result would have been that he would have become one of 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 by station and by talent and energy, the probable result would have been that he would have become one of the European governments in the sixteenth century.
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., had been obliged to make a secret visit to 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 much disposed to regard him as an envoy of his, yielded him a fair hearing. But even the state 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 was taken prisoner, caused him to consider his position more than ever impracticable. He was resolved to make his escape, and to retire into the service of his native country. Accordingly, he had raised it 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 Bonnivert, 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 had been 구성 by his and his native country, strengthened his determination, and rendered his position anything but an agreeable or easy one; and contributed, with the roving and unsettled life to which he had been accustoming himself, to produce in him something of the recklessness, and even ferocity of the brigands he commanded, and to give to his natural ambition much that is unsubtle and abrading of language, by its wholesale robbery. It was in the complex state of mind, made up of so many such elements as these, that he came to the resolution of acting independently of the emperor, and commencing business, as king, on his own account.

The more familiar we become with the events of the 15th and 16th centuries of our own account, the more we are struck with the ease 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, and giving up to it the riches of that famous city; and what is some of the most curious and instructive event, the 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 cathedral cities, and the immense loss of time and money to the enterprise, 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 that he was actuated by a sense of guilt or remorse as a consequence 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 himself the first who mounted the walls, 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 however of some importance that it should be asserted that he fell at 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 his nephew, Louis de Bourbon, Prince of Condé, rock of anot, and heir to it. His death, in 1556, was the beginning of the fall of the 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 reputed 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 resolve incurred 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, that he might become a king of France.

The authorities state 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. It is in latitude 27° 29' S. From 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. It has been discovered by the Portuguese navigator Mascarenhas in 1542, and at that time 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 is covered with basalt and basaltic rock, and volcanic productions, and on the remainder traces of such rocks are frequent. Towards the S.E. extremity there is a volcano constantly in action, and naturalists who have had an opportunity of examining the high mountains toward the N., extant abundance of coal; this part also has 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 half of the island. At its N.W. point, it diminishes in its centre 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 9600 feet. The country surrounding this mass exhibits large tracts of lava or basaltic rocks of the most various description, and between them are seen some slow running streams, usually frequented 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 still incapable of cultivation, 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 to the sea at their lowest points. Some of them 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. None of them can be used in irrigating the surrounding country, and no water is generally high, except along the S.W. coast between St. Paul and St. Pierre. In a few places a narrow branch separates the rocks from the sea; it is composed of pieces of basalt and broken lava, which have undergone submersion in the sea, and afterwars 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 only an open and dangerous roadstead. A pier secured by timber-trees is the only approach, and the boats are enabled 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. Besides the roadstead of St. Denis, there is another at St. Paul, which is perhaps better, but no other place round 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 island. The two principal plains which extend across the island, north and south, 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, and then extends in a kind of uneven plain, called the Cafres. 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 Cilaos, towards the S.E. volcanic region. Its elevation may be nearly 5000 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 every direction it is formed of a plain composed on all sides, except towards the shores of 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 has 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 Cilaos and of the Sands (aux Sablés).

This volcanic region at the S.E. extremity, which probably does not occupy more than one-seventh of the island, is called the buried 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 agency is only from 5 to 9 m. from the S.W. extremity of the island, and the high mountains near it permit it to have an absolute elevation of about 7000 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 sufficient moisture by the regular succession of land and sea breezes. The black frosts from the high heights 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 changes on the top of the mountain; is sustained by the sea-breezes, which brings with it fogs. 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 S.E. winds, from July to October. During July and August, Jano and Francais, the islands, are still more frequent, and often continual for many days, and very heavy. But in despite 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 three 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 m. from the sea. Within these limits are cultivated maize, corn, tobacco, and an extraordinary quantity of haricots; and for exportation, a little sugar and cocoa, and a great quantity of coffee, which is of excellent quality. There are some plantations of coves and nutmeg-trees, but the produce is neither abundant nor of good quality. The most common fruits are guavas, bananas, oranges, tamarinds, lemons and oranges. In many parts of the interior, especially at the foot of the higher mountains, are extensive forests of timber-trees, which furnish a considerable article of exportation.

In 1824 there were, of domestic animals, 3718 horses, 1803 mules, 505 asses, 4303 black cattle, and 2881 sheep. In the woods are wild goats and wild hogs; and land-turtles occur in the western districts. There are spiders as large as a pigeon's egg, and their web is so strong that many birds have been known to be caught in them. It is least remarkable that the birds of Bourbon are numerous, and eaten as a great delicacy. On the shores are found ambergris, coral, and many beautiful shells.

The inhabitants are composed of a few families of pure European blood, and a greater number of such as have united the blood of the negroes, Indians, and those of a considerable number of free negroes, and a still greater number of slaves. In 1823 the population amounted to 17,037 whites, 5159 free negroes, and 45,375 slaves. The number of the latter is continually increasing.

The island has a commercial intercourse with France, and with the ports along the E. shores of Africa, with Madagascar, and with Mauritius. It is entirely carried on in French and foreign vessels. In 1824 the number of French vessels visiting Bourbon amounted to 117, and their crews to 2018 men; their tonnage was 224,185. Of foreign vessels there arrived 107, their crews amounting to 1514, and their tonnage to 11,707. In 1825 Bourbon was visited by 153 French vessels, of which the crews amounted to 2414 men, and their tonnage to 31,833. The foreign vessels, 93 in number, had on board 1058 men, and their tonnage amounted to 9941. The articles of exportation are coffee, sugar, cocoa, cloves, and nutmegs, and a considerable quantity of timber, with some articles imported from France. The following list shows the amount of the exports in 1825, and to what countries they went:

<table>
<thead>
<tr>
<th>Country</th>
<th>Production (thousand lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>5,829,733</td>
</tr>
<tr>
<td>India</td>
<td>674,848</td>
</tr>
<tr>
<td>Mauritius</td>
<td>137,754</td>
</tr>
<tr>
<td>Madagascar</td>
<td>60,028</td>
</tr>
<tr>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>

The island of Bourbon is the only settlement which the French now possess between Africa and India. (Bory de St. Vincent, *Voyage dans les quatre îles de la Mer Aèrique*; and Thomas, *Essai de Statistique de l'Île de Bourbon*.)

Bourbon, the name of several places in France; of which only three are of sufficient importance to merit individual notice—viz., Bourbon Vendée, Bourbon L'Archambault, and Bourbon Brive.

Bourbon Vendée, the capital of the dep. of Vendée, stands on the little river Yon, a branch of the Lay. It was 227 m. in a straight line S. W. from Paris, or 253 m. by the road through Orleans, Tours, Saumur, Chollet, and Montargis. It is in 46° 41' N. lat., and 4° 29' W. long.

The island is composed of an elevation of volcanic origin, and, notwithstanding its name, is due to the favour shown to it by Napoleon. It was known in the middle ages by the name of Roche-sur-Yon, and was a small country town (boerg) of little importance, except for a strong fortress which was delivered upon the English by the treachery of the governor, Jean Blondeau. This man having afterwards fallen into the power of the duke of Anjou, was by his orders put into a sack and drowned. Roche-sur-Yon was a principality belonging to the house of Bourbon-Conde.

The town had sunk into obscurity and decay, when Bonaparte thought proper to rebuild and constitute it the chief place of the dep. of La Vendée, appointing it for the seat of the prefecture. He gave it its own name, Napoleon; made it a military station; had a barracks, a godown, an exchange, and a handsome hotel erected, and streets and squares planned; so that there are all the requisites for a principal town, save houses and inhabitants. He wished to induce the people of La Vendée to live in towns, where they could be protected by the law, and be subjected to the discipline of the army. He thus took in hand the education of the people; but his motives were not those of the common teacher. The anxieties of the upper classes, the restless movements of the court, were more immediately pressing; but it is not easy to break through national habits; the Vendéens preferred remaining in their half-burnt villages to settling in his new town, which, no navigable river being near, offered them no facilities for trade, nor any other advantages to allure them from their rural haunts, their rural employments, and their rural sports. (Journal of a Tour in France in 1816 and 1817, by Frances Jane Carey.)

When Louis XVIII. was called to the throne, the name of the town was changed to Bourbon Vendée, and the C. of Vendée returned from Elba, to Napoleon again; and it is now Bourbon Vendée once more. (Ibid.)

Napoleon devoted the sum of 3,000,000 francs, or about 125,000$, to the construction of the edifices needful to maintain its rank of a departmental capital. The vast plan traced by him remains however yet incomplete from want of funds, and the large straight streets are almost uninhabited. A canal, called by Malte Brun the Canal de la Bréol, but the course of which is not mentioned, has been undertaken and the work is finished, when completed to improve the ill-chosen site, and draw some commerce to the island. The trade which is carried on at present is in corn, cattle, and paper. There is a handsome church in the Place Royale; and small as the town is, it has a library, a high school, and a society of sciences, and also several public baths. The pop. by the last return, previous to that of 1832, was 3129 (we believe this return was of 1826); and by the return of 1832 it was 3904, of whom 3494 were in the town itself.

The arond. of Bourbon Vendée comprehends 630 sq. m.
BOU 279  BOU

... acres, and is subdivided into 8 cantons and 73
communes. The pop. in 1832 was 115,988.

Bourbon L'Archambault, or L'archambault, is in the dep.
of Allier, and near the little river Barge, a feeder of the
Owh, which is supplied by several springs which, called
seven centuries; for in the wars which Pepin le Bref, fath-
er of Charles-le-Martel, carried on against the duke of Aquitaine,
Bourbon is mentioned as one of the places taken by him. In
the eleventh century the town had assumed its name from the
Bourbon (bourbou), containing in its walls or castles, a frag-
mence called Borvo (Bourbonnes Bains). About the tenth
... Charles le Simple granted Bourbon, with the
surrounding district, to a favourite of his named Aymard; and
his descendants, the sires or lords of Bourbon, having in
most cases borne the name of Archambault, that name was
attached to the town itself (Dictionnaire Universelle de la
France). Others make the origin of the lordship of Bourbon
to have been a century later. By marriage this lordship
... a younger branch of the royal family of France, and
even to share burdens, and partly from Volavio (Beau-
Valois), or according to others, in 1327, by Charles IV. (de
Bel). From the first duke, Louis, grandson of Louis IX.
... Louis was a line of nobles, of whom the
male descendants failed in the early part of the sixteenth
century, but was continued 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 Loire; but the air is considered wholesome from wholesomely
owing to the neighbourhood of a marshy pool, and the situa-
tion of the town in a hollow, surrounded by steep hills. On
one of the hills is the ruin of an ancient castle of the sires
or dukes of Bourbon: the ruin consists of three towers in
pinnacles, of which one has, at its base, a trace of a chapel.
At the entrance of the town, which was the chapel of the dukes
of Bourbon, and an appanage, 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 hither
to fluid relief from rheumatic or paralytic attacks. The waters
are contained in three wells, and have a temperature of
59° to 60° of Réaumur, or 167° to 170° 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 have been a marshy pool. It abound in fish.

Lancy, a short distance from the right bank of the Loire, is
about 166 to 168 m. in a straight line S.E. of Paris, or 218 m. by the road
through Sens, Auxerre, and Autun. It is in 46° 37' N.
l. and 4° 48' E. long.

Bourbon Lancy, like the town above mentioned, was
famous to the Romans for its mineral waters. It appears in
the Théodorian table under the name of Aquis Nissaei. It
is supposed to have derived its distinguishing epithet of
Lancy, or as the geographers of seventy years since wrote it, L'Anzi or L'Azey, from one of the feudal lords of the place,
Aymardus or Aymar, Acaunea or Anceloe.

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 (Expiy, Dict.
Universal; Encyclopedia Méthodiqu; mine according
to the more modern statement of M. Robert (Dictionnaire
Géographique, Paris, 1818); of which nine, one is
very cold, the rest warm, the temperature being about 50°
of Réaumur, or 149° of Fahrenheit. The great bath is
the Spring of Bourbon, which issues from a 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
breads), yet they are said to contain sea-salt, sulphur, and
bitumen. They are used in nervous and rheumatic affec-
tions. It is remarkable that although the great bath, which is
Roman work, has continued to the present day, the
springs fell into neglect and oblivion. In 1580 they were
again brought into use, and the baths re-established by
Henri III. The work of 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 ancient buildings,
have been from time to time dug up in and about the place.
The pop. given by Malte Brun at 2300 in round numbers.
Visitors come hither in spring and autumn, and
seldom stay above a month. (Dictionnaire Universelle de la
France; Malte Brun; Expiy, &c.)

Bourbonnes-les-Bains, a town in France, in the
dep. of Haute-Marne, in the 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 Brue's map of France, or 170 in that published by the
Soc. for the Diffus. of Useful Know., in a direct line S.E. by
Paris; or 179 m. by the route through Provins, Troyes and Chaumont-en-Bassigny: in 47° 57' N. lat. and
5° 18' E. long.

Anville considers that this town was known to the
Romans, and that it is marked in the Theodosian Table by
a symbol, signifying the presence of a house, or
building. It is further given by Malte Brun at 2300
in round numbers; and the name is extant as applied to this place.
A Roman inscription has been found near it, inscribed Bourboni
et Monae Dec; and from this it has been given to the place the
name by which it is now known. (Encyclopédie.
Bourbonnes-les-Bains.)

The description is however given by Expiy at full length, as
follows:—

Borning thermo monde de mamonque
Calaminus Romanus in Gallia
PO SALTU

Cosciae oxhexis ejus ex yoto erexit.

From this mention of Borbo or Bourbon, as the presiding
Goddess of the baths, it is likely we may deduce the etymology of
the name Bourbon, which is given with less correctness than is commonly done.

[bourbon. L'archambault.]

In the beginning of the seventh century, a castle
was built here to which an ancient 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
to the military hospitals. There are three establishments of
baths, each called Le Bain du Seigneur, from having
formally belonged to the lords of the soi; Les Bains des
Patrices; and Le Bain Patrice. (Expiy, and Dict.
Universal 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 3500; and by M. Balbi at 4000. There are some pleasant
promenades. (Malte Brun; Expiy; Reichard's De-
script. Roads of France.)

Bourbonnais, a district of Central France, one of
the thirty-two provinces or military governments into which,
before the revolution, that kingdom was divided. It
was bounded on the N. by Berri and the Nivernais; on the E.
by Bourgogne and Lorraine; on the S. by the young
Saône; 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.E. 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
the river Loire; and it was watered by different branches of that principal stream, as the Debre, the Allier, and the Cher. In common parlance, however, the term Loire, referring to the whole, was included within the basin of the Loire. The Bourbonnais was usually divided into high and low: the former being the E. and the latter the W. part. Moulines, on the Allier, was the capital of the province (pop. in 1835, 1,428,347), and was distinguished by its involvement in the Bourbons' Archives (pop. about 3000). Gannat, on the Andelot, a feeder of the Allier (pop. in 1835, 4674 for the town, and 5246 for the whole commune), and Montluçon, on the Cher (pop. in 1835, 4009 for the town, and 4710 for the whole commune).

M. BOURCHIER, JOHN. [Bourchier, John.]

BOURCHIER, or BOURCHIER, THOMAS, archbishop of Canterbury in the successive reigns of Henry VI., Edward IV., Edward V., Richard III., and Henry VII., was son of William Bourchier, Earl of Essex in Normandy, and at the Restoration of Edward II. was one of the terms of that king's restoration. His brother was Henry, Earl of Essex. He received his education at Oxford, and was chancellor of that University from 1435 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 1445 he was elected by the monks of Ely bishop of that see, but the king refusing his consent the election was not completed with, and the see continued vacant till 1447, when the king yielding his consent Bourchier was consecrated bishop of Ely. In 1451, he was appointed archbishop of Canterbury; and in December following received the red hat from Rome, being created cardinal-priest of St. Cyriacus in Thermis. In 1456 he became lord chancellor of England, but remained in that office only one year.

Several sets of Cardinal Bourchier'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, seduced by the specious promises of Richard, Duke of Gloucester, persuaded the nation to elect upon the death of Duke of York, her son; and he performed the marriage ceremony between Henry VII. and Elizabeth of York.

He died at his palace of Knole near Sevenoaks on the 30th of March, 1456, and was buried at Canterbury, where lie and his wife, where his death, which occurred on May 16, 1470. His sermons have often been reprinted. They abound more than in sound reasoning and theological learning than in oratorical power, and they are better suited to the chaste and laconic taste of Protestantism than the effusions of the most celebrated Roman divines. It is said with more justice than is usually allowed to antithesis, that Bossuet is sublime from elevation, Bourdaloue from depth of thought.

BOURDON, SEBASTIAN, one of the most eminent painters born at Montpellier, in 1616. His father, a painter on glass, taught his son 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 powers of the young recruit, and, on his return to Paris, engaged him as a draftsman in the office of Mr. Bertheau, a Royal Academician of Architecture. Here, he made acquaintance with Claude Lorraine. He remained there but three years, being obliged to leave the country in consequence of a quarrel with a painter, who threatened to denounce him as a Caligula. During his stay he learned to imitate the works of Titian, Poussin, Claude, Andrea Sacchi, Michel Angelo delle Battaglie, 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 we were.
and 50 m. by the road N.E. of Lyon. It is in 46° 13' N. lat. and 5° 12' E. long.

M. de Thou, in speaking of a siege which this town sustained in 1505, calls it the Siege of Bourg; and M. Malte Brun, following, it is likely, M. de Thou, says, that in the 14th century it was called Tanus. D'Anville, however, does not fix any town upon the site of Bourg; nor does he notice Tanus; and Forum Segusianorum is, according to Pierre de Furs, on the Loire. It seems then better to prefer the account given by Longuemar (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 15th 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 15th century. In 1561, or 1569, 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 Medicis, mother of Louis XIII., about ten years after Bresse had come (by the treaty of Lyons) 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, and with its belfry rises 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. Clare, St. Ursula, and the Visitandines, one of which was attended by the Nuns Hospitales, 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, founded in 1831, the college of which is, however, a place of instruction for the whole of the kingdom. The manufacture consists of coarse woollens, silk stockings, leather, and clocks and watches, but the latter is not flourishing. An older authority (Dictionnaire Universel de Géographie, 1804) adds to these articles, linen, lace, hats, and corbels. 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 1792 for the town, or 2113 for the whole commune.

In the year 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 episcopal rank; but in 1556 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. In 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, at the mouth of the river Blaye, which is formed by their united streams. It is about 10 m. above Blaye, which is on the same bank of the river, 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 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 for the pop. of the place is that of the P. Thiers, in the Annuaire (1834) which gives it 2206. 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-Argetal, a small town in the dep. of Loire, near the border of the dep. of Ardeche. It is close to the little riv. Diaune, which flows into the Cance, a feeder of the Rhône. Some laces and crepes are made, and silk of dazzling whiteness is prepared here. The pop. in 1832 was 1734 for the town, or 2432 for the whole commune.

This town is not of very high antiquity, but was once more considerable. It seems to have suffered much in the religious wars of the 16th century. In 1562 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 1585. In 1649 the town was visited 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 Alençon, who, and in the interest of the League. It had a castle, which was demolished in 1595. (Malte Brun; Expilly.)

Bourg, or Bourg-Dieu, a town very near Châteauroux, of which it may almost be regarded as a suburb. It is however on the other, viz., the right bank of the Indre. It was once a place of importance, and capital of the principality of Déols. The town appears to have had, at one period, three parish churches and a castle, which in the 10th century Raoul de Déols gave up to the monks of an abbey which his father had founded; and erected for himself a castle at Châteauroux, in the immediate neighbourhood. The abbey flourished exceedingly; and although it fell into ruin in a subsequent period, yet the remains of the buildings were sufficiently superb to show the munificence of its abbots, and the site of the castle, in which the building remained in occupation; and the three parishes had been reduced to one. The pop. in 1833 was 1792 for the town, or 2113 for the whole commune. [Châteauroux.] Bourg d'Oisans or d'Oisans, a small town in the dep. of Isère, on the road from Grenoble to Briançon, 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. (Encyc. Méthod.) The pop. of the commune is 1192 in 1832.

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 Descriptif de la France of M. Vaysse de Villiers, quoted in Malte Brun's Geographie Universelle (3me. ed.)

In this lake are translated from the Itinéraire Descriptif de la France of M. Vaysse de Villiers, quoted in Malte Brun's Geographie Universelle (3me. ed.)

This lake is the result of two centuries to one of the most terrible accidents to which the valleys of the Alps are exposed. Two rapid streams (torrents) 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 (bassine) of that name, on the right side of the Dep. of 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, obtained 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 travellers the depth of the lake, and consequent change of surface, which has been produced. It was a matter of grand importance to the district, 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 11th century (in Sept. 1229), and rushed impetuously over into the valley below, and drowned the whole colony of the inhabitants of St. Laurent. 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 arable (ferme) or in the castle. The dyke was afterwards restored, and 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 existed, and may, at any moment, lead to the same event. These two rivers, with 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 the dome above the statue of St. André, otherwise Bourg-sur-Rhône, a town in the former district of Vivarais in Languedoc, and now included in the dep. of Ardèche. It is on the right bank of the Rhône, about midway between Vivières and Le Pont St. Esprit, in 45° 31' N. lat. and 4° 56' E. long. It is said to have been named to St. André, 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 seigneurial for the education of the priests, which is still continued.

The relics of St. André 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 forelands through the Rhône, and melts into the sea at Marseilles, some trade by the riv. Pop. in 1832, 3782 for the town, and 4268 for the whole commune.

Near Bourg St. André is a remarkable monument of antiquity, a bas relief, which seems to have been conserved to the god Minerva, or the Mars. 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 effaced. The bas relief is also much defaced; but there may be distinguished a bull which a dog has seized by the horns, and which seems to be looking at it a man is about to sacrifice him. Above this group is a figure surrounded with rays and supposed to represent the sun, from which, as well as the inscription, the destination of the monument has been ascertained. It has been interpreted by some with the name of Mars.

The whole of the bas relief is included in an oblong space, 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, indicates that the monument was dedicated to Minerva by a precious of the inhabitants of the town. 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, *Poussins,* ii. 257.)

BOURGANEUF, a town in France in the dep. of Creuse, not far from the left bank of the riv. Torthon, a feeder of the Vienne, which is a tributary of the Loire. It is 256 m. from Paris by a circuitous route through Limoges. Bourganeuf is in 45° 57' N. lat. and 1° 43' E. long.

The town contains a tower of considerable height built for Zizim or Dzim, son of Mahomet II., and brother of Bajazet II., emperors of the Turks. This prince, after having been defeated by his brother in two attempts to dispute the crown, made a submission of his arms to 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 detain his guest, Zizim was sent to France, where he was detained 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 order of the language of Auvergne. Here he was twice detained, and the tower above mentioned was built for him during his second captivity. It is 92 ft. 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-pilly, *Dict. Rší. Universal,* art. "Bourganeuf.")

Bourganeuf has two manufactories of porcelain, and one of paper. Tiles are also said to be made there. The pop. in 1832 was 2110 for the town, or 2849 for the whole commune.

This town is the capital of an arrond., in which in 1822 contained a pop. of 37,965 (Malte Brun.)

BOURJEOIS, SIR FRANCIS, was the descendant of a family of respectability in Switzerland, where, it has been said, many of his ancestors filled offices of considerable trust. In 1639 he went to Paris, where he resided 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 the thoughts of military profession, and resolved to devote his attention solely to painting. For this purpose he was placed under the tuition of Loutherbourg; and having from his connections and acquaintance access to many of the most distinguished collections of pictures in France, he made such progress that his reputation by his landscapes and sea pieces. In 1776 he traveled through Italy, France, and Holland, where his correct knowledge of the languages of each country, added to the politeness of his address, and the pleasures of his discoveries, presented him with about 4000 florins to the best society 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 picture-painter to the king of Poland. The prince, brother of the prince, pratine, had become pleased with his pictures 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 1793, 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 exhibit the want of power to express it on the canvas; his line is most correctly drawn and well adapted to his subject, and there is no merit in his drawing in the other hand, his drawing is tame and lifeless, his colouring leaden and monotonous, and his touch heavy; and though there is an appearance of labour in the process, the result is insipid and unfinished. He very closely imitated a manner of painting which, on the whole, had prevailed in England before he appeared. It is as the bequest 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 Desenfans, an eminent picture-dealer, who left it to Sir Francis, whom he had known for some time 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 1000l. to Dulwich college for the purpose of building a gallery for the pictures, the reversion of which he bequeathed to the college. He had charge of his 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 the chapel of Dulwich college, which was accordingly done.

The college was founded by an actor of the name of Alleyn. (Allevyn.)

The Dulwich gallery, as it is generally termed, contains upwards of 2000 pictures; they are mostly of a cabinet sort; but, and, in a dim light, and many of them hang somewhat 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, Cuyp, Rembrandt, Murillo, Wouvermans, besides other masters. (Lysons's *Environs*; Gentlemen's *Magazine* for 1811.)

BOURGES, a city of France, capital of the dep. of Cher. It is situated at the junction of the Aubon with the Eve, or as it is written in more modern maps Levrette; and being on a level with the Lores, a steamer can run to the Cher, one of the great feeders of the Loire. This city is indeed situated close to the junction of many streams, for the Levrette receives the Collins, the Langis, and the Moulon, either in or just above the town; while the Auron receives the Tare, or Tarusse, in the same manner. Bourges 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° 35' N. lat. and 2° 23' E. long.

This city may vie in antiquity and antient importance with almost every city in France. It was the capital of that branch of the Bituriges which was known, according to Strabo, Ptolemy, and Pliny, by the surname Cubi, whereby it was distinguished from the Bituriges Vivisci, a branch probably of the same stock which had settled on the other part of the country; how far we may carry it (in the pronne), and whose capital was Burdigala (Bordeaux). The Bituriges, according to Titus Livius (Historiar. v. 34), were the dominant tribe in Galia Celtica as early as the reign of the Roman king Tarquinius Priscus, when their king Ambagius sent out two immense hosts of emigrants under
his nephew Bellovesus and Sigevones, the former into the north of Italy, the latter into the vast Hercynian forest, where they formed a considerable part of southern Germany, Hungary, and Poland. In the course of time, they had lost their supremacy, and the Bituriges Cubi were themselves under the protection of the Ædui. At what period their capital, the Gallie name of which, as attested by Caesar, was Avaricum, arose is uncertain; but in Cæsar's time it was, perhaps, one of the strongest garrisons in Gaul, for the Romans, at the head of which was Vercingetorix, near the close of Cæsar's proconsulship, the territory of the Bituriges became the seat of war. Agreeably to the defensive plans of the natives, upon the approach of Cæsar's army, they raised a mound of earth, and set a fire to the village, and 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 Gauls, and begged, "that they might not be forced to set fire with their own hands to that which was almost the entire city of all the Gauls, and the stygian work and 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 would continue the defensive warfare which they had begun, but who yielded at last to their intimations, and to the general commissuration excited by them, it was resolved that a stand should be made at Avaricum, and the setting on the new 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 16 Roman m. off, and afterwards even nearer, he carried on the operations in such a manner as to puzzle and garrison counteracted his efforts with considerable skill, being, as Cæsar described them, 'a people of very great ingenuity, 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, undermined 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, interrupted the operations of the Romans or set fire to their works in constant daily and nightly sallies, and retarded the continuation of the trenches (apertos curriculos) up to the walls of the town. These walls of the town were constructed, with considerable art, of alternate layers or courses of wooden beams and of stone, so as to form a secure defence; the stone preventing them from being carried off by fire, and the beams forming a check of the battering rams. In 25 days the Roman works had made considerable progress, when the besieged managed to undermine and set fire to the mound (agger) which Cæsar had raised against the walls, and a fierce attack the garrison made, which was to be expected. After a long 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 at Genabum (now Orleans), and by the great number of officers and men who died, of 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—28.)

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 Aquitania. It was improved and fortified by the Romans, and became one of the most natural forts on the frontier, as it now is. (I may presently notice,) the seat of a bishoprick. Of the walls of the 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 the walls of the Ædui, and are described as only two stories high, and enclosed. Towards the close of the Roman period this town lost its name of Avaricum, (said by some to have been derived from the name of the river Ava or Avens,—the Ever,) and assumed that of Bituriges. This we find in an old romance of chivalry transmuted into Biorux, whence the modern monastic Bourges. (D'Avenel Notice de l'Ancienne Gaule.)

When this work was written the territory known as Lutetia or the north of the banks of the Seine, was occupied by northern barbarians, Bourges came into the hands of the Visigoths, from whom it passed to the Franks, in consequence as it seems of the victory of Clovis at Vouillé. The province of Berry, of which Bourges was the capital, became an hereditary property of the House of Berry, and the counts and viscounts. They at first took their titles from Bournes rather than from Berry. (Pignoli de la Force.)

In the early ages of the French monarchy, Bourges suffered much from the ravages of war, but was repaired by Charles le Chaste, and after given by his father Augustus (Malte Brun). In the disputes of the Houses of Burgonna and Orléans in the reign of the imbecile Charles VI., it became one of the strong holds of the Orléans party. It was besieged by an immense army under Charles VI. in person; and the siege was very bloody and of long drawn. The intervention of the Dauphin put a stop to the attack, and ultimately produced a temporary peace. In the civil wars of the 16th century it was seized and garrisoned by the Hugonots, but betrayed by the commander whom they appointed into the hands of the opposite party.

The town is divided into the old and new towns, the latter including a much larger space, and extending on nearly every side round the old town, which stands on rather higher ground. The two occupy a considerable extent of land and contain a considerable number of inhabitants. The appearance of Bourges shows it to be one of the most ancient and worst built cities in France. The streets are crooked; and the gable ends of the houses, which are low-built and roofed with tiles, give to the town a very lumpy and grotesque appearance. The buildings are in proportion to the size of the town. In the king's library at the British Museum, was surrounded with walls, which included also the old town within their circuit. Malte Brun speaks of Bourges as being now surrounded by promenades called Les Boulevards Villeneuve (as he says, from the name of the prefect who made them); these, to judge from their name, probably occupy the site of the walls of the new town. In the short space in which the walls of the old and of the new town coincided, stood an ancient tower of immense dimensions, called in the plans above referred to, the Tour de la Marcherie. It was destroyed about the beginning of the 18th century, and the materials used in the erection of the seminary for the priesthood.

Under the old regime of France, Bourges was remarkable for the large number of its inhabitants who were employed in the classes of gentry, ecclesiastics, and scholars; while the number of persons engaged in trade was comparatively small. Indeed the business carried on in the place was only just what was requisite for the supply of the wants of the population. The town contained a number of weekly and monthly markets, and was granted by Louis XI. to the chief municipal magistrates, the maire and the four echevins (mayor and aldermen) of the town, that of the clergy to the number of ecclesiastical establishments of various kinds, and that of the scholars to the university and other establishments for education. The want of trade caused the city to be far less populous than the extent of its site would have permitted and lead one to expect.

About the middle of the last century Bourges contained, besides the cathedral, of which shall presently speak, four colleges, one for clerics, and three for secular men, and two for women, besides other religious houses, which Expilly mentions as being very numerous, but which he confines giving in detail, on the plea that it would occupy too much space. All these were in a town which is probably did not contain more than 16 or 18 thousand persons. The abbey men was of the order of St. Benedict, and was reputed to have been founded by Clotaire II., who reigned about the close of the 6th or beginning of the 7th century. The abbey for women was one of Benedictine nuns, founded by Charlemagne, and existed till the time of the Revolution. In the 16th century and one of Cistercian nuns, supposed to have been founded in the 12th century. Among the convents was one for the Annunziate nuns, founded by the Princess Jeanne (Joan), otherwise St. Jeanne, daughter of Louis XI., and wife of Frescati, who was a very wealthy nobleman; and another for her: she was the instiutor 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-
ence when expulpily wrote, there was one suppressed abbey of the order of St. Augustin, whose revenues were held in compound till the time of the revolution, and the conventual buildings, which 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 said to have been founded by Louis IX. (St. Louis) King of France; but this is doubtful. It was re-established by Louis XI. in 1463. It comprised the four faculties of theology, law, medicine, and arts. The first and last were for some time in the hands of the Jesuits, and these other housed a college in Bourges, one of the finest and most extensive in the kingdom. (Expi., Dict.)

The revolution and the political convulsions that have followed since, have of course made considerable changes in the edifices; but a great number of the churches and abbeys, which were ravaged of that stormy period, and is one of the noblest Gothic edifices in the kingdom, and indeed in Europe. It is on 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 outside walls are 252, 195, and 192 feet respectively in length, 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 (Expulpily) of great height and delicacy of workmanship. The town-hall was finished in 1336; and the roofs of its other edifices are of its time, whose treasures enabled 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 minister, a friar, to prosecute 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 (4000l., 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 Cour, which Expulpily mentions as being carved in several places, and accompanied with his punning motto, A vaillant Cour riens ni personne. The chancel is of great magnificence; the garden attached to it is used as a public promenade, and contains an obelisk erected to the memory of Bethune Charot, a man whose unbounded benevolence, and whose services to the department of which Bourges is the capital, render him worthy of 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.

The abolition of the privileges of the nobility, the manufactures 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 manufacturer of salt-cloths, and three other manufacturers, one of cloth, one of sail-cloth, and a third of linen generally; but Malte Brun affirms that there is not a linen manufacturer in the whole department, though a great quantity of hemp is grown. The trade of the town consists chiefly in the produce of the soil. The manufacture of rugs and carpets, certain kinds of stone quarried in the neighbourhood. The pop. in 1832 was 17,026 for the town, or 15,730 for the whole commune. The opening of the Canal de Berri which passes through the dep. of Cier, though at a considerable distance, has given increased activity to the commerce of this part of France.

Bourges is the seat of an archbishoprick. The diocese is very ancient. St. Urpin, 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 and Toulouse; as patriarch over those of Bordeaux, Albi, Castres, Clermont, St. Flour, Limoges, Mende, Le Puy, Rhodes, Tulle, and Vabres; but the bishopric of Limoges has been raised to an archbishoprick; and the bishops of Cahors, Castres, Mende, Rhodex, and Vabres, made suffragans to him, there remained only five suffragans to the archbishop of Bourges, viz., the bishops of Clermont, St. Flour, Limoges, Le Puy, and Tulle. (Expulpily.) The see of Bourges is also chancellor of the University of Bourges, and 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, containing a number of MSS. of great value, 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. Fir-
in, or the iron spring; and another in the Faubourg St.

André, which gives rise to the river Ource, a river of gravel. The arrond. of Bourges had in 1832 a pop. of

9,757.

Among the eminent natives of Bourges may be men-
tioned the celebrated preacher Louis Boucardo, born here in 1568; and M. de Maleveau, born at Bourges in 1634, of the Revolutions of England and of Spain, born in 1641 (both these were Jesuits); Jacques Cour, already noticed; and the King Louis I., by whom, as we have seen, the University of Bourges was founded or re-established.

Bourgoigny (Bourgogne, Bourg-und) prov. of France, and one of the military governments into which that country was divided before the division into departments. The districts of Bresse, Bugey, Valromey, and the Pays de Gex were included in the military government of Bourgogne, and the whole of the Pays de Savoie. This province is considered as parts of Bourgogne. The name of Bour-

gonne 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 feudal duchy 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 for article it was of 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 widely; the breadth there was 80 m. at Bon, near Lanzy to the neighbourhood of Pontoux being about 30 m. It was bounded on the N. by Cham-
pagne; on the E. by the county of Bourgogne, (usually called La Franche Comté) Switzerland and Savoy; on the S. by Dauphiné and BURGUNDY; and on the W. by the Bourbonnais, Nièvres, and Orléans.

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 Bar-sur-Seine, the Bresse, the Brevieux, the Reon and other smaller streams which flow into the Seine, and by the Seine itself, or through ten tributaries of the Saône, and by the Saône itself; a consid-
erable part of the course of which is in Bourgogne; the N. parts contain the source of the Seine, the sources of the Oure, the Armançon, the Scrin, 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 W. and the S., forms the Saône, which runs nearly due 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, which includes the Côte d'Or, runs N.E. towards Langres and the Chain of the Vosges, 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, unites the Seine at Dijon with the Saône at Châtillon-sur-Seine; the other, Le Canal de Bourgogne, unites 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.

Water, the hand of the gods, 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 builder and the shipwright, and fuel. Hemp, fruit, fish, and game, are all 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 Romanée-Conti, Chambertin, Richibourc, Chloître, and the Château de La Bâtie, or the Saône at Châtillon-sur-Seine; the white wines of Puligny (growth of Montrachet), Polleuil and Fuissey. The wines of the district are known by the general name of Vin de Bourgogne (Burgundy wine). For further information as to natural features, productions, trade, etc., of Bourgogne, see AIX, AUBE, CÔTE D'OR, SAÔNE, and LOIRE, and YONNE, among which department this extensive and valuable territory has been shared. (Malet Brun, *Dict. Univ. de la France.*)

Bourgogne has always been considered as, 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 Dijonnois, L'Auxois, Le Chalonnois, or districts of Dijon, Auxerre, and Châtillon.) L'Auxois, and Le Pays de la Montagne,) and the dependent counties of Le Charolais, Le Mâconnais, L'Arroux, and Bar-sur-Seine; which counties took their names from the towns of Charolais, Maçon, Auxerre, and Bar. (Garrase, *Description du département 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, so far as we can ascertain it, we give for convenience sake in a tabular form.

<table>
<thead>
<tr>
<th>Town</th>
<th>Pop.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Château-Chinon</td>
<td>9,908</td>
<td></td>
</tr>
<tr>
<td>Dijon</td>
<td>25,532</td>
<td></td>
</tr>
<tr>
<td>Gex</td>
<td>3,689</td>
<td>4,175</td>
</tr>
<tr>
<td>Le Valois</td>
<td>2,781</td>
<td>2,984</td>
</tr>
<tr>
<td>Le Mâconnais</td>
<td>8,990</td>
<td></td>
</tr>
<tr>
<td>Maçon</td>
<td>4,359</td>
<td>4,992</td>
</tr>
<tr>
<td>Montréal</td>
<td>5,098</td>
<td>5,696</td>
</tr>
<tr>
<td>Nuits</td>
<td>1,750</td>
<td>2,534</td>
</tr>
<tr>
<td>Nevers</td>
<td>2,537</td>
<td>2,824</td>
</tr>
<tr>
<td>Noyers</td>
<td>1,569</td>
<td>1,840</td>
</tr>
<tr>
<td>Saône</td>
<td>1,744</td>
<td></td>
</tr>
<tr>
<td>Saulieu</td>
<td>7,786</td>
<td>8,992</td>
</tr>
<tr>
<td>Sancerre</td>
<td>3,354</td>
<td>3,877</td>
</tr>
<tr>
<td>Toulx</td>
<td>2,689</td>
<td>3,187</td>
</tr>
<tr>
<td>Vézelay</td>
<td>1,709</td>
<td>1,953</td>
</tr>
</tbody>
</table>

The history of Bourgogne presents perhaps more points of interest than that of any other district in France.

**History of Bourgogne—Celtic period.—The *Aedu*—**

When Caesar, after the defeat of the Ariovistus at the battle of Aulerci, left the Rhine, and returned to Gaul, he had defeated the first of the Aedu, a confederacy of tribes which occupied the whole of the territory of the Aedu, whose capital was the village of Taranis, afterwards Augustodunum, was the modern Autun. Portions however were occupied by other tribes; as Bresse and Bugey by the Ambartii (dependents of the Aedu), and by a part of the Allobroges, and of the Sequani, which last people also occupied those portions of Chalonnois 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; the *Aedu* and *Aronci* separated the *Aedu* from the Mandubii, a small tribe, part of the Auxois, and the Aulerici Brannovices part of dependents of the *Aedu*, the Brienneis, which is part of the dukedom of Bourgogne.

Of those people, who were all of the great Celtic race, the *Aedu* represented the first of the great and victorious races of Gaul. Before Caesar's arrival, the head of one of those factions, into which, with a remarkable propensity to party division, the *Celt* were separated. Their principal rivals were the Arverni and the Sequani (who inhabited, respectively, the department of the Creuse and the French Alps). The *Aedu* may be said to have been the key to the defence of the *Aedu* frontier, and they were the predominant force 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 S., and E. of the *Aedu* frontier, and had finally established their supremacy over the region of the *Aedu* and their dependents in two battles, in which they enquired only their independence, and their short supremacy.

The *Aedu* were compelled to give up hostages as the chief men of the state, and to swear that they would neither seek aid of the Romans nor refuse perpetual submission to their government, (Ces. B.G., 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 the shores of the Atlantic (the country of the Santons, Sancy), where they established themselves and ran their way through the country of the *Aedu*, 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 Utior Illiricum (which comprehends the N. of Italy and the S. of France), pleading 'that they had always so conducted themselves towards the Romans that their land ought not to have been wasted, their children led into slavery, and their unfortunate and most eyes of the Roman army.' (Ces. 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 *Aedu* an, other Celtic people, led his victorious army against the Germans and defeated them, his king Ariovistus escaping across the Rhine, with very few survivors of his numerous army.

During the greater part of Caesar's command in Gaul, the *Aedu* 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 Eporedunax and Vodumarus (who had been sent by Caesar when he
knew of the revolt of their countrymen), took possession of Noviodunum (Nevers), where Caesar had deposed the hostages of the Galli, as well as the corn, money, and baggage for his army; and having carried away the hostages, divided them among his men. Caesar forthwith crossed the Liger (Loire) by a ford and mustered E. towards the country of the Sequani, while the Galli held a general council at Bibracte (Autun) to determine to whom the chief command should be intrusted. The Abdai had required that it should be given to them, but the confederates saw no advantage in choosing the tried and skillful Vercingetorix, the Arvernan; and the Abdai, 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.

The Abdai and Arvernes, with an enlarged body of cavalry, with the loss of Eperorix and some other men of note who were taken prisoners: and the main body of the confederates retired, closely pursued by the Romans, to Alise (Alise, or rather a mountain near Alise, a little town of the Auxois in Bourgogne), under the walls of which, in a very strong position, the Galli encamped. Vercingetorix, 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 Caesar had already begun. His camp having been made in extremity, he sought to make his scanty store of provisions last till the return of his countrymen. Caesar, aware of the inadequate number of his forces to guard lines of circumanvallation of the extent required to hem in the Romans, and that his usual manner of attack took unequal pains in strengthening his lines. 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 unfit for war. They chose the latter course: and Vercingetorix was put into the hands of Caesar. The Abdai submitted and obtained better terms, so far as can be judged, than they had reason to expect: their persons were restored; and when they had passed, with the rest of their countrymen, from the borders of Rome, they seemed to have still been treated with peculiar distinction. The capture of Alisea took place in n.c. 51.

**Bourgogne under the Romans.**—Upon the division of Gallia into four provinces by Augustus Caesar, the districts afterwards comprehended in Bourgogne formed part of Germania Lugdunensia; and upon the subdivision by the Emperor Probus, were mostly included in Lugdunensis Prima. Some portions were however comprehended in Lugdunensis Quarta, and Maxima Sequanorum, which last division had been, according to the arrangement of Augustus, included in Gallia Belgica, though this was in the Celtic territory.

**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 Borrysthanes), 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 the kingdom of Bourgogne of Burgundy, comprehending the whole S. E. of Gaul, from 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 Clotaire, king of Soissons, and perhaps Thudelbert, king of Austria. [Bourgondians.]

**Second Kingdom of Bourgogne.**—In 555 Clotaire, 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 Gozuan, his son, who succeeded to the kingdom of the eastern portions of the former kingdom 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 Clisson sur Saône. It is needless to trace the history of this kingdom in the confused period which followed; it was for a time united 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 according to circumstances. It was finally divided among the Granvilliers of the Chateaupons, and the SaÔniers, and the Burgundians, and the Franks, and the Austrasian viscounts, and the Lorrainers.

To the weakness and incapacity of the Mervinningian princes succeeded in 745 the more vigorous government of Pepin le Bref (the Short). Upon the division of the territories of Pepin between his sons Carloman and Charles or Charlemagne, the kingdom of Bourgogne was given 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 Deborean, son and successor of Charlemagne, A.D. 843, the kingdom of Bourgogne passed from Charlemagne to Louis the Pious, and it was divided between the sons of the latter: the part of the Saône to the Lothaire, the Burgundian, and 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 Carloman, Louis the German, and Pippin the Younger, resulting 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 Merovingians in the province of Provençial, and which, under the dominion of the Saône, fell to the lot of Charles le Chauve (the Bald), the part E. of the Saône to the Emperor Lothaire.

**Supposed later Kingdoms of Bourgogne.**—Bourgogne Cisjurane, Bourgogne Transjurane, Aries. It has been already noticed that in the partition of the states of the Emperor Lothaire, A.D. 843, one of the kings, 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, ending with the life of its first and only ruler. A.D. 875, and was called Le chauve, of which some authors give the title of Bourgogne Cisjurane, was formed by Boso, a powerful French noble. It comprehended Provence, Dauphiné, and afterwards part of the Lyonnais and Viennois.

During the time 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 for the successful ambition of Rodolph, one of the nobles of that country (comprehending various parts 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 Transjure, and comprehended Switzerland and some smaller districts. Rodolph, its first king, was elected in 888.
but good of a.d.

The sovereignty of the kingdom of Arles became a pilgrimage of the Holy Land in 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 I. 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 within forty miles of Jerusalem, and in which the French crusaders had already driven the Muslims to Tyre, where he died in 1192. Another of this race, the Duke Eudes III., engaged in the war against the Albigenses, or, as Plancher expresses it, he "took the cross in 1209 and joined the other lords, who, for the love of truth and zeal for the Catholic religion, took arms to beat and destroy the Albigenses, heretics so much the more dangerous, as they affected to follow an apostolic, penitent, and altogether disinterested life." The same Eudes was present at the great battle of Bouvines in Flanders, a.d. 1214. He was considered to be one of the most important of the French princes for his various acquisitions, by inheritance to Jean II., king of France, in the year 1361, upon the death of Philippe de Rouvre, last duke of the first race of the blood royal of France. It was during the sway of this first race of dukes of Bourgogne that the French king considered himself as their protector, and had the rights and constitutions; and their deputies took their seats in the assemblies of the states of Bourgogne, of which they constituted the third component body, le tiers état.

Second race of Dukes of Bourgogne of the blood royal of France.—The Catholics played a much more important part than the preceding.

Philippe le Hardi, 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 grant was confirmed by the last of the house of Eudes 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 of Flanders, Artois, Bourgogne (Franche Comté), Reihel, and Nevers; by prudence and mildness he gained the confidence of the towns, by which he was considered as his father. After 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 lunatic.

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 and more high birth than this young man, the comte of Foix, a still greater chief of the noble nobility 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 inferior forces of the Turks, 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 Foix, the comte of Boucicaut, and the two dukes of the house of France died on the field, 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 "Knight of the Peaceful Forest" for the valorous defence of the French frontier against Bajazet, came to the dukedom of Bourgogne 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,
and the duke of Bourgogne had obtained the superiority. But on his demise the duke of Orleans had held sway until, by an unexpected march upon Paris, A.D. 1408, Jean Sancerre, brother of the king, was defeated near the capital, which was devoted to his interest. A reconciliation was effected, and the princes carried themselves with every appearance of cordiality to each other. But these appearances were deceitful: the duke of Orleans was assassinated by the Parisians, and, in the delirium of the day, the king, in 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 with the dauphin, in an interview with whom, at the bridge of Montremon-sur-Seine, he was assassinated 10th Sept. 1419. His body, after remaining all night under a prayer in procession, was carried 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 Isabele, duchess of Brabant, and the favourable 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 in consequence assembled troops, directed towns that lay in his way, joined the English forces, reduced Montereau, and entered Paris by the side of Henry V.

On the death 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 the treaty, the crown was to be transmitted), 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 consummated, as the rival claimants, of Brabant, cousin to Philippe, and Humphrey duke of Gloucester, a younger brother of Bedford. Jacqueline, heiress of Brabant, Holland, Zeeland, and Friesland, had married Jean, and brought to him the rich inheritance just mentioned. But mutual wrongs, enmity, 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 her domains under the administration of the duke of Bourgogne.

Various circumstances had tended meanwhile to cool his attachment to England. The great dispute of succession of his marriage at Bruges in January, 1430, with Isabelle of Portugal.

In the same year, 1430, the duke took the field on the side of the English, and captured several towns in Picardy. On the capture of Conches, he fell into the hands of his followers: her subsequent fate is well known. About this time the Duke Philippe engaged as an auxiliary in the contests about the succession of Lorraine; and his troops took René d'Anjou one of the claimants to the French crown. In the following year, 1431, his dauphin, Philippe, in 1432, weakened the ties which bound him to England, and the death of the dukes of Artois and the death of the duke of Bedford in 1435 dissolved it. Peace was concluded between Charles VII. and Philippe; the former disavowing the former treaty, and promising to punish the murderers, and ceding to the latter several districts adjacent to his present domains. Some authorities state that the death of the duke of Bedford did not preclude
this treaty, but that it was occasioned by grief at the bearing of the peace of Arras the duke of Bourgogne assisted by his troops in the recovery of Paris from the English; and in 1456 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 existence and rights of the duchies of Brabant and Luxembourg towns and their feudal lords were continually renewed. Philippe was wounded at Bruges, and had great difficulty in quelling the disturbances.

The year 1440 was distinguished by the closing of the breach between the houses of Burgundy and Bourgogne. The duke of Burgundy, having been prevented either by illness and Bongare, moved it is supposed by the activity of character which had been unexpectedly developed by Charles VII., and desiring to strengthen himself against it, procured the release of the duke of Orleans, son of that duke who was killed at the battle of St. Peur, and gave him his niece Mary of Cleves in marriage.

After a campaign against the people of Luxembourg, who had disregarded the authority of their count, who was aunt of Philippe, the duke was involved in fresh troubles in the Low Countries. The people of Ghent revolted, decapitated some of the duke's officers, and marched against Oudenarde. Successive defeats humbled the high spirit of theseburgers, and negotiations were commenced; but the people of Ghent violated the treaty, and the war renewed between the two contracting parties. At last, in 1451, Philippe defeated the rebels in a great battle; more than 20,000 of the vanquished fell by the sword or were drowned in the Scheldt; but the clemency of the victor was displayed in granting easier terms than could be expected. The peace which was made deprived the people of much of their privileges; but we do not read that any blood was shed.

The capture of Constantinople, in 1454, caused a great sensation in Europe; and Philippe among others was much alarmed. By a clever piece of management, he was induced to enter into an entertainment at Lille, he took a solemn oath that if the king of France would maintain peace in his dominions, he would go against the great Turk and engage with him either in personal or general conflict. The poverty of Philippe was a serious obstacle to his formation and profusion, prevented the fulfilment of this vow.

In the troubles which disturbed the latter part of the reign of Charles VII., the dauphin Louis, afterwards Louis XI., took refuge in the dominions of the duke of Bourgogne, who assigned to the fugitive a handsome maintenance. The old age of Philippe himself was imbibed by a similar cause to that which darkened the close of Charles's reign—a disagreement with his son the count of Charlois. This young prince, whose character afterwards obtained for him the epithet of the 'unhappy count of Charlois,' was the son of his father, and occasioned him much vexation. A difference with his former protege the dauphin, who had succeeded Charles VII., and was now king under the title of Louis XI., occasioned by an attempt on the part of Louis to extend the gabelle into the dominions of Philippe, and some fresh troubles in the Low Countries, further imbibed the dauphin's declining years. Philippe died at Bruges in 1467, having governed the ducal possessions, which he had considerably augmented, for nearly forty-eight years. He had lived a hard life, and had been the lord of a duchy and county of Bourgogne (the modern Bourgogne and Franche Comté); the duchies of Brabant, Limburg, and Luxembourg; the counties of Hainault, Holland, Zealand, and Namur; the marquisate of Antwerp, and the lordship of the bishopric of Liége. The Low States and the countries now comprehended in the kingdoms of Holland and Belgium. He appears to have been a prince of many shining qualities, the encourager of learning and of the arts. He patronised Jean Van Eyck of Bruges, the discoverer of oil colouring, and caused the copies of tapestry to be copied in tapestry; the only manufactures of which then in existence were in his dominions. The library of Bruxelles and the university of Dole seem to have owed their origin to him. Erasmus regarded Philippe as worthy of comparison with the greatest of kings. The following inscription, which he mines says, 'His subjects had great riches on account of the long peace which they had enjoyed, and owing to the excellence of the prince under whom they lived, one who clipped (tailloit) his subjects little; and it seems to me that these lands might better be termed lands of promise than any other lordships which were upon the earth.' He was declared by the general council of Bâle, A.D. 1433, 'Not Duke and Lord, but King of Burgundy.'

Charles le Teméraire, or the Rash, last duke of Bourgogne of his race, had distinguished himself by valour, restlessness, and ferocity of character during his father's life-time. As count of Charlois he had engaged in a league against the English, in which, great was the difficulty, with which he had to contend. At the head of this league were Charlois, the duke of Berri, the king's brother and heir to the throne; the dukedoms of Bretagne, Alençon, and Bourbon; the bastard of Orleans, Dunois, who had acquired great reputation in the war against the English, and the Counts of Foix and Anjou. They were, it is likely, prompted by apprehensions of the advance of the kingly power, which was fast verging to an absolute monarchy, and threatened the extinction of the power of the great nobles; but they gave way, when the king, through the agents of Philippe, moved the 'league of the public weal.' In this contest Charlois signalised his valour rather than his military skill in the indecisive battle of Montherly, a few miles S. of Paris. Louis, besieged in Paris, and alarmed by unfavourable intelligence from the provinces, hastened to agree to the demands of the confederates; and in the treaty of Conflans made large concessions, which he hoped to revoke at a future opportunity. During the negotiations he fearlessly trusted himself into the encampment of Charlois; and Charlois in the heat of the interview stabbed him to death. Louis returned however unharmed, to the great satisfaction of his followers, who had not forgotten the murder of Jean Sans Peur at the bridge of Monterec. He also manifested his character in the troubles in the Low Countries, where he crushed the obstinate resistance of Dinant on the Maas, and gave up the population to massacre or slavery, and the town to the flames with the most ruthless ferocity.

In 1467 Charles le Teméraire succeeded to the duchy of Bourgogne, as the last of the house of Vaucelles. At his coronation ceremony at Lille, he discharged a musket at the ear of the archbishop, who was present to consecrate him. This event, which has, through Sir Walter Scott's interesting romance of 'Quentin Durward,' became familiar to the English reader, namely, the visit of Louis XI. to Peronne. By his arts and negotiations Louis had separated the duchy and county of Charlois, and had recovered many of the advantages which the lieutenant of the king had lost; and had recovered much of what he had been forced to cede to them: but his most formidable enemy remained unimpaired in strength and resources, and Louis determined upon attempting to cajole him by negotiation. With a show of complete confidence in Charles's honour, he visited him at Peronne, a town of Picardie, on the Somme, then in the duke's hands; while by his agents he was secretly prompting the people of Liége to rise against their bishop, who was under the protection of Charles. By an oath, which the latter had sworn, he engaged to maintain the life and power of the bishop; while Louis was yet in Charles's power; and when the intelligence of the rising, with many exaggarations, reached Peronne, Charles was moved to almost unbounded fury. It was reported that the bishop of Liége, and the duke's representative, the Sieur of Humbercourt, had been strangled; and Sir Walter Scott has represented the murder of the bishop as taking place now, whereas it did not occur until the year 1482, after the death of the duke. Charles immediately put sentinels over Louis, and after taking a solemn oath, 'thou shalt be degraded and degraded, and shalt not sit on a throne; nor shalt thou be a soner to a treaty, and to accompany him in an expedition to punish the revolted Liégeois. The town, though unprepared for resistance, was obstinately defended by the burgheers, who in a sally had nearly captured both the bridge and the town. But after a few days it was entered by storm; the inhabitants, few of whom were killed in the assault, (which took place on the Sunday, while they placed an undue reliance on the sanctity of the day,) were driven away; and most of them met a lingering death from hunger, cold, and exposure, or famine pictures to be copied in tapestry; the only manufactures of which then in existence were in his dominions. The library of Bruxelles and the university of Dole seem to have owed their origin to him. Erasmus regarded Philippe as worthy of comparison with the greatest of kings. The following inscription, which he mines says, 'His subjects had great riches on account of the long peace which they had enjoyed, and owing to the excellence of the prince under whom they lived, one who clipped (tailloit) his subjects little; and it seems to me that these lands might better be termed lands of promise than any other lordships which were upon the earth.' He was declared by the general council of Bâle, A.D. 1433, 'Not Duke and Lord, but King of Burgundy.'
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 landgraviate of Alsace, a
position which he was to occupy to the end of his life;
convinced, and encouraged by the extent of his territories
and his power, he sought to obtain of the Emperor Freder-
rick 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 misfor-
tunes. In the year 1474 he was involved in hostilities with
the emperor of Germany, the Swiss, and his old inveterate
eruption of Artois, which had 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 pos-
sessed 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.
Emboldened by this, he made an inroad upon the duchy of
Artois, overran the Pays de Vaud, and was again defeated
by the Swiss, in a sanguinary battle at Morat, in the canton
of Fribourg. Stung to madness by defeat, by the deser-
tion of his allies and the treachery of his mercenaries, he
again attempted to take Morat, and laid siege to the Duke
of Lorraine, aided by the Swiss, attacked him here,
defeated his small and disspirited army, and Charles him-
self perished in the route. This was in the winter of
1476-77.

The death of Charles le Thébaire extinguished the
male line of the dukes of Bourgogne; and with it the
grandeur and importance of the duchy. Charles had left
an only daughter, Mary, who succeeded to all the domi-
nions of her father out of France. Her right of succession
to France was disputed by the Swiss, who had been
affirmed, that as the duchy had been granted to Philippe
le Hardi as an appanage, it reverted to the crown in
default of male heirs. The states of Bourgogne in an assembly
at Dijon agreed to put themselves under the government of
the king of France, stipulating for the observance of their
rights and privileges. The rapacious Louis also wroth
Artois and Franche Comté from the orphan duchess; and
even while negotiating a marriage between her and his
son, the Dauphin, afterwards Charles VIII., he was occasion-
ally essayed to dispose of the duchy in his own
interests, which led to the massacre, after a formal trial, of two
of Mary's ministers. Disguised by the treachery of Louis,
Mary accepted the proposals of marriage made to her by
Maximilian, king of the Romans, son of the Emperor Fred-
rick III., thus the Franche Comté, which had been
Bourgogne, passed to the house of Austria, to the Spanish
branch of which they descended. A war between Max-
imilian and Louis ended in the treaty of Arras, A.D. 1489,
by virtue of which Margaret, daughter of Maximilian and
Mary, was promised to the Dauphin, and was settled to be
educated at the court of France. Artois and Franche Comté,
now held by Louis, were to form her dowry, but to be restored in case the marriage did not take effect. Flanders recognized the sovereignty of the
French crown, and preserved its claims, which the
language of the people of Ghent, and the

of Useful Knowledge; Bayle's Dictionary, enlarged by
Bernard and others, Lond., 1735.)

BOURGOGNE, CANAL DE, one of the most im-
portant 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 un-
purchased, or recently purchased,) commences at Neufchâtel;
and opens a communication between the Yonne (a feeder of the
Seine) and the Saône. It commences in the Yonne, near
the place where the Armançon falls into that riv., and
follows a course parallel to that of the Armançon to the
neighbourhood of Monthlery, and from a circuit it returns
again to the Armançon, and runs side by side with that riv., to
tits sources. It is carried by a tunnel nearly 8 m. long, under
the chain of hills which separates the basins of the Seine and
Saône; and following nearly the course of the Ouche,
which joins the Yonne, for a distance of 10 m. In width is
from 10 to 12 m. It has been considered an object of
interest in the navigation from the Channel and the Seine to the
Rhine. It is comprehended in the departments of Yonne and Côte
D'or.

BOURGOING, JEAN FRANÇOIS, BARON DE,
was descended from a noble house, not unknown in the
history of France. His father was Edmond de Bourgoing, prior of
a monastery of Jacobines at the time of the Ligue, eulogized the regicide Jacobin Jacques
Clement, decaimed and fought against Henri IV., and
was sentenced, by the parliament of Tours, to be torn to pieces
by four horses. He died in 1482. Jean de Bourgoing,
have since successively published works, now forgot-
ten, upon history, finance, jurisprudence, philology, and
divinity. Jean François, the subject of the present article,
was born at Nevers, A.D. 1742. At the age of twenty he
was sent to Paris to be trained in diplomacy, and
employed as Secretary of Legation. In that capacity, in the
year 1777, he accompanied M. de Montmorency, the French
Ambassador to the court of Spain, to Madrid, where he res-
nided nine years, for the last two as Chargé d'Affaires. He
had for some time been the favorite and confidential
servant to the condition of Spain, political, statistical and social,
which, upon his return to France, he embodied in his Nou-
veau Voyage en Espagne, ou Tableau de l'Etat actuel de
cette Monarchie, published in 1789, and then esteemed
the best work extant upon Spain. In 1791 Bourgoing
returning 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
have been published in recent years, and the work has been
translated into German. It has been translated
by one who, dying quitting Spain until Buonaparte 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 other works are Mémoires Historiques et Philo-
osophiques sur l'histoire de l'Espagne et de l'Amérique, et
Correspondance d'un jeune Militaire, ou Mémoires du Marquis de Lusigny
et d'Hortense de S. Jusse; some translations from the
German, and some articles in the Biographie Universelle.

BOURGON, ANTOINETTE, was a celebrated reli-
gious enthusiast, and founder of a sect which acquired so
much importance that, under the name of the Bourgoin
Enthusiast, it is to this day one of the heresies denounced
by the missionaries and the Catholic Church. She
was the daughter of a Little merchant, and was born in the
year 1619, so singularly ugly that a family consultation was
held upon the propriety of destroying the infant as a mon-
ster. This into she escaped, but remained an object of dis-
like to her parents, was educated in a convent, and remained
in solitude and neglect, and the first books she
read held nothing of the chances in the life as, and
mythical tracts, her ardent imagination acquired
the visionary turn that marked her life. It has been asserted
that her religious zeal displayed itself so early, that at four
years of age she contrived to be removed to a more Chris-
tian country than Lille, where the unevangelical lives of the town's people shocked her.

As Antoinette was a considerable heiress of her father's property, she was a frequent object of marriage; and when she reached her twelfth year one of her suitors was accepted by her parents. But the enthusiast had made a vow of virginity, and on the very day appointed for celebrating her nuptials she fled in men's clothes. She now obtained a situation as a secretary in the abbey of the Holy Sepulchre, near Brussels, and gained over so many of the nuns that the confessor of the sisterhood procured her expulsion not only from the convent but from the town. Antoinette now wandered about France, the Netherlands, Holland and Denmark, ever a severe making covert, 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 expelled the town by her police, on account of the disorders that her doctrines occasioned. 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 by her disciples according to their discretion, and she required an impossible degree of perfection from her disciples. She is said to have been extraordinarily eloquent, and was at least equally diligent, for she wrote twenty-two bulky volumes, most of which were printed at a place where she had fixed herself for the purpose. After her death Poiret, a mystical Protestant divine, and a disciple of the Cartesian philosophy, wrote her life, and reduced her doctrines into a regular system. (Algemeine Deutsche Real Enzyklopädie ; Blog. Untv.), Chalmers's expressed (Diction.)

BOURN, or BURN. [Kesteven, Lincolnshire.]

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 on the River Petite Creuse, about 174 m. nearly S. by W. of Tournus.

'Boussac,' says M. Malrau, '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 crowned with battlements, from whence the eye looks down upon a pass formed by mountains of arid and wild aspect; this place is the most desolate abode that can be imagined.' The pop. of the town is omitted in the returns for 1891, given with the last edition of Malle Brune; by the surveyors it is stated to be 757.

The arrond. of Boussac contained, in 1829, 86,738 inh.

BOUSSU. [Hainault.]

BOUSTROPHEDON. [Alphabet, p. 882.]

BOUTERWEK, Friedrich, German metaphysician, professor of moral philosophy at the University of Göttingen, is chiefly esteemed for his 'History of Modern Literature.' He was born in the year 1766, at an iron foundery near Goslar, and completed his studies at Göttingen. He was educated for the law, but was diverted from his legal pursuits by the author of the 'Castle of the Mountains,' who at that time published several poems and a novel, 'Graf Donamar,' which is said to give a good picture of German life; but at the age of 20, 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 Göttingen in 1797. Both in his lectures and in his metaphysical writings, he has ably expounded the doctrines of the above-named philosophers; but has preserved intact their reputation rests upon his 'Geschichte der Neuen Poesie 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; but especially 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 Bouterwck's work have been translated into French and English. Professor Bouterwck died on the 19th of November, 1828, at the age of 63. (Geschichte der Neuen Poesie und Beredsamkeit.)

BOUVIGNES, a town and comm., in the district of Dinant, and prov. of Namur, is situated on the left bank of the Meuse, 8 m. by rail from the town of Dinant, N.N.W. from Dinant, of which Bouvignes is a kind of suburb, in 56° 17' N.lat., and 4° 53' E. long.

Bougines, which was formerly a well-peopled place, carrying on a considerable trade, is now a very insignificant town, having rather the aspect 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 refineries of salt, and three breweries.

The castle of Bouvignes 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 1176 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 Bouvignes and Dinant were stimulated by commercial jealousy to make war upon each other, and it is said that the engagements between the two armys were prolonged in consequence of these hostilities that the fortress of Crevenc-cour was built by the inhabitants of Bouvignes. Only the ruins of a part of this fort now remain: they are rendered memorable by the heroism of, in 1654, of three females when the town was taken by the French. These women, having heard that they would possibly fall a victim to the enemy, 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 requited by the conquerors; the inhabitants, who were not killed during the siege or in the assault, were hanged.

Bouwignes was ravaged by the plague in 1263, in 1308, in 1478, and in 1578. It was exposed to a very disastrous inundation of the River Meas in 1490. (Dict. Geog. de la Prov. de Namur, par Vandermaelen; Reiset, gen. par V. def. Coulembourg.)

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, and the French army; on which the one side received the victory, and 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; and after a hard contest the victory remained with the French. The losses were considerable; 500 men of Boulogne, Flanders, and others, were taken prisoners.

BOW. [Archery.]

BOW, in music, a machine used for drawing out the sounds from—i. e. for playing on—stringed instruments of 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 eighties to a hundred horses; and 3. of a nut regulated by a screw, by which more or less tension is given to the hairs. The violin bow was first invented by an Arabian named Wilki; it was short, till Viotto, whose dictum in whatever concerned his instrument was received as law, fixed it at twenty-eight inches. The violin bow is larger and stronger. That for the double-bass is still stronger, 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 Bougainville in 1768, who gave the island the name of La Harpe; the island visited in the following years by Cook, and named the present name. Its figure however bears little resemblance either to a harp or a bow. It lies N.W. and S.E., is very irregular in shape, and 30 miles in length, with an average breadth of five miles, the same as that of other coral islands, confining within a low narrow band of coral, about a quarter of a mile wide, a spacious lagoon studded with islands, and an average depth of about 120 feet between them. The windward (eastern) side is higher than the other, which, with the exception of a few places, was never made.
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 fish. This passage being left, the depth of the water is only 115 feet, 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 out through the passage between the reefs, causing overfalls which would be very dangerous to boats.

Within the lagoon the anchorage is perfectly secure; the bottom is generally of fine white sand. Water may be procured by digging through the sand into the coral rock, and at the depth of three feet it was found to flow into the wells as fast as casks could be filled. In this manner the Blossom obtained ten tons a day, which proved tolerably good, though it does not keep so well as spring water; it was found to be impregnated with murrate of soda, and assistants were needed to drink it. The only provisions which, after all, 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 rudely-made canoes. The number of house-fishes 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. They are a chief people, among whom, who apparently maintains his rank by 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, the witches and toadies addressed the witches in the soul for a time frequents the spot. The manufactured goods are mats, maro, baskets, fishing-hooks of the mother-of-pearl, lines, &c. The entrance to the lake lies in 18° 49' S. lat., 149° 27' W. long.

As a sequel to the Pacific and Bering'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 own wishes, it was eventually arranged that he should engage in commerce. In 1808, he joined 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 only remained for a very short time. By the introduction of Mr. H. Bowyer, 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 the post of the King of the 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.

While the party was at Coomassie, the capital of Ashantee, Mr. Bowdich, with the concurrence of the other subordinate members of the mission, superseded Mr. James, and undertook to guide the Ashantees with his own hands. His conduct was afterwards approved by the authorities at Cape Coast Castle; but its propriety has since been strongly questioned by Mr. Dupuis (in his Journal of a Residence in Ashantee, 4to, 1834). After remaining for two years at Coomassie, he returned to England; and in 1819 he published at London, in a 4to volume, his account of the remarkable people among whom he had been, under the title of 'A Mission to Ashantee.' Soon after the publication of this work, which was read with great avidity, the author proceeded to Paris; and in this city he appears to have resided for some years, prosecuting his studies, principally in the mathematical and natural sciences, which he had neglected in his youth. He now also published a pamphlet in exposure of the system pursued by the African Company in the management of their possessions, which is understood to have induced the government to take these settlements into its own hands. This was followed by a translation, with notes, from the French, of a ' Treatise on Taxidermy,' to which he did not put his name. He afterwards published, in succession, the following works:—"A Translation of Travels, by Mollien, to the Sources of the Senegal and Gambia; " an Appendix to the above, under the title of 'British and French Exposition to Temon, with Remarks on Civilization, &c.;' an Essay on the Superstitions, Customs, and Arts, common to the Ancient Egyptians, Abyssinians, and Ashantees; 'three works, illustrated with lithographic figures, on Mammals, on Birds, and on Shells; a Memoir, entitled 'The Commercial and Political History of Sierra Leone; and "Mathematical Investigation, with Original Formulae, for ascertaining the Longitude of the Sea by Eclipses of the Moon." These titles are from the Life of the Author in the Annual Biography and Obituary, where no dates are assigned to any of them. Mr. Bowdich also paid for the money which he had realized by his publications, Mr. Bowdich, in August, 1822, set out for Africa, in pursuance of a wish which he had constantly cherished of devoting himself to the exploration of that continent. He had only however reached the mouth of the Thompson river when he left his wife, when he was attacked by fever, under which, after several partial recoveries, he expired on the 10th of January, 1824. In the same year was published from his papers, (9vo, London,) 'An Account of the Discoveries of the Portuguese on the West Coast of Africa, and of the discovery of which he had principally collected at Lisbon on his last journey; and in 1825, his widow, since Mrs. Lee, published in 4to, 'Excursions in Madeira and Porto Santo, &c.;' the late T. E. Bowdich, Esq.; to which are added a Narrative of a Journey from Madeira and Porto Santo to the marks on the Cape de Verde Islands; and a Description of the English Settlements on the River Gambia; by Mrs. Bowdich. (Annual Biography and Obituary for 1825.) (In account several of the dates are palpably wrong.)"Literary Gazette" for 1824, p. 187, where it is stated that Mr. Bowdich was born in June, 1793.)

BOWYER, WILLIAM, the son of a printer of considerable eminence, who published many of the most distinguished theological, antiquarian, and scholastic works which appeared during the reigns of George the Third, and George the First; a period often, and not without propriety, denominated the Augustan Age of English literature; for of the numerous writers, few exhibit original genius; the greatest part are very confined to a narrow field; or less accuracy and elegance, the authors of Ancient Rome, as they, with similar servility, imitated the Greeks. Among the divines who employed the press of the elder Bowyer, whose name was also Williams, may be noticed Derham, Pridmore, Wake, King, H. Brough, Bull, Whitney, Hickey, Stumburge, Clarke, and Hoady. The title of this writer commanded is shown by the fact, that, having lost, in an accidental fire, the whole of his property, above 1500l. were raised by a general subscription to reinstate him in his business, Williams Bowyer was born in London, December 19, 1699, in Dogwell-court, Whitechapel. He was educated at Headley in Surrey, in a private academy conducted by a respectable scholar, Ambrose Bonwick, B.D. of Oxford, a non-juring Jacobite clergyman, ejected, on account of his nonconformity, from the head-mastership of
Merchant Taylors' School. Bowyer was entered, in June, 1716, a sizar 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 Markland, and the learned numismatic, scholar, the Rev. William W. In the meantime, the change of mind, and similarity of studies, occasioned an intimacy which continued throughout the rest of their lives. Although he remained at college beyond the period required for graduating, he returned to share in his father's business, for he was not yet 21, when, in 1721, during which he had been closely employed in the correction of proofs, he became a partner with his father, who, in future, superintended the mercantile and mechanical portion of the business, while the literary and critical department, which had been the subject of his interest, was intrusted, as corrector of the press, he received from Maistre a most flattering compliment, contained in the preface to his Miscellaneous Graecorum Carmina, 4to. His predilection for archeological and philological subjects was evinced in the peculiar attention which he bestowed upon the correction of every work of this kind. Of the costly and classical works which, throughout a period of 55 years, possessed the advantage of bearing the signature "Tytia Bowyer," we have mentioned but a very few. For a complete chronological list of them, a范冰冰 mencion. Concerning the authors and the printer, we refer to the well-known voluminous work of his partner and successor, entitled "Epigraphic Anecdotes of the 18th Century, comprising Memoirs of W. Bowyer, Printer, S.A., and many of his learned Friends, by John Lyttle, P.S.A., vol. 4to., of which the 7th forms an elaborate index, and 6 supplemental volumes complete the work. As the press of B. was corrected by himself with a critical ability possessed by no other printer of his time, it was chiefly preferred for works of learning. But typographical accuracy far from being the sole object of B. : he exercised a searching criticism upon the subject matter and language of the several learned works which he printed; supplied numerous notes, suggestions, emendations, wrote prefaces, made indexes, and in various ways increased their value. As specimen, the following will suffice:—Selden Opera Omni, collected by Wilkins, 3 vols., fol., 1726. Of the learned dissertation 'De Synedriss et Profecturjs Jurisdictionem Veterum Graecorum, which occupied all the 2nd vol., a very judicious epitome was made by B. while he rapidly examined the last proofs. It exhibits, in 28 pages of English, the substance of 1180folio pages of rugged Latin, profusely garnished with Hebrew, Greek and Arabic. In a review of 'Reliquiae Baxterianae,' he supplied the present age with grammatical erudition, containing Glossarium Antiquitatum Graecarum, Bowyer displayed an intimate acquaintance with the subject; the same with the 'Leges Walliae Ecclesiae Hywel Dda, by Dr. Wotton, 1730; and Chishull's 'Antiquitates Angliae,' 1730, in which he made 28 quarto pages of 'additions and corrections.' To the 6th edition of Lyttelton's Latin Dict., 1735, he made a large addition of words collected in the course of his reading. The 'Greek Lexicon' of Schrevelius received the same improvement by passing through his press in 1734. In that of Hederic, the English of which is not the Latin one by Faber, and Bailey's English Dict. he similarly enlarged and corrected. In publishing, in 1735, Bladen's English version of 'Cæsar's Commentaries,' he added numerous learned notes and corrections, which were not printed at the same time, on his own account, "Kistler de vero ubi viri med.," to which he affixed some critical remarks and a preface in Latin. He supplied also an elaborate preface, with numerous notes and corrections to a translation, in 1729, of Montesquieu's 'Prompteur des Romans.' On the Life of Cicero, Matthew Middler, in a modern commentary, in which, without any assumption of superior learning, he rectifies many mistakes. As a supplement to the work of his friend, William Clarke, "The Connection of Roman, Saxon and English Coins," he wrote "Remarks on Roman Antiquities," and "Remarks on Roman History," exhibit, for that time, an accurate and extensive knowledge of classical archeology. The whole of these commentaries, with many more, including "Papae of Stepiens's Thesaurus," and a learned dissertation on "The Feast of the Saxon Yule," are separately printed in a large, and now extremely scarce vol. in 4to., published in 1785, by Mr. Nichols, entitled 'Miscellaneous Tracts by the late Wm. Bowyer.' There yet remain in MS., inserted in margins, and interleaved copies of his favourite works, notes in great numbers, especially in Leigh's 'Critical Sacra, Du Gard's 'Lexicon Graecum Text,' and many of the Greek and Latin classics, as well as various curious and uncalled-for emendations and illustrative works which he printed, the following, as specimens of typographical beauty, may be selected:—Matthew Parker Cant. Arch. de Antiq. Brit. Eccl., fol. 1729.; Vertot's 'Knights of Malta,' 2 vols. fol. 1728.; Maistre's 'Marianorum atque Hierosolymitanorum Itinerum Noticiis, et Itinerariorum, ed. 4to.' 1732.; Pococke's 'Description of the East,' 3 vols., fol., 1743.; the 'Coptic Pentateuch,' by Dr. Wilkins, 1731; 'Lyrae Orationes,' by Dr. Taylor, 2 vols., 1739. B. published, in 1756, 'The Origin of Language,' containing corrections in the English text of the Greek text, of which the title in full is the 'Introduction of the Graecum, ad fidem Graecorum codicum MSS. nunc primum expressam, adssiptplana Joannae Jacobo Wetsteinio: exita sectiones Jo. Alberti Bengelii divisioni; et nova inter punctiones sapiendi illustratio: accessor in altero volume Diss., emendationes C. D. Wetsteinii collectae. Curis, typis, et sumnibus Gulielmi Bowyeri; '2 vols., 12mo., 1763. 'This,' says Dr. Harwood, in the appendix of his own edition, 'is a valuable Greek text; Mr. Bowyer was an excellent Greek scholar, and it is to be feared will be the last learned printer in England.' In Lord's Bibliotheca Sacra, ed. ab Mach., tom. i., p. 246, it is highly approved, and the author is said to be 'vir doctus, et Stephano rum tum in arte sac., tum in Graecarum litterarum scientiam omnium.' The present editor, following the instructions of the University, in Massachusetts, in returning thanks in 1758, for an illustration copy, says, 'The very accurate editions of many erudite authors, published under his inspection, assure us of the greatness of his merit as a learned editor. Your very learned and ingenious ed. of the Greek Testament, has shown to the world, 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 word in 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 Apocalypse, in which the 2nd and 3rd editions were too closely followed (tantans) to be included. The words proposed to be, without substitution of others, omitted, as Rom. iv. final ver., 1 John 7. 8, and 7. 18, are inclosed within parentheses. A critical account of this edition is given in the Bibliotheca Theologicorum, vol. v. p. 567., and Blain's "History of Printed Books," vol. i. p. 664., et seq. (in the translation of Bishop Marsh.) Introduction, vol. i.) '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, Bowyer often appeared very critical, and 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 that 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 the most impartial critical revision, would be admitted in an 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. Schulz. A 3rd edition appeared in 1782; and the 4th and best in 1812, 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-
servation on the New Testament, collected from various authors, as well in regard to words as to pointing, with the result of delaying the boy's education. After the death of Bp. Barrington, Mr. Markland, Prof. Schulz, Prof. Michaelis, Dr. Owen, Dr. Woide, Dr. Gosset, and Mr. Weston. It contains a large and excellent engraving of Bowyer. In 1729 he was appointed, by the Speaker of the House of Commons, to the office of Librarian of the Society of Antiquaries, in 1736, appointed him printer; and the subjects of their researches being those in which he most delighted, he constantly attended their meetings, and made many valuable communications. He was also, at the same time, appointed printer to the Society for the Encouragement of Learning, of which he was a zealous promoter, in conjunction with many of the first scholars of the age. On the death of his father, in 1737, he became sole proprietor of the Bowyer press. Through the patronage of Lord Clacken- tock and some other prominent persons, he possessed the patronage of the Royal Society; and the Karl of Marchmont, in 1767, procured his appointment to print the Rolls of the House of Lords and the Journals of the House of Commons. In the same year he moved from Whitefriars, where he had spent 67 years, to more capacious premises in Red Lion Passage, Fleet-street, where he displayed a bust of the Roman Orator, with the inscription, 'M. T. Cicero, à quo primordia prelii, in allusion to the early impression of the Liber de Officiis, by bust, in 1465. He also assumed the professional title of Ann. xxiv. 8.ced. Cio. It. Oct., &c. It was fixed and continued, 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 Dis- sertations, in which he again exhibited the marks of a great scholar. J. P. Mill, who was one of those who registered his dissertation with numerous remarks collected by himself from the works of Markland, Upton, Lowth, Owen, Clarke, Warburton, and Dr. Salter, Master of the Charter House, who remember him, as he was at this time in the middle of a well-organized system of printing, as sauté, reined, dieu, print, &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 printers, with the direction that the name of Clarke should be inscribed on the monument erected to his memory. He adds something to 'Typographorum post Stephanos et Commelinos longódoctissimós; linguarum Latine, Graecón, et Hebraicón perissitissímós.' There were indeed, at this time, several celebrated printers, as Baskerville of Birmingham, Faulis of Glasgow, and Crapoe 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 individuals of literary eminence with whom he maintained a learned correspondence, the most intimate and most personal was that of the Archbishop Seeker, Bishops Lowth, Hurd, Warburton, Pearce, Sherlock, Clayton, Pococke, Atterbury; Drs. Wot- ton, Chandler, Whiston, Taylor, Pridop, Jortin, Conyers Middleton; Pate and Thompson; Garrick, Lord Lyttelton; Dr. Mead, Gough, Chislett, Clarke, Ainworth, De Missy, Markland, Maistaire and Palaflo, who in his Latin letters salutes him as 'vir doctissimé et oratissimé.' Although 'a true Jacobite son of the Church,' he manifested a most admirable disposition. In his remarks, for instance, on the 'Ecclesiastical History of the English People,' published in 1716, 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 apophasis is sup- posed 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-pected by the author of the noted Ariam 'Essay on Spirit,' Bishop Clayton, who gave him the copyright of the whole of his works. Bowyer was estimable not only for his learning, but for his industry and economy, and for his benevolence. In general moral rectitude and amiable sim- plicity of manners, few have excelled 'the last of learned printers.' His bust in marble, with a portrait of his father, is in Stationers' Hall. KURK, R., the generic name for a Russian noble. The original nobility of Russia were composed of persons descended from the leading warriors of the first Russian monarch, Kurk and his successors, who, like the Norman warriors under our own William I., received large sefts in the country which their valour had enabled their chief to win. The sefts seem to have been held by the sole tenure of military service; they paid no impost to the prince, but the lands were granted by the monarch to their possessor, who, when the marriage rights and right of customs and tribute which himself had on Aiz 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 most common was the ready submission of the monarch to the interests of his nobles, and to his own prestige; there was no doubtless 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 strongholds prevented any noble from assuming the title of a king, or even the command of the army; and when the empire was divided into a multitude of small principalities, under the general and ind- finite superiority of one Grand Duke, secondary fountains were subject to continual mutation in the struggles which frequently decided their duration. The princes of Russia were elected to their commands; and when the empire was divided into a multitude of small principalities, under the general and ind- finite superiority of one Grand Duke, secondary fountains were subject to continual mutation in the struggles which frequently decided their duration. 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and Italian composers. In 1736 he succeeded Weldon as one of the composers to the Chapels-Royal, and in performance of his duties he composed a number of 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 electric passage, and 'A 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, when the degree of doctor in music was, unani mously, conferred upon him. The same year 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 in his stead to the post of master of the King's Musick, to 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, it has ever since been performed. In 1756, on the death of Travers, he became organist to the Chapels-Royal, which office he held in conjunction with that of composer. In 1760 he published in score, in three large folio volumes, the Cathedral Music of Dr. Travers, a 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 recompense for his labours, he fixed a price on the publications which, because he sold them at a loss, he indemnified him for the expense he had incurred in preparing and bringing it out.

Dr. Boyce during many years suffered much from the gout, the attacks of which became more frequent and severe as he aged. In the year 1779 he was interred in 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 musician in London at all known for talent, or celebrated for the numerous anthems which he had composed; 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 score, &c., 1760; 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, 1802; a Te Deum, Jubilate, and six anthems, printed in Dr. Arnold's Collection of Cathedral Music; the Serenata of Solomon; the Odes of The Chapel; and numerous detached pieces, written for the performance of the Anonymous Anthems, The British Orpheus; The Vocal Musical Mask, &c.

BOYDuell, John, was born, as asserted in the Gentleman's Magazine, in Staffordshire; but at Bandon in Shropshire, according to the Biog. Dict. of Chalmers; but according to Mr. Nichols in his Literary Anecdotes (vol. iii. p. 411), an acknowledged authority for such particulars, in Derbys, in the year 1719. In his youth he was designed for the profession of his father, that of a land surveyor, to which for some time he attended; but having, it is said, acquired a taste for music, his father consented to his doing what he pleased, and he nasily became a musician. He so far neglected his studies and taste, that 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 at that period, and as a proof that his taste must in a great degree be derived 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 convince many of the good fortune of his being allowed to work for the profit of this publication he entered into business for himself as a printseller; 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 guineas. These prints were sold at such a price 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 painters and engravers, and he accordingly employed foreign artists. 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 prices of these complete suites of prints were subsequently remunerating the patron, and his inclination at the opposition which foreign artists cast upon his countrymen 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 accomplishment of this design he secured the services of all the first artists in the kingdom; and selected for illustration the works of Shakespeare, as supplying the most appropriate subjects for eliciting and displaying, the abilities of each individual. An English school of historical painting was thus established, and, by the exertions of Dr. Johnson, Northcote, and others, were all employed. Spacious promises were purchased in Pall Mall, where, in the famous Shakespeare Gallery, were exhibited for several years those paintings which, in the words of Boydell, may with confidence be termed the gem of his business, 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. 809), is strangely at variance with the facts which have been related: 'The most popular works of the British School are those of Boydell, whose genius, and the patriotic exertions of the artists under his management, have contributed towards national reputation, reckoned at seeing the Shakespeare 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 some of the most celebrated works of Shakespeare, were the first royal edition of the works of Shakespeare, whose dimensions are three feet by two; the title, 'A Collection of Prints from Pictures painted for the purpose of Illustrating the Dramatic Works of Shakespeare, by the Artists of Great Britain, Boydell,' 1779-1801, in 9 vols. folio. There is a florid description of this sumptuous specimen of typography in Dr. Dibdin's Bibliogra- phic and Descriptive Dictionary, and it is said, that the prodigious expense of the whole project, and the magnificence of the performance, it is impossible to dissent from the assertion in the preface of the volume of plates, that it appears to be 'unrivalled in any age or country, and is such, it may be added, as by one individual was never before undertaken.

The services of Boydell were universally appreciated. He was eulogised even from the pulpit. In a sermon delivered before the corporation of London on the 6th of Jan., 1804, the preacher, in speaking of Boydell, exhibited his merits in making the fine arts subservient to the cause of religion, asserted, 'he has at great expense adorned with prints a magnificent Bible, an unfortunate event has rendered useless,' and that the whole business was taken by Macklin, with which Boydell had nothing to do.

Being now (in 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 indebted in a considerable degree, he obtained an act of parliament enabling him to dispose of part of his Shakespeare Gallery by lottery. In the memorial of his situation he states that his enthusiasm for the promotion of the arts induced him to lay nothing by, but to employ continuously the whole of his energies and engagements with unemployed artists; that the sums he had laid out with his brethren in the advancement of this object amounted to 350,000L, 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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sequent to his death, which occurred on the 12th of Dec., 1694. He had been elected alderman in 1672, sheriff in 1675, and mayor in 1750. 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 in St. Paul’s.

Among the collections published by Boydell was that of 120 engravings from the Houghton Gallery, which was purchased by the Empress Catharine of Russia. In 1777 he published in fol. the ‘Liber Veritatis,’ containing copies of 293 plates. Later, he was one of the first students of the duke of Devonshire; in 1794, the ‘History of the River Thames,’ 2 vols. fol.; and in 1803, 4to., ‘An Alphabetical Catalogue of Plates engraved by the first Artists, from the first Pictures 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 boyau, 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. 31, 1596. His father was respectable, and under the name of Blyville 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 clerk, rose to the highest honours of the state; and as if they were insufficient to mark the sense which was generally entertained of his abilities, it has been usual to style him ‘the Earl of Cork.’

From Benet College, Cambridge, Mr. Boyle passed to the university of Paris, 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 his life, which recommended him to be appointed for the exercise of his talents, and in his twenty-second year he went to Dublin in quest of a situation 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 but slenderly furnished. His confidence arose from his energy and a determination to do his utmost to render himself useful. He therefore, in order to draw towards himself documents for individuals connected with the government, by which means he acquired considerable insight into public affairs.

In 1615 he married one of the co-heiresses of a gentleman of Limerick, who in admiration of his talents overlooked the inadequacy of his fortune. His wife died in giving birth to her first child, and left him in possession of 500l., a year arising from landed estates, and a sum in cash besides. He lived with strict economy without being parsi-

monious, 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 severely addressed letters to Queen Henrietta, saying that Mr. Boyle had been into the country a few years before, made so many purchases of landed property as to occasion suspicion of his being aided by some foreign prince; a circumstance which was the more evident, they alleged, owing to some of his clerks, rose to the highest honours of the state; and possessed of advantages for facilitating an invasion, an event which at the time was generally anticipated. Mr. Boyle, who had been informed of these machinations, had resolved upon re-
pairing to the English court in order to defend his interests at home. He accordingly returned to London before he could quit Ireland. His estate was ravaged by the rebels, and as he himself states, ‘I could not say that I had one penny of certain revenue left me.’

He now returned with forlorn prospects to the Temple; but he was at length consoled by the周围 received in the suite of that nobleman. On again reaching the country his former enemies made another attempt to crush his reviving hopes, and were so far successful as to occasion his being put under confinement. He earnestly sought an opportunity of meeting the charges brought against him, and on his case coming before the English Privy Council, he was fortunate to secure the presence of the queen, who listened with interest to his able and suc-
cessful defence. Before he could conclude his defence, the character of the privy counsellors (Sir Henry Wallop, treasurer of Ireland) in the character of a public pecculator, and clearly proved that he passed his accounts in an ir-

regular and dishonest manner. When he had done speaking the queen said, ‘By God’s death all those are but words. If any of this young man, all his sufferings are for his being able to do us service, and those complaints urged to forestall him therein; but we find him a man fit to be employed by ourselves, and will employ him in our services. He shall have those advantages should have the power of any of them to wrong him, neither shall Wallop be our treasurer any longer. A new treasurer was im-
mediately appointed, and Boyle was made clerk of the council of Munster; and this (he says) was the second rise that God gave to my fortunes.’

He returned to Ireland to discharge the duties of his office, and shortly afterwards, on the Spaniards and Tyrone being defeated with great loss, was sent to announce the victory to the English court. He performed this duty with a marvellous celerity. He says in his memoirs, ‘I made a speedy expedition to the court, for I left my lord president at Shannon Castle, near Cork, on the Monday morning about two of the clock, and the next day, being Tuesday, I delivered my packet and supper with Sir Robert Cecil, earl of Salisbury, and the king, who after supper held me in discourse till two of the clock in the morning; and by seven that morning called upon me to attend him to the court, where he presented me to her Majesty in her bedchamber.’ The queen again received him in a very honourable manner.

His fortunes now took a more prosperous turn than before. He bought at a low price the Irish estates of Sir Walter Raleigh, which contained 12,000 acres, and by prudent and judicious management greatly increased their value. At a period when the king was engaged in the prosecution of his long war with Spain, and as if he had been an earl of Cork in every province the Irish would not have become rebels. The earl of Cork’s tenants were most probably of his own faith, and perhaps his own countries, as he zealously promoted the immigration of English Pro-
testants. His endeavours to diffuse among them the means of prosperity and comfort were therefore uncheckered by the outbreaks of religious and political discontent, and that turbulence which was an unavoidable result of the position and circumstance of a state of war with Spain. He was often much during the rebellion of Munster, his policy towards them was generally severe.

In July, 1603, Mr. Boyle married a daughter of Sir Geoffrey Fenton, principal secretary of state; on which occasion he obtained from Sir George Villiers, earl of St. Albans, Ireland, knighted him on his wedding-day. In 1606 he was sworn a privy councilor to King James for the province of Munster; in 1612 a privy councilor for the kingdom of Ireland; in 1616 he was created Lord Boyle, baron of Youghall; and in 1619 was viscount Munster 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.

Cl. I., out of regard for the earl of Cork’s character and talents, as an acknowledgment of his services, created the earl’s second son then living, Lewis, a child of eight years old, Viscount Kynmel. Lewis was killed in the battle of Liscarril in 1642, and his widow was created dowager countess of Cork in her own right by Charles II. The earl of Cork was a witness against his own friend, and in that he had not been on cordial terms in consequence partly of the jealousy with which Lord Strafford during his residence in Ireland as lord lieutenant had regarded the influence of the Boyle family. The earl of Cork was a man of great spirit, and this able man attained he often looked back with just and gratified pride to his 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.’

He returned to England in 1633, and died in the seventy-

eighty year of his age. His wife, by whom he had fifteen children, died in 1630. (Budgell’s Memoirs of the Family of the Boyles, 1732; Life of the Hon. Robert Boyle, by
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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, Sir Richard Boyle, under a cloud upon his marriage, and occupied himself with projects 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 altered by the fortuitous occurrence of 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 as the object 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 received by 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 confiden
tially seen, and which he had communicated to the Committee; and, in a frank and candid manner of Cromwell, the just compliments which he paid to Lord Broghill's mortis, and the real service which he was doing him by protecting him from the consequences of his conduct, completely succeeded in gaining him to Cromwell; and he was to make his peace with Ireland, which he had contracted 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 propo
sition. His service in Ireland proved that his abilities had not been misplaced. On occasion of King William III's boldness and activity 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. While engaged upon this service 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 appeared at the head of his division before Clon
mel. He was informed of his approach by the cry of 'A Broghill! A Broghill!' Cromwell himself embraced him, and shortly afterwards, though it was in the depth of winter, Clonmel was taken.

Under the Protectorate 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's political talents were most dexterously 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, used every exertion to bring about the Restoration. He privately desisted from all public employment, and the operation 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 Ormonde, and sat in the cabinet council. He acted as one of the lords justices for the government of Ireland, and was appointed lord president of the province of Munster.

In the leisure which succeeded the active part of his life, the earl of Ormery, 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 Ormery, that he was offered a large sum of money, and landed property worth 7000l. a year, on condition of with
taining the king's proposals to the Protestant subscribers. In his lordship's address to the privy council the countenance of Cromwell he had been charged with having broken all the treaties into which they had entered; and with having made an offer of the king's territory to the pope, to the king of Spain, and like
wise to the king of France. He also states that Cromwell, in a letter to Lord Broghill, charges him with having made all the negotiations and 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 Ormery, contains stipulations by which these Roman Catholics who had conducted them
selves so disloyally were to be excluded from a certain post. The Earl of Ormery, it is said, had in a casual manner stated to his Lordship 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 wished rather that, in case of the crown devolving upon a catholic prince, some restrictions should be provided of a nature equally efficacious.

In a letter 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 Ormery died Oct. 16th, 1679, in his 59th year. BOYLE, Robert, was the seventh son of Richard Boyle, earl of Orrery, and his wife Catherine, only daughter of Sir Geoffry Fenton, secretary of state. There were fifteen children of this marriage, and the subject of this memoir (the fourteenth) was born on the 23d of January, 1626, at Lismore in the province of Munster. His younger brother, by marriage Lady Ranelagh, afterwards mentioned, was considerably older, having been born on the 22d of March, 1614.

The autobiography and correspondence of Robert Boyle have been almost entirely forgotten in the superior fame which he has attained in chemistry and medicine. If we consider the work of the modern chemists, or of the chemists of Ctesisus, 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 Philaretus, and writes in the third person) is prefixed to Dr. Birch's edition of his works in a vol. fol., which we here cite once for all—"The Works of the Hon. Robert Boyle, in five volumes, which is prefixed a Life of the Author," London, printed for A. Millar, 1744. Of his birth and station he says, 'that it so suited his inclinations and designs, that he should live for himself, and that their success would scarce have altered God's assignment.' His father, having 'a perfect aversion for their fondness, who use to breed their children so nice and tenderly that a hot sun or a good shower of rain as much endangers them as if they were made of butter or of sugar,' committed him to a nurse away from home, under whose care he formed a vigorous constitution. He lost his mother at an early age, this being one great disaster; the other was the acquisition of a habit of stuttering, which came upon him from speaking other children; and who, he says, 'I have thought all the more perfectly detested than not to speak it, which brings into my mind a foolish story I have heard him jeered with by his sister, my Lady Ranelagh, how she having given strict order to have a fruit-tree preserved for my sister- in-law Mrs. Holles, Lady Ranelagh, which Mrs. Holles, coming into the garden, and ignoring the prohibition, did eat half a score of them, for which being chidden by his sister Ranelagh (for he was yet a child), and being told by way of aggravation that he had eaten half a dozen plums, "May truly, " answered he, " but you have eaten half a score." At eight years old he was sent to Eton with his elder brother, the provost being Sir Henry Wotton, 'a person that was not only a fine gentleman himself, but very well skilled in the art of making others so.' Here he was placed under the immediate care of Mr. Har

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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 Road to Poole, a little and humble, all for my Lordship in the present manner, be a bill, 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 this mental regimen, and the most effectual way he 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 settled at Stalbridge 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 such an elder brother, under the care of M. Marcombes, a Frenchman, of whom he says, with many other encomia, 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 Philaretus was much observed to be inclined, his desire to stem 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 army, when the situation of the country 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 these events. Though it is a thing altogether contrary to 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 professed Latinist, and studied so much that he made himself master 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 never bred up for more than tradesmen, led up to speak (what hath been peculiarly called) God's tongue as soon as their mother's, I have blushed to think how many women that boast themselves to be the true Israelites, are perfect strangers to the language of Canaan; which I would learn were it but to be able to pay God the respect usual in our nation. I conceive that people most naturally want 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 upon as easy terms as Adam did a wife, by sleeping properly, 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 new paradoxes of the great star-gazer Galileo, whose ingenious books, though I was not able to get them, or if I could, no 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 points in philosophy as in religion, and loath to have the decrees of his court justly overthrown, silenced 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 troubles in England; having, however, procured funds from his governor, he was 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 1650, not taking any part in politics, and being in communication with men of influence in the court, and procured powerful friends from both. The epistolary correspondence of Boyle is amusing, and furnishes one of the earliest specimens of the ligrist style. Considering the formality of the age, and the then existing prejudices of the English, the extracts we give may appear to Lady Ranelagh, as it must be allowed almost of her entire original, while the letter immediately following, written from Boyle when at Eton to his father (stated to be taken from the original in the Log. Brit.) will show the manners of the time;—

'My most honoured Lord Father,

'Heartily praying for the continuance of God's favor to your Lordship still in soul and body, I humbly prostrate myself under your honorable sallies, when you discover favor to your humble servant and humble-minded boy, in presenting my illiterate lines unto your honorable kind acceptance. Whereas I have heretofore lived with our college exercise, I could not so often visit your Honour in writing; but now being by the ardent desire of our brother, and the like of Sir Henry Wotton, have been able to come to London, where we make four days' residence, have found opportunity to offer unto your Honour that obligation due unto so good and so noble a father, that is most humble duty: desiring your Honour to pardon him for his brevity, who strives to serve after your Lordship's will and commandments.'

'London, decimo 3d Martii. 

'Robert Boyle.'

Superscribed, 'For my dear Lord Father, the Earl of Oxford.'

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 Farnham, which we found empty and unguarded. 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 caravansiers that night; when lo! to second my apprehensions, a little while after it came to pass that 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 Bibbes, and other instruments from under my pillow; whereupon Roger opening the door, saw it beset with muskeeters, 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, refused it. I believe he that brought them in, would not have 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 obnoxious for that to myself; and I remember that I was as much out of countenance as I could be, and expried me drawing a pistol out of one of my bolsters, 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 caterized concerning the perils of the roads, as if it were the number of the new lay elders. From thence we reached Salisbury that night, though before we came thither, we were few to pass in the dark through a wood, where we had warning given us that about an hundred woodsmen (we had got wild English dogs) to be lay leagiers, these night-birds used to exercise their charity, in easing weary travellers of such burthensome things as money and portmanteaus. But coming nearer, and knowing the state's messenger, as he called himself, they durst not meddle further with us. Had we been joined to him, we had been very lorlingly; 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 printed books the pages 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 engaged in study. His chemical experiments date from 1649. He claims to have been proved profoundly nervous, 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 labor, as is evident from the appearance of the manuscripts, written as appears on the face of it, in the morning, previous 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 1654, 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 was made a member of the church, but refused, both as feeling the want of a sufficient vocation towards that profession, and as desirous to add to his writings in favour of Christianity all the force which could be derived from his fortune not being interested in its defence, nor being at that time an Englishman. Lady Ranelagh, in London, and in 1663 was one of the first council of the newly incorporated Royal Society. In the year 1666, his name appears as accompanying the miraculous cures (as they were called by many) of Valentine Greatrakas, and among a number of names, unknown to me, I have at present no means of giving the medium of giving many patients almost instantaneous relief. This gentleman, Mr. Greatrakas, 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 of his being found in the hands of a good man who did shortly leave those who suffered from them. Mr. Greatrakas 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 over this book," he says, "(which I had in my possession, and which I have written in,) I 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 ancient records of the miracles of Moses, of Boyle, Cedwurth, Wilkins, &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 wakened upon that principle, the object of the solicitations of the learned works of the most philosophical and scientific physicians might be cited in confirmation of the astonishing effects of that aggravating 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 Jansenist Abbé Paris were not better attested, and were less extraordinary in degree, than those in question; and that, as we shall see, of all the men of his time, Robert Boyle was peculiarly the one whom religious men should have been most inclined to believe. Mr. Greatrakas extended through the three kingdoms, and Flanseat, among others, (Baily's Flanseat, p. 12,) was among the number of those who went to Ireland to be touched, and calls himself an eyewitness of several cures. Mr. Greatrakas has 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 a judge of evidence, we find him in 1669 not indisposed to believe that an experiment was made 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 became one who should afterwards be master of the mint, a word in favor of his vacillation. [299-300]"Boyle's text.

"But yet 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 be an inlet to something yet to be communicated without transmutation 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 this point, I have been thus far 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 to ascribe both to one in both shows 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 Verteitate, &c. into Arabic, and would have been at the whole expense of a second set of that work, had not the representative of the Bey, who, at the instance of the envoy of Mr. Boyle, had joined him in the enterprise, been dissuaded by the Bey. He also, in 1670, was elected President of the Royal Society, a post which he declined, as appears by a letter to Hooke. ("Works," p. 74,) from scruples of conscience about the religious tests and oaths which were expected to be taken by members of the society, and which he thought would totally destroy all the improvements which the society had made. 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 his eyes might return to him, he remained at Flamsteed, and in 1691 produced a little pamphlet in a new way of repeating 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 there extracted." This added to the statute gave the man who had gained by the statute a new right to the same, and 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, 1699, and a funeral sermon was preached on the occasion by Dr. Burnet, which he wrote to his 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 so much reason to be satisfied with your belief of a marriage celebrated by no priest but Famine, and may have attained to the supposed bridegroom: I shall therefore only tell you that the little gentleman and I are still at the old defiance. You have carried away too many of the perfections of your country to less unshaken than this. In the country for the reducing so stubborn a heart as mine, whose conquest were a task of much difficulty, and is so little worth it, that the latter property is always likely to deter any that hath beauty and merit enough to overcome the former." He was tall, slender, and enunciating; excessively abstemious in food, and somewhat oppressed by low spirits; but at the same time of a copiousness of conversation and wit which made Cowley and Davenant rank him in that respect among the first men of his age. His benevolence both in action and sentiment was so much admired that it was as much as his acquirements and experience as such could become a judge of, and therefore nothing more. He was always a moderate adherent of the Church of England; nor is it recorded that he ever attended any other place of worship, except the chapels of the Royal Society, and of which he had letters of his own house, on which occasion he entered into a discussion with the preacher. Finally, he was a man of whom all spoke well. With such a character, it is not to be wondered at if his personal virtues were made to reflect a lustre upon his scientific exploits, and in that last respect, the more especially when it is considered that his contemporaries, who viewed him as he was, and from their own position, had a right to style his genius as one which produced results of the first order, which could be but another way of saying that it was of the first order itself. So indeed it has been understood: and we are accustomed to talk of Bacon
and Newton and Boyle together. The merits of Boyle are indeed singular, and almost unprecedented; his discoveries are in several 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 kind, would be as satisfactory. Certainly, after all the beauty of his methods, disgusted with the spirit of system, and strong beyond his contemporaries in common sense, the same view of life which made him indifferent to the political and religious disputes of his time, and content himself with the knowledge and practice of the things which they all agreed in, also regulated his views of philosophy; so that he tossed Laud and Paracelsus on one side, Prynne and Descartes on the other, and began to investigate for himself, on the simple principle of examining closely and studiedly the state of things. In his work, it reminds us strongly of those of Roger Bacon: they are full of sensible 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 roles in philosophy, and of the scientific orderers. 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 then as proved, that 'the analogous effect may be had in the case of those acids which would call upon the porificl 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 the 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 of its equilibrium by a supersitious enthusiasm. For instance, in a very instructive discourse prefixed to the Supp. Ensay. Britann. 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 beneficial rules or a useful system to the world. A great 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 the former. He did not do justice to Boyle's scientific character must find it rather upon the indirect benefits which he conferred, than upon any immediate aid which he lent to science. He exhibited a variety of experiments in public, which kindled the zeal of the pagans, and taught them an aweful mean to conviction, and courted opposition and controversy upon the principle that truth is often elicited by the conflict of opinions.' From none of this do we dissent except as to degree. To say that Boyle did not attain any excellence in chemistry, or furnish any immediate aid to science, 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 may fairly be ranked as worthy of the honour of a French Academy of the nineteenth? In the Hist. Phil. du Progrès de la Physique, Paris, 1810, by M. Libes, 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 discovery of the propagation of sound by the air-pump (first noticed by Boyle to Boyle, as he had been led astray as to the cause), of the absorbing power of the atmosphere, of the elastic force and combustive power of steam, the approximation to the weight of the air, the discovery of the reciprocal attraction of the electrified and non-electrized bodies, and many other 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 too infancy of such a science as chemistry. Here are no observed facts of such common occurrence, and the phenomena of which are so distinctly understood, that any theory receives something like assent or dissent as soon as it is proposed. The science of mechanics has had a history of a different kind. Here all is beauty, which ties 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 sunk a shaft diminished the labour of his successor. Boyle, however, with regard to the ground and relation of 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 sunk a shaft diminished the labour of his successor. Boyle, however, with regard to the ground covered, 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 and better understood what it was, 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 anything but a credit to the source from whence they sprung, or that their author is unworthy to occupy a high place in our Pantheon of the great men who have cemented 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. He does not enter at all into disputed articles of faith, and shows little of a quietist spirit in his lambs out. 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 which he falls into renders him almost unreadable. He was, as he informs us in his preface to 'The Doctrine of the Sacraments,' one of those who think it a very foolish and rudi-
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is a copious life, taken mostly from Dr. Birch, in the Hist. of Boh. and the same with some additions in Dr. Kippis's un
finished reprint.

It will be useful to remember as to contemporary chronology, that Boyle was born in the year in which Bacon died, and Newton in that in which Galileo died; Boyle being fifteen, Newton was not born. This is

BOYLE CHARLES, second son of Roger, the second earl of Orrery in Ireland, was born at Chelsea, August, 1786.

He was entered, in his fifteenth year, at Christ Church, Oxford, as a nobleman. The directors of his studies were Dr. Bentley, the great antiquary, and Dr. Aldrich, his 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 the dedication to his 'Manual of Logic,' since adopted as the Oxford University textbook, he declares him to be 'a magnet magnico nostro ornamentum.' 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. 256, concerning the origin of this fierce contention of wit and learning, it may be observed, that Dr. Aldrich, in order to give greater force of his college, caused 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, vol. i. p. 168) that 'The oldest books we have are still the best; the two modern, 'Espous 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 others I have ever seen either antient or modern—these two modern, with Phalaris, which is supposed to be of the age of Cyrus and Pythagoras, were chosen as subjects for the stripling Christ Church editors. 'Espous was published by Alsop, and Phalaris by Boyle, who was then at the age of 19.

The title of his edition of Phalaris, which was corrected, and the notation ibus et vita inuspiro authoris donavit Car. Boyle: ex Aed. Christi, Oxon. 1683.' In the preface it is stated that the collation was only partially with the MS. in the King's Library, because the librarian (Bentley) had the great kindness to refuse to lend the book which was in the college; the words are 'pro singulari humanitatem negat.' This petulant passage is said to have been occasioned by Bentley's remarking, at the time of lending the MS., that it was a spurious work, the subsequent forgery of a sophist, and not used by Dr. Bentley, the Duke of Devonshire was a pupil of Phalaris, which Boyle annexed to the 2nd edition of Dr. Trotton's Reflections, in 1697, their spurious character, as well as that of the present 'Espous Fable,' is clearly exhibited; the King's MS. is declared to have been 'lent in violation of rules, and not reclaimed for six days, though for collating it four hours would suffice.' To show the silliness and imperfection of these epistles, says Bentley, 'would be endless; they are a farde of common-place without life or spirit; the dead and empty cogitations of a dreaming pedant.' Of this 'Boyle, in his editorial office, received the aid of his tutor, Dr. Friend, is acknowledged by himself; indeed to those who can justly appreciate the labour of revising the text of an antient Greek author, the great improbability needs not be suggested; to me the inference is obvious from this. It is more than Phalaris which writes what is ascribed to him. This declaration of Bentley's critical judgment elicited the witty and malignant attack upon him, entitled 'An Examination of the Dissertation,' &c., by the Honourable Charles Boyle, 1712. The author of this 'Dissertation' was the leading men of Christ Church, instigated by Dr. Aldrich, while Boyle himself was absent from the country. This is the meaning of Swift in his 'Battle of the Books,' when he represents Boyle as being 'eald in a suit of armour given him by all the gods': that is, Dr. Friend, Dr. King, Dr. Smallbridge, Dr. Atterbury, &c. A letter of the last, in his 'Euphoriu Correspondence,' vol. ii. p. 122, upbraids Boyle with ungraciously requiring his services in planning, writing half, and correcting the whole of the 'Examination.' See also Warburton's 'Letters,' vol. i., 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 fel low-collage, it was 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 lexicons.' It occurred, however, at the time of a very important engagement, which for thought it left unimpaired the main arguments of the 'Dissertation,' yet, according in ready wit and satirical vivacity, it procured for the young nobleman of Oxford a temporary triumph. Boyle put forth, in 1699, his 'Dissertation' enlarged and separate. 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. 45-176; D'Israeli's 'Quarrels of the Ancients and Moderns,' &c. For Boyle's own essay, see the 3rd edition, 1714. Boyle, in 1760, 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 cost him a deep wound in the arm, which almost cost him his life. In 1763 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 1769, as major-general, he commanded at the battle of the Boyne, where the Earls 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 Aix-la-Chapelle, in 1748, as envoy extraordinary to the King of Prussia. In 1759 he was created Duke of Marlborough. In 1760, on account of the cessation of the war, he was called to the House of Commons, where he formed a majority of the members, who were hostile to the Government, and had an ingenious watchmaker, who constructed the mechanism of the planetaries, in gratitude to his benefactor, gave it the name of Orrery. The whole merit of inventing it belongs, says Dr. Johnston, 'to Bowley, a mathematician of Lichfield.' (Index, 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 triftes, a comedy called 'As you find it.' He published also a volume of Odeus and Satires, from which Sir Richard Blackmore has the following distich. —

4 After his foolish rhymes, both friends and foes,
Conclude they know who did not write his prose.

He died at the age of 56, on the 28th of August, 1731.

BOYLE JOHN, only son and heir of Charles, fourth earl of Orrery, was born 2 Aug. 1731. On the death of his father in 1731 he took his seat in the House of Lords, and was a constant opposer of the administration of Sir Robert Walpole. He resided in Ireland a good deal, and formed an acquaintance with Swift; and in 1752 published 'Remarks on Life and Works of Swift.' This book was published in two volumes 8vo., an edition of the dramatic works of his great grandfather; in 1741 he wrote 'Imitations of two of the Odes of Horace;' in 1742 he edited his great grandfather's 'Horace,' which were published in one volume 8vo. In 1752 he published his 'Letters, Observations on each, and an Essay on the Life of Pliny.' In 1759 appeared his 'Life of Robert Cary, earl of Monmouth.' He wrote several essays for 'Trio World,' 'The Connoisseur,' and 'The Gentleman's Magazine.' He was fond of retirement, and much attached to literary pursuits. The earl of Orrery died, at his seat at
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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.

BOYDSTON, ZARDIEL, 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 prominent citizens of Boston the danger of inoculation in the midst of an epidemic, and recommended the practice of inoculation amongst the sick, 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. In the year 1721 he published a pamphlet, in which he describes his practice of inoculation spread, and, with one or two exceptions, it was attended with the most successful results. But such were the obstinate prejudices of the profession and the public generally, that clergymen were raised against Boylston, and his life was in danger in consequence of the excited state of 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 unhesitatingly recommendations to run counter to the frown of its wrath. Boylston outlined 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 corresponded with many of his readers, and his papers are printed in the Society's '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 work was printed in London, during the visit which he paid to England.

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 that portion of the bog of Allen lying immediately N. of Edenderry, and S. 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 Croggan hill to Tyrrell'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 Dee, a large stream flowing parallel to the Yellow River from Mullingar in Westmeath. The Boyne having now left the marshy swaths of the bog of Allen flows through the rich plains of Meath, receiving the waters of many streams, and passing through the richly wooded
Crown forest. It is here, near the town of Trim, where the
river is crossed by a bridge of stone, that the battle of the Boyne was fought. After passing through the town of Trim, it passes through the town of Drogheda, and joins the
River Boyne 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 Rosnaree, 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.
The Boyne between these two points is 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 Glee, towards the ruined
town of Edenderry. The Boyne then leaves the town of Edenderry, and a little to the E. of Trim, turns W., and proceeds
through the town of Slane, and the town of Trim, passing
the ruins of Trim Castle, where the river turns S.E. and
Marched through 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
1st of July. The Boyne was broken by a barricade of
wooden stakes, earthworks, and turf, on the E. side of the river between Meiliffont 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 Dorgington, and the Count Laxunin, was
encamped along the opposite bank with 27,000 Irish and
French prepared to dispute the passage of the fords at
Oldbridge, while Lord Ivecagh, occupying Drogheda on
the E. side of the river, was left as reserve. The Boyne was
flowing swiftly, and its current was increased by a
rainstorm. On the evening of the 30th, while William was yet unde
termined 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 killed by a round shot which would have spared his
life, and so he retired from the field. 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, it being determined to force the passage of the river, the English and French crossed the Boyne 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 of the
Irish army to oppose them. The passage of the Boyne was attempted on the 1st July, and on the following day, William
reached the summit of the Boyne, and delivered 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
Enniskillem infantry, and two regiments of French Huguo
nors, 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
out in the open plain. The French were able to carry their
right to the hill, and there was a sharp struggle for the
river first, above the little islands, the French and Enniski
lemen 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 General
Parker, and M. Calletor's 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 ca
valry with difficulty withstood several trying attacks of
the French. Wethered and Douglas, the latter having been
repulsed, made a second charge of dragoons and infantry,
his horse at the 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 Schom
berg, who commanded the reserve, crossing opposite Old
bridge, was ordered by General Sarsfield to charge; and Mr. Walker, celebrated for his heroic defence of Lon
donderry, fell shortly after. The Enniskillem regiments,
which had fallen back, is said, through mistake, now rallied, and animated by the presence of William, charged
the French, who were driven from the field with great
damage. The French left Oldbridge by the Dutch, began to fall back on Donore
hill, where James is asserted to have stood during the en
gagement an idle spectator of their struggles in his cause
below. Here however the Irish rallied, and repulsed a
French advance of 5000 men made by General Schomberg.
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 pur
suing them towards Duleek, a town upon the road to Dub
lin 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 rear of the enemy, pursued them to the river near Dunkirk, where the duke of Berwick, after crossing the stream in considerable confusion, rallied once more upon the opposite bank, and, not having the foresight to turn a stop to the pursuit. The loss on both sides was comparatively trifling. The Irish camp, baggage, and artillery fell into the victor’s hands, and Drogheda surrendered next day. James fled straight to Dublin, and thence through the evening to Waterford, 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 obelisk of grand proportions was erected in commemoration of the battle of the Boyne in 1796. 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 Turgessus the Dane, who sailed up with it a fleet of Norsemen to the plunder of Meath a.p. 836. It is a deep and wide river, which, with its apparatus of locks and weirs, would be capable of receiving vessels of much greater burthen than 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 Imperial Narrative; Taffe’s History of Ireland; Post Chaise Companion.

BOYSE, S. M., 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 his songs, and his descriptive poetry. He was the son of John Boyse, an eminently dissenting minister, and was born in Dublin, in 1708. 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, with whom they were so similar to himself, he returned to Dublin, and occasioned by his dissolute 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 1721 a volume of Poems, with a dedication to Mrs. Eglington, 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 Bolingbroke, he was employed with interesting letters 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 indulgence and aversion to refined society defeated the friendly intentions of his patrons; so that, resorting to a squalid garret in London, he relied upon the sale of his verses and the charitable donations of literary individuals, whose composition he excelled by the most scurrilous and pathetic protestations of his miserable condition. In 1740 he published a volume of Poems, which was favourably noticed by Fielding (see a periodical called ‘The Champion,’ Feb. 12, 1740; and ‘Tom Jones,’ b. vii. c. i.) and by Horsey (Medit. vol. ii. p. 239, ed. 1677). It has been reprinted in several collections of the minor poets. (in one by William Wake, 1775, and also at the end of Sir Walter’s ‘History of Ireland’) It is one of the numerous attempts at poetical sublimity in which the most ridiculous fruits are tolerated solely on account of the subject. The following lines from the poet’s invocation of the muse are a fair specimen of this style:—

To the atheist the author exclaims—

"O! all the sightless realms of space survey!

The devotional reflections, though incoherent, and made often apparently to furnish a rhyme, display an occasional energy of poetical conception which even Pope declared he would not discern. 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 habit of drinking hot beer in the lowest pothouses at length stiffened his mind, and reduced him to the necessity of pledging even his clothes. In this predicament he sometimes, for several weeks, sat up in bed composing odes and elegies to the ‘Genius of Man’s Misery.’ At one mourning he could afford on the death of his wife a pennycrow of black ribbon, which he tied round the neck of his little dog. His writhe..."
place, the Turks raised the siege and retired into Epirus, March, 1823. The pasha of Scodra advanced next with a numerous force of Albanians, determined upon taking Mesolongh. Bozaris feeling the importance of that town to the Greek cause, and knowing the weakness of the fortifications, which were used to resist a regular siege, sent in a
mission to the pasha. He was received by him with a body of only 1,200 men, 800 of whom were his own Souliotes, and having inspired them with his own self-devotement, he arrived on the 20th of August, 1823, near Kerpenisi, where the van of the Albanians, consisting of about 4,000 infantry under Jelollan B. bey, was one of these databases. 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. Bozaris while leading on his men made no sign of retreat, and when the sun arose, he was seen in the enemies' camp, with his daugh-

eparate 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 separate provs. of the United Netherlands, including both N. and Brabant. The latter is formed by a portion of the old Kingdom 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.

In the overthrow of S. of M. Abbott thus forming separate provs. and none belonging to different kingdoms, it becomes neces-
sary to describe them under distinct heads.

BRABANT, NORTH, a prov. of the kingdom of Holland, bounded on the N. by S. Holland and Guelder, from which it is divided by the Maas; on the E. by the provs. of Gelder, Utrecht, and Hesse; on the S. by the provs. of Prussia; on the W. by the Belgian provs. of Lim-
b urg and Antwerp; and on the W. by the Dutch prov. of Zealand. North Brabant lies between 51° 12' and 51° 50' N. lat. and 4° 12' and 6° E. long.

This prov., which once formed part of the Generalitat, 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 deps. (arronds.),

and nineteen districts (cantons).

The chief towns of Brabant are the Maas, which forms its N. and E. boundary from 3 m. W. of Waansum to its N. W. extremity; the Dommel, which has its source at Peer, in Limburg, enters North Brabant near the vil. of Valkenswaard, and flows N. past Eindhoven to Bois-le-Duc, where it joins the Meuse; the river Rhine, of which branches the Meuse at Crescent. At Bois-le-Duc the Dommel is joined by the Aa, which rises in the prov. of Antwerp, about 4 m. N.E. from Turnbout, and enters North Brabant at the commune of Hoogmade. The Mark or Merk has its source near Trebant and runs E. to the prov. of Zealand; another part of Zealand, and on the N. by the arm of the sea called Hollands-Diep, 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, Feudelen, Grave, Eindhoven, and Helmont.

Geertruydenburg, a small fortified town, is situated on the Biesbosch. This town was given up by treachery to the duke of Parma in 1585, and was taken by Prince Maurice of Orange in 1624. It contains 522 males and 600 females, together 1,126 inhab., a great part of whom are engaged in the fisheries. It has a good harbour, and is 7 m. N.E. from Breda.

Willemstad is situated on the Hollands-Diep, 15 m. S.W. from Dordrecht. It is fortified, and was captured by S. S. T. S. in 1584, by William I, prince of Orange; it has a good harbour; and in 1830 contained 920 males and 947 females, together 1,867 inhab. It made a very gallant and successful defence in 1793, against the attack of the French under General Bonaparte.

Feudelen, a fortified town near the Maas, is 15 m. N.E. from Breda. A great part of this town was destroyed in 1660, through the setting on fire by lightning of the castle, which contained 70,000 pounds weight of gunpowder. Pop. in 1830, 3,836 males, 1,485 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 1626, and recovered by S. S. T. S. in 1662. It made a stout resistance to the French army in 1774, and did not capitulate until a great part of the town had been destroyed. Pop. in 1830, 1,458 males, 1,376 females.

Eindhoven, situated on the riv. Dommel, was formerly the capital of this prov. It is a place of considerable trade, and various manufactures are carried on there. Among them are cotton spinning, flax spinning and weaving, brewing and tanning. Its grain market is considerable. Pop. in 1830, 1,490 males, and 1,506 females.

Helmont, on the Aa, is about 17 m. S.E. from Bois-le-Duc. This little town, which has about 2,000 inhab., is famous for its manufacture of damask napkins; it contains other
The manufactures of woolens, cotton, and linen goods. The college of Helmont enjoys some reputation.

The population of Dutch Brabant amounted in January, 1830, to 3,486,891.

The movement of the population, given in official statements for two decennial periods ending with 1824, was as follows:

<table>
<thead>
<tr>
<th>Births</th>
<th>Marriages</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>births</td>
<td>births</td>
<td>births</td>
</tr>
<tr>
<td>towns</td>
<td>county total</td>
<td>towns</td>
</tr>
<tr>
<td>3,045,142</td>
<td>1,449,156</td>
<td>999,963</td>
</tr>
<tr>
<td>1,700,539</td>
<td>1,425,089</td>
<td>937,893</td>
</tr>
<tr>
<td>1,730,329</td>
<td>1,374,557</td>
<td>961,054</td>
</tr>
</tbody>
</table>

Of the above there were 41,840 Protestants, 3,045,446 Roman Catholics, 1,476 Jews, and 126 not known.

348,691

The average of the population being 1653 sq. m., gives a population of 211 to the sq. m., which is somewhat below the average density of the kingdom, a fact which is attributable to its larger proportion of waste land.

North Brabant, in common with all the Dutch provinces, 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, SOUTH, the metropolitan prov. of the kingdom of Belgium, is bounded on the N. by the Noh, on the S. by Antwerp; on the E. by Liege and Limburg; and on the W. by Hainault and Namur; and on the W. by East Flanders. South Brabant lies between 50° 33' and 5° 30' N. lat., and between 3° 55' and 5° 10' E. long.

South Brabant is politically divided into three depts. (ar

ronds.)—

Brussels, containing 2 towns and 116 parishes.

Louvain, 4 110

Nivelles, 2 100

8 354

The principal towns are, Brussels, Hal, Louvain, Aerschot, Diest, Tirlemont, Nivelles, and Ware.

Aerschot, or Aerschott, a small fortified town in the district of Brussels, is bounded on the W. by the river Demer. This town was the capital of the barony of Aerschott in 1122; it was subsequently fortified by the Duke d'Arenberg, into whose possession it had passed. A part of the ancient fortifications, called Aurelian's Tower, still exists in a state of ruin.

Aerschot, which in 1829 contained a pop. of 3615, has a municipal government, consisting of a burgomaster, 2 sheriffs (sheheriffs), 9 councillors, a secretary, and a receiver.

The town contains one commercial and two private schools, the former giving instruction to 362 and the latter to 229 children of both sexes. The principal branches of industry are those of brewing and distilling.

Aerschot is 4 m. W. from Montigny, 18 m. N.E. from Brussels, and 26 m. S.E. from Antwerp.

The area of the province amounts to 328,426 hectares (812,419 acres), of which 316,883 are cultivated or productive.

328,426

The forest of Soignies, part of the remains of the vast forest of Ardenness, is contained within the prov., and occupies 11,563 hectares (28,541 acres). The valley of the Nervaux and Nivelles, commencing about 2 m. to the S. of Brussels, and extending beyond the vil. of Waterloo, a distance of 81 m.

The pop. of South Brabant amounted on the 1st of Janu

ary, 1831, to 356,046 souls, on an area of about 1209 sq.

miles.

The forests of the great part of the province, except the vil. of Soignies, are in the possession of the crown.

The population of the province, according to the last returns, was 356,046 souls, on an area of about 1209 sq.

miles.
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 capitol.

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 neighbourhood of Tournay and along part of the road from thence to Brussels, travels have been lost to stamp the natural fertility of Brabant, end 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 fertility of the whole district between Malines and Louvain is comparable to that of the plain of Flanders, 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 called the corse in Scotland. The dryness of the summers; and its so they speak a cultivation of turnips as in England; but this is counterbalanced by the advantage of distilleries, which are attached to most of the principal farms, and by means of which a great part of the produce is consumed on the farm, and is sold at a premium. The crops are sown in the fall, and the manure is collected, and used either immediately on the land, or to accelerate the fermentation of the drier portions, by pouring it over them.

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 might improve in practice by mutually adopting 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; in summer, the days are more intense, 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 finer dry weather after harvest, in which the land may be cleared of roots; and late in the fall to receive the benefits 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 beans and vetches mixed, to be cut green, on the stiffer, alluvial soils, is made; a crop of hops is raised in the fall for sowing in autumn, and of the winter sort; but spring barley begins to be extensively cultivated, especially since the châvelier barley has been introduced from England, which is heavy and best suited for the winter barley in our climate. The crop is sown in autumn, and of the winter sort; but spring barley begins to be extensively cultivated, especially since the châvelier barley has been introduced from England, which is heavy and best suited for the winter barley in our climate. The crop is sown in autumn, and of the winter sort; but spring barley begins to be extensively cultivated, especially since the châvelier barley has been introduced from England, which is heavy and best suited for the winter barley in our climate.

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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 Vaucosan breed. Many Morgans have been imported in the last

The Anglo-Cornish 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 Leicesters and improved Cotswold sheep have been introduced, and will probably improve the native breed. The fleece of a very fine ram imported from England being sorted and combed was exhibited in 1835 at Brussels at the annual exhibition of the industrial products 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 of 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 pro-

life nature of the animal, will soon spread and supersede 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 simple. The Belgian has a long action. The Nicoll is the greatest Flemish 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 plough, with a shifting couter and mouth, and as may be still seen in Belgium and France; 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 fields. The reason is, the tines of the old plough are so long and rigid, and requires less skill in the ploughman: 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 lightly tilled as in Flanders, Scotland, or 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 of 45°, which may scratch the surface but cannot penetrate to any depth. A heavy iron drag to tear up the clods, and bring deeply-lying roots to the surface is much wanted, but is not in use anywhere, as far as we could observe in a tour through this province. A stone roller is used for the sake of Braminus rieges, it is said. The old plough and drays to break the clods, is a simple useful instrument, of which we annex a figure. The triangle A B C

drawn on the ground before the roller, and the horse drawn by the B A, a winnowing machine with a fly and sieve is the only additional instrument in general use.

BRACCIANO, LAGO DI, a lake in the Roman state, the antient Sabatinus, about 17 m. N.W. of Rome. It is of a circular form, about 18 m. in circuit, and lies at the foot of a slope of the Sabatnian Mount. The Mount is entirely surrounded by hills, except to the S., where it borders on the wide unwetted plain which slopes down to the sea. To the S.E. the lake has an outlet in the riv. Arrone, which flows into the sea at Macerata. On its S.W. bank the castle of Braminus rieges, it is said, on the 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 manufactory. Brac-
Leonardo wrote to warn him against giving way to his feel-
ings. Poggio was still, nominally at least, papal secretary at
the time. After Martin V. was solemnly acknowledged as
pontiff, and the cardinals said their grace, Poggio
followed the pontiff on his return to Italy, as far as
Mantua, where he suddenly left the papal retinue and
returned to England. Whether he left in disgust, or through
fear for having expressed his sentiments too freely on church
matters, is not known. Certainly Poggio adhered to the
pontiff, and even when he 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
at Rome, he left England, and returned to Florence. During
his residence in England there are scattered frag-
ments in his published letters, and still more in the
unedited ones. His picture of the manners and habits of
the English is not flattering. He says that they were
more at ease of their persons, speaking and eating,
without 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
inventories. In 1433 Poggio married Selvaggia, of the family
Buondelmonte, of Florence, a young and handsome lady,
with whom he lived happily. When he went to
his marriage, he wrote a dialogue on the question.—An
enti sit teor ducenda? From that time Poggio reformed
his life, which had been before rather licentious. In 1437
he published a selection of his letters, written in Latin, like
all his works, according to the fashion of the
age. His friend Leonardo Bruni dying in 1444, Poggio
composed a Funeral Oration to his memory. He wrote also
other Funeral Oration,—for Cardinal Zabarella, who died
at the Council of Constance; for the Cardinal Santa Croce,
a patron of letters; for Leonardo Bruni, brother of the
great Cosmo; for Cardinal Sant Angelo, who fell in
the battle of Varna against the Turks, &c. His friend Nicho-
las V., being raised to the pontifical throne in 1447, Poggio,
who had returned to Rome and resumed the duties of his
office, addressed to him a new epitaph to the exalted station.
—Oratio ad summum Pontificem Nicolau-
num V. He did not however forget his own interest, for
at the end he speaks of himself as 'a veteran in the papal
courts,' and a builder of libraries; and for the
library, certainly with less emotion than might have been justly
expected by one who was not entirely destitute of merit or
of learning.' Nicholas, who was not displeased at Poggio's
flattery, presented him with presents. To this time belongs
Poggio's treatise De Varietate Fortunarum, a study of his
works, which presents a good view of Italian politics at
the beginning of the 15th century, an interesting sketch of the
remains of antient Rome in Poggio's time, and a curious
account of the travels of the Venetian, Niccolò Conti, in
the east. He also wrote Dialogus adversus Hypocrinum, in
which, as well as in his disquisition, De Avorticia et Lusuria,
he inveighs against the vices of the clergy, and especially of
the monks, which were certainly very flagrant in that age,
discusses the members of the Order, and defends
himself in the controversy which took place 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
with Poggio, an extraordinary vivacity of language,
caused a quarrel with George of Trebison, about some literary
matters, brought the two scholars to blows, and the Greek
was in consequence obliged to quit Rome. In 1456, the
plague being in Rome, Poggio withdrew to Florence,
and was there a hot advocate of the collection of
ancient manuscripts, and of the republication of
hitherto obscure and rare works, some of which are very
decent. He also wrote Historia Disceptativa Convivialis, or discus-
sions upon various philosophical, historical, and moral sub-
jects; Disquisitio de Injicitate Principum, in which he
tribute of reminiscence in one of the most remarkable events,
rather odd in a man who had lived almost all his life at
courts; De Nobilitate Dialogus, in which the various
meanings of nobility are examined; De Miseria Condi-
tione Humanae. In 1453, on the death of Carlo Aretino,
chancellor of the Florentine, Poggio, through the influence
of the Medici, was appointed his successor. He finally quitted
the Roman court after having been fifty years in its ser-
vice; and it was not without regret that he parted from his
kind patron Pope Nicholas.

Having made archives of Florence, he under-
took a history of that republic.—Historia Florentinae,
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
more extensive form in 1495. The first five books of this
work were published in 1476, under the title of "Gesù de
compagni di Christo in America," from the text was not published till 1715, by Recanati, who prefixed to it a biography of the author. Poggio has been charged with
noted public spirit for his countrymen in his history.
Another deficiency is noted by a grave authority, Machia-
vello, who quotes a passage from this work in which Poggio
is represented as having attacked those with whom he
had been at variance, as those who had a profound
interest, a great personal advantage, and a love of
the public service, the public good, and the
public advantage. Poggio was, however, a man of
very different character. He was not inclined to
the opinion of Machiavelli, and said in a
dialogue:'If a man is a good, public-minded,
he is capable of much, and will do much';
and afterwards: 'Nothing would have been
more to his advantage than to have been
a public-minded man, if he had been
at liberty to do what he liked.' Poggio
was also a public-minded man, and
wished to have all the literature,
and all the public spirit, that were in
the world. He was a public-minded
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public spirit, and the public advantage.
The works of Poggio have never been properly collected. The Basel edition, 'Poggio Opera,' 1538, wants many of them, and is also typographically incorrect. The dialogue 'De Varietate Fortunae' published at Lyons in 1679, had appeared before in a collection called 'Fasciculus rerum expetendarum et fugiendarum,' Cologne, 1535. The treatise 'De Varietate Fortunae' was printed first at Paris, in 1723, with fifty-seven inedited letters. But most of the latter letters still remain inedit and scattered about 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 Tonelli has made good use of them for his Italian translation of Shepherd's Life of Poggio, Florence, 1893. 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 Zabarella, habita in Concio Constantinensi, anno 1417,' Padua, 1554. But most of his other orations remained inedited and scattered about different libraries.

BRACHILETRA (Entomology), according to Mr. Stephens's arrangement of insects, forms the sixth division of the order Coleoptera. M. Latrille, however, places this tribe of insects as the second family of the Pentaceromorpha, and the second section of the hydracarides (Linnaeus called Staphylini) 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 a double palpi; the apex of the abdomen is provided with two vesicles, which can be protruded at the will of the animal.

The habits of the Brachiletra are very various; but the greater number of the species are found in purest water, or are water-bugs, which live in bilious or turbid waters, and feed on young aquatic plants. The shortness of the wing-cases probably allows of a greater flexibility in the body.

BRACHINUS, a genus of coleopterous insects belonging to the section truculentes; generic characters—body of a shining black or scarlet color, the antennae, the latter generally somewhat of a truncated heart shape; palpi and antennae rather thick, the terminal joint of the former is slightly thicker than the basal joints, and has its apex truncated; mentum emarginate, and furnished with a small pincers at the middle.

The Brachinus possesses a remarkable power of violently expelling from the snout a pungent acrid fluid; which, if the species be large, has the power of producing a discoloration of the skin similar to that caused by the ichneumons. A report, 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. creticus 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 blue black. The sensory organs of the third and fourth joints black. Many of the species of Brachinus resemble the above in colour. The species of the genus Aptinus (a genus very closely allied and differing chiefly in being apterous) are generally of a yellow colour, having four black spots on the elytra, which 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.

BRACHIONUS ( Müller), Zoology; a genus of minute animals found both in stagnant fresh-water and in sea water. Their organisation has produced some doubt among naturalists as to their proper place in the scale of creation. Lamarrack arranged them under his Rotifer (wheel-bearing animals) being the second section of his Ciliated Polypyes, 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 Rotifer, which forms the first section of his Microzoaria 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, Schweiggcr, Schrank, Bory de St. Vincent, Carus, have all contributed to throw light upon these microscopic creatures. De Blainville thus writes in his 'Actinologie' (1834)—In 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 Microzoaria, 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 Hill and adopted by Pallas and Lamarck. We have already observed many species of this genus belonging to the different sections: Brachionus urceolaris of the first section is common in all stagnant fresh waters; it is very probably the Rotifer of Hill, Essay 13, p. 288, concerning which that author gives very interesting details that show it to be a true entomos- tracous animal. [Entomostomaca.]

The Corona of Corti belongs also, without doubt, to this section.

We have also studied the Trichoda pisica of Müller, which is certainly a Brachion. We cannot conceive how Müller could say that it creeps after the manner of the Planaria, for it attaches itself by 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 patina we have seen once, and observed sufficiently well the particularities pointed out by Müller. It was in the water of one of the basins of the Jardin du Roi, containing an innumerable quantity of Entomostomaca.

Upon the whole, we are very much inclined to think that the Brachions are only the young states of Entomostomaca, whose habits for the most part they have united; Ehrenberg, who has basé himself by his numerous researches into the organisation of the Infusoria in general, and of the rotatory animals in particular, states in his memoir upon them (1834) that he has already discovered in the latter,

1. A system of organs of nutrition, with all their details.
2. A double sexual system, observed in its entire development.
3. The probable existence of a very extensive vascular system.
4. Distinct internal muscles and ligaments, having a disposition and force corresponding with the external organs of locomotion.

Brachionus urceolaris, which led him to many of his discoveries, is thus illustrated by him:

[Brachionus urceolaris, highly magnified.]

a, rotary cilia; b, internal branchial organs; c, eyes; d, pharynx and jaws; e, stomach; f, appendages of stomach; g, ovary; h, tail.
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 wrecolast.* (Miller)

- **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 ovate.* (Miller)

- **Species whose body is entirely covered by an oval shield, which is nearly round, univalve, and terminated by a pair of appendages.**
  - Genus *Proboscidea* of Bory de St. Vincent.
  - Example: *Brachionus patina.* (Miller)

- **Species whose body, entirely covered by a nearly circular shell, is terminated behind by a pair of very long and setaceous appendages.**
  - Genus *Squamella* of Bory de St. Vincent.
  - Example: *Brachionus bractea.* (Miller)

**BRACHIOPODA, or BRACHIOPODOUS MOLLUSCA (Zoology), Cuvier's fifth class of Mollusks, the Paliolobranchs (Palaeobranchiata) of De Blainville, being the first order of the latter's third class of Mollusks (Decapod et al.).**

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 no small portion of those which now indicate the history of the organization of our globe. We have, therefore, to look more largely into the natural history of the Brachiopoda than their consequence as organized beings would otherwise warrant in a work of this description.

Fam. of *Lingula anatina,* in the *Anales du Muscum,* first made known that organization, by which the mantle, in addition to its office of secreting the shell, defends these bivalves, is made subservient to the circulating system. Instead of the branchial apparatus found in the situation usually occupied by them two fringed and spirally disposed arms, and that the branchial apparatus are 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 considerable size returning the blood from the various parts of the mantle and the branchial veins terminating 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, signifying the terms of appendages which in this class took the place of the foot or organ of progression in the cockle, &c.

Lamarron and Walsh had previously taken the analogous parts of *Terebratula* for branchiae, and Poulit, who is not quoted by Cuvier, describes the arms of *Terebratula* with minuteness and accuracy, but considers them as branchiae, 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 De 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, accurate, and interesting paper, *On the Anatomy of the Brachiopoda of Cuvier,* and more especially of the Genera *Terebratula* and *Orbicularia,* published in the *Transactions of the Zoological Society of London,* and derived from the dissection of specimens brought to this country by Mr. Cuming and Captain James Ross, R.N., fully to investigate the subject so as to leave little or nothing to be desired upon the subject; the anatomy of *Lingula* and *Terebratula* 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 the physiologist and zoologist; and we select the following.*

**General Remarks** as the part of the paper most appropriate for insertion here, premises that the generative system of the Brachiopoda is cryptogamous.*

**Together,** as sir Owen, the three genera of Brachiopoda above described, we find that *Orbicularia,* in the muscular structure of its arms and the proportion of the shell occupied by its visera, is intermediate to *Lingula* and *Terebratula,* yet that in the structure of its visceral organs, to a simple alimentary canal, and in the power of attachment to foreign bodies, it has a greater affinity to the latter genera. The modifications that can be traced in the organization of these genera have an evident reference to the different situations which they occupy in the watery element. In fact, living more commonly near the surface, and sometimes where it would be left exposed by the retreating tide, were it not buried in the sand of the shore, must meet with a greater variety and abundance of animal nutriment than can be found in those abysses in which *Terebratula* is destined to reside. Hence its powers of presension are greater, and Cuvier suspects it may enjoy a species of locomotion from the superior length of its pedicle. The organization of its mouth and stomach indicates, however, that it is confined to feed of a minute description; but its convoluted intestine shows a capacity for extracting a quantity of nutriment proportioned to its superior activity and the extent of its soft parts. A more complex and obvious respiratory apparatus was therefore indispensable, and it is not surprising that the earlier observers failed to detect a corresponding organization in a limited sphere of action. The respiration, indeed, as well as the nutrition of animals living beneath a pressure of from sixty to ninety fathoms of sea water, are subjects of peculiar interest, and prepare the mind to contemplate with less wonder the wonderful organization and minute capacity of the parts of these diminutive creatures. In the stillness pervading these abysses they can only maintain existence by exciting a perpetual current around them, in order to dissipate the water already loaded with their effete particles and to receive new portions of the pure water at the bottom of the sea. Malacs adapted for their support. The actions of *Terebratula* and *Orbicularia,* from the firm attachment of their shells to foreign substances, are thus confined to the movements of their branchial and branchial filaments, and to a slight degree of motion by folding or sliding of the valves; and the simplicity of their digestive apparatus, the corresponding simplicity of their branchiae, and the diminished proportion of their soft to their hard parts, are in harmony with such limited powers. The soft parts in both genera are a mere insignificant organ, and in *Terebratula* with branchial filaments in the manner in which they are connected together. The muscular parts are in great proportion and of singular complexity, as compared with ordinary bivalves; and the tenacious and aponeurotic parts are remarkable for the simi- larity of their structure and arrangement in the different classes. By means of all this strength they are enabled to perform the requisite motions of the valves at the depths in which they are met with. *Terebratula,* which is more remarkable for its habitat, has an internal skeleton superadded to its outward defence, by means of which, additional support is afforded to the shell, a stronger defence to the visera, and a more fixed point of attachment to the branchial cirri.

The spiral disposition of the arms is common to the whole of the brachiopodous genera whose organization has hitherto been examined; it is therefore probable that in the remarkable genus *Spirifer* the entire brachia were similarly disposed, and that the internal calcarous spiral appendages were their supports. If, indeed, the brachia of *Terebratula psittacea* had been so obtained, this species would have presented in a fossil state an internal structure very similar to that of *Spirifer.*

In considering the affinities of the Brachiopoda to the other orders of Mollusca, I shall compare them, in the first place, with the *Lamellibranchiate bivalves,* to which they present the nearest resemblance in a variety of their organs of defence. To these they are in some respects superior. The labial arms are more complex prehensile organs than the corresponding vascular lamina on the other side the mouth of the Lamellibranchiata. The whole muscular system is more complex, as the closing of the shell being regulated by muscular action, indicates a higher degree of organization than where the antagonizing power results from a property of the cardial ligament, which is independent of vitality, viz. elastic...
licity. With respect, however, to the respiratory organs, the modifications which these have presented in Orbicula and Terebratula show the Brachiopoda to be still more important. While we perceive, as it were, 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 Actiniae, and resembles the branchial columns. 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 real. Having been thus led to consider the circulations; as pulmonary organs 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 order of Acphala.

Among the relations of the Brachiopoda to the Tunicated Acephala, and more especially to the Ascidiae, 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 vascular system of the branchiae in reaching the mouth; the simple condition, also, to which the branchiae are reduced in Orbicula and Terebratula indicates their close affinity to the Ascidiae. But in consequence of the form of the respiratory membranes in the Brachiopoda, which is that of a tube, or tube-like form, of the reduced Ascidiae, 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 Ascidiae, and resemble the Holothurian or 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 branchial manifesting the trace of telsonic structure. In the essential points the Brachiopoda closely correspond with the Acephalous Molusca, and we consider them as being intermediate to the Lamellibranchiate and Tunicate orders; not however possessing, so far as they are at present known, the three-dimensional form which constitutes them being regarded as a distinct class of Molusks, but forming a separate group of equal value with the Lamellibranchiates.

The following is De Blainville's arrangement, slightly modified:

*Shell Symmetrical.*

**Gedus Terebratula.** (Bruguières).

Animal depressed, circular or oval, more or less elongated. Shell delicate, equilateral, subtrigonal, inequivalve, 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 the extremity of sufficient importance to justify their being regarded as a distinct class of Molusks, but forming a separate group of equal value with the Lamellibranchiates.

The following is Mr. Owen's description of the peculiar, complex, and extremely delicate testaceous apparatus, sometimes called "the sensory" by zoologists, attached to the internal surface of the imperfect valve:

*The principal part of this internal skeleton, as it may be termed, consists of a slender, flattened, calcarceous loop, the extremities of which are attached to the lateral elevated ridges of the hinge; the curve 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 Calcareous Processes. We find this idea also in the Brachio- the form of the structure in the Branchia, where there is a but a small tendency towards a reflected portion; but where the loop is of great length and width, as in *Ter. Chelisens*, Brod., *Ter. dorsata*, Lam., and *Ter. Sowerbii*, King, the reflected portion is considerable. The loop, being formed by its origins or crura, is commonly attached to two processes going off 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, as, e.g., in *Ter. utricula*. This reflected loop, forming two arches on either side the mesial plane, towards which their compléments are directed, I have figured as it exists in *Ter. Chelisens* and *Ter. Sowerbii*. It is represented of a similarly perfect form in *Ter. dentula*, by M. de Blainville in his *Malacologie*; and the same apparatus in *Ter. dorsata* is very well figured by Cuvier, by Sowerby, and more recently by G. Fischer de Waldheim. A similar form is also figured in another species of Terebratula by Poli.*

The arches of the loop are so slender that, notwithstanding their calcarceous 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 calcarceous is filled up by a strong but extensible membrane, which binds them together, and forms a protecting wall to the viscera; the space between the bifurcated process in *Ter. Chelisens* is also similarly occupied by a strong aponeurosis. In this species the muscular stem of their third arm is attached to the right and the left fold of the calcarceous as it is fixed, and cannot be unfolded outwards. This is thus an important difference between Lingula and those species of Terebratula which resemble *Ter. Chelisens* in the powers of motion with which their arms are endowed; and from other branches of the calcarceous they are fixed, and cannot be unfolded outwards as in Lingula. Owing to this mode of connexion, and their ciliated structure, their true nature was much more liable to be mistaken by the early observers, though it appears not to have deceived the description of Lingula; and especially the calcarceous which they fixed, and which observed founders of his character of the animal of Anomia on the organization of one of the Terebratulae which he included in that genus.

The recent species are numerous, 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. ronesens, Lam., for example), and *Ter. picta*, brought back from the late expedition by Captain James R. Ross, 1839. N., was fished up from a depth of twenty-two fathoms near Felix Harbour, in lat. 70°N. on the E. side of Boothia. The average depth at which Terebratula has been found ranges from ten to ninety fathoms. De Blainville has thus subdivided the genus:

A. Summit of the larger valve pierced with a round hole, well defined.

1. Valves triangular, with a straight anterior border.

Example, *Terebratula digona* (foeal).
2. Valves rounded at their anterior border.
   Example. *Terebratula globosa* (recent).

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.

5. Trilobated, as it were, by the projection of the mesial part.

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 emargination, which is apparent at the anterior border.
   Example. *Terebratula Caput Serpentis* (recent).

C. The opening of the heel of the larger valve, marginal, triangular, and elongated.
1. Valves rounded.

2. The valves sub-bilobated.

D. Opening of the heel, marginal, triangular, but much larger transversely than longitudinally. Line of articulation quite straight.
1. The small valve provided in its mesial portion with a straight flattened support, bifurcated at its free extremity; a partition (*cloison*) in the other valve penetrating into this bifurcation.
   (Genus *Pentastera*, 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 fossil Terebratula (properly so called) are extremely numerous, and assist in the identification of strata from the Eocene epoch to some of the lowest formations in the Eocene series, both inclusive.

As neither Pentastera, Strygocephalus, Spirifer, Magas, nor Producta have living representatives, they are placed here from the structure of their shells, which, judging from analogy, would indicate a brachiopodous construction allied to Terebratula. Indeed De Blainville retains that name throughout: but we think the differences of conformation warrant the separation of the fossils above distinguished, as subgenera of the Terebratula. They occur principally in the more ancient fossiliferous beds.

Genus Lingula, Bruguieres.

Shell subequivalve, equilateral, depressed, a little elongated, truncated anteriorly; the summit mesial and posterior with no trace of a ligament, but joined at the extremity to a long fibro-gelatinous peduncle, which is supposed to fix it vertically to submarine bodies: but in the specimen of Lingula dudens varia examined by Mr. Owen, there was no trace of the adhesion of any foreign body to the end of this peduncle. Muscular impressions multiple.

Example. Lingula anatina.

(Right) Lingula anatina.]

Genus Plagiostomata, Lamarck.

Shell orbicular, very much compressed; inequivalve; the lower valve very delicate, adhering; the upper valve patelliform, with the summit more or less inclined towards the posterior side. Fissure of adhesion in the lower valve subcentral. Hinge toothless.

Example. Orbicula lamellata.

The recent species have been found at depths ranging from the surface to seven feet; 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 eocene of Yorkshire, in the 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 equilateral, 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.

(Left) Thecidium radiatum viewed from above. 3, nat. size.

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 Origiandes in Normandy.

Genus Strophomena, Rafinesque; (fossil).

Shell regular, equilateral, subequivalve; one valve flat, the other slightly excavated; articulation straight, transversely. No trace of an internal support.

Example. Strophomena rugosa.

[Strophomena rugosa.] View of lower side.

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, Ditachora, and Podopis (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 Plagiostoma are of the family Terebratula, and that the others (he instances Plagiostoma Mutilata) are entirely different, and he allows that these last ought to form a distinct genus of the family of Subostracceans. De Blainville places Podopis among the oysters.

Shell unsymmetrical, irregular, always adherent.

Genus Orbicula, Lamarck.

Shell orbicular, very much compressed; inequivalve; the lower valve very delicate, adhering; the upper valve patelliform, with the summit more or less inclined towards the posterior side. Fissure of adhesion in the lower valve subcentral. Hinge toothless.

Example. Orbicula lamellata.

No. 311. [THE PENNY Cyclopaedia.]}
The recent species are found attached to stones, shells, sunken wrecks, &c, and have been found at depths ranging from not far below the surface to seventeen fathoms.

Fossil species are said to be found in the lower green sand of Sussex, in the Speeton clay of Yorkshire, in both the great and the inferior oolite, in the carboniferous limestone, and in the Ludlow rock below the old red sandstone.

G. B. Sowerby has satisfactorily proved that Lamark's genus Discina must be expunged, it having been formed from specimens of Orbicula Norvegica, sent by Sowerby to Lamark.

Genus CRANIA, Retzius and authors.

G. B. Sowerby, who has done so much in the thirteenth volume of the "Linnean Transactions" to unravel the confusion which had previously been created by authors, gives the following generic characters:

Shell inequivalve, generally oevistriate, rather irregular, orbicularly subquadrate, and flattish; the upper valve peltiform, having its umbo or vertex rather behind the centre; the lower valve attached by its outside, the greater part of it being generally extended over the substance to which it adheres; and in this respect differs greatly from Orbicula, which is attached by means of a ligament which passes through a fissure in the centre of the lower valve.

There are four muscular impressions in each valve; of those in the upper valve two are in the posterior margin and the other two nearer the centre, but not always very near to each other; of those in the lower valve, two are nearly marginal and rather distant, but the other two are nearly central, and so close together, that they appear to form but one; they in general have a small projection between them; and the whole of the muscular impressions in the lower valve are frequently lost by decomposition in the fossil species, so as to appear only three oblique perforations, as Lamark has described them.

Example. Crania personata.

BRACHYCEUS, a genus of coelocopeous insects of the family Curculionidae (included in the genus Curculio by Linnaeus). Generic characters—rostrum short; antennae inserted towards the apex of the rostrum, short, nine-jointed; the basal joint longest, the terminal joint forming a knob; tarsi with all the joints entire, and without pubescence beneath. The species of this genus are apterous, and generally very tough. They appear to be peculiar to the south of Europe and Africa, and live upon the ground.

BRACHYPODINAE (Zoology). Swainson's name for a sub-family of the Merididae, containing the following genera or sub-genera. —

Andropoda, thus characterized by him: bill short; rectus (cape) bristled. Feet small, weak: lateral toes equal. Hinder toe as long as the tarsus. Type Brachypus dispar, Sw. (Turdus dispar, Horsfield.)

Chloropsis, Jardine & Salty. Bill more lengthened; the tip much hooked; the notch forming a small distinct

tooth. Rectus smooth. Feet small; lateral toes unequal; the hinder toe rather shorter than the tarsus.

Horn, Horsfield. Bill nearly as long as the head; lengthened. Rectus smooth; Tip of Tarsus somewhat lengthened; the anterior scales divided. Tail even. Type Tarsus acutipennis, Horsfield.

Andropodus, Swainson. Bill short; the upper mandible serrated near the tip. Neck with setaceous hairs. Type L'Empereur, Le Vaillant.


Erythronis, of Swainson, 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 subinflexed.

Nasal very short and obtuse. Tail moderate and rounded. Feet moderately long; tarsi slender; the claws stronger than the toes; the lateral toes shorter than the hind toe comparatively large.

Natural character. Bill moderate, rather strong, subacute, broader at the base than it is high, subconical beyond the middle, attenuated; the culmen, or ridge, carinate and angulated between the nostrils, with the sides flattened, and beyond that point somewhat thickened, rounded, the sides being convex, arched towards the apex and notched. Mandible depressed at the base, the sides erect, turned inward towards the apex. Tail moderate, rounded; the feathers strong, subinflexed. Edges of the jaw and mandible subinflexed.

Nostrils very large, placed in a somewhat rounded, basal, elongated, obtuse hollow, covered above and posteriorly by a membranous flap. Nasal very short and obtuse. Quills entire, the first sub spurious, 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 strong.

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-parallel with the middle toe at the base. Claws very much compressed and very acute.


Orbicula Laevigata."

A single specimen, showing the dia.

The recent species are found adhering to stones, shells, sunken wrecks, &c, and have been found at depths ranging from not far below the surface to seventeen fathoms.

Fossil species are said to have been found in the lower green sand of Sussex, in the Speeton clay of Yorkshire, in both the great and the inferior oolite, in the carboniferous limestone, and in the Ludlow rock below the old red sandstone.

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Chloropsis, Jardine & Salty. Bill more lengthened; the tip much hooked; the notch forming a small distinct

tooth. Rectus smooth. Feet small; lateral toes unequal; the hinder toe rather shorter than the tarsus.

Horn, Horsfield. Bill nearly as long as the head; lengthened. Rectus smooth; Tip of Tarsus somewhat lengthened; the anterior scales divided. Tail even. Type Tarsus acutipennis, Horsfield.

Andropodus, Swainson. Bill short; the upper mandible serrated near the tip. Neck with setaceous hairs. Type L'Empereur, Le Vaillant.


Erythronis, of Swainson, 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 subinflexed.

Nasal very short and obtuse. Tail moderate and rounded. Feet moderately long; tarsi slender; the claws stronger than the toes; the lateral toes shorter than the hind toe comparatively large.

Natural character. Bill moderate, rather strong, subacute, broader at the base than it is high, subconical beyond the middle, attenuated; the culmen, or ridge, carinate and angulated between the nostrils, with the sides flattened, and beyond that point somewhat thickened, rounded, the sides being convex, arched towards the apex and notched. Mandible depressed at the base, the sides erect, turned inward towards the apex. Tail moderate, rounded; the feathers strong, subinflexed. Edges of the jaw and mandible subinflexed.

Nostrils very large, placed in a somewhat rounded, basal, elongated, obtuse hollow, covered above and posteriorly by a membranous flap. Nasal very short and obtuse. Quills entire, the first sub spurious, 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 strong.

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-parallel with the middle toe at the base. Claws very much compressed and very acute.

BRACHYTERRAE (short-winged birds), Cuvier's name for those birds generally known by the name of 'Divers.' [DIVER.]

BRACHYPUS. [BRACHYPODINE AND CHALCIDES.] BRACHYTELES (Zoology), a genus of quadrupus, separated from the genera Proteus and Spider (Spiders) by several (among other differences) of the very small development of the thumb. [ARTHROPS, species 7, 8.]

BRACKLEY, a bor. and m. t. in the hund. of King's Sutton, Northamptonshire, 55 m. N.W. from London, and 35 m. S.W. from Northampton. Dr. Latham is said to derive its name from the brakte 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 of the wool trade. In the 8th term as a corporation it is described as a haven for the wool trade 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 of 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 here is a small stream, crossed by a bridge of two arches.

There is a ruin of a cotton mill; the spire is being slowly united, but otherwise distinct. The par. church is dedicated to St. Peter. When erected is not known; but the vic. was endowed in 1223. The living is in the diocese of Peterborough, and is worth 56 per annum. The other church, dedicated to Sir James, was endowed as a chantry chapel, and was to be considered old even in Leland's time. The living is a curacy, not in charge, subject to the vic. There was an hospital here, founded somewhere between 1146 and 1167, by Robert Bosco, Earl of Leicester. The estate with which it was endowed was afterwards added to its treasurers, and was finally paid over to its treasurer. 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 apprenticing of boys, and the relief of the poor. 

(Leland's Itinerary; Bridge's Hist. and Antiq. of Northamptonshire; Baker's Hist. and Antiq. of the Co. of Northampton, &c.)

BRAC, the last leaf, or set of leaves, that intervenes between the true leaves and the calyx of a plant. When the time arrives for a plant to fructify, a change comes over its constitution, and parts are expanded, which although under ordinary circumstances they wither, while 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.

BRACSON, 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 Glanville, whose era is referred to the reign of Henry II, and Richard I. Bracton lived in the reign of Henry IV. The chief of these later or modern authors is the unknown author 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 treaties, 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 individual information to be found in the chronicles, form the study of those persons who wish to become acquainted with the history of English jurisprudence, of the courts for the administration of justice, and generally of the various operations of the English law.

Bracton's work is entitled 'De Consecutudinisibus et Legibus Anglorum.' 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 novel disseizin, the assize of ultima presentatio, the assize of mort d'ancestor, the writ of constipatio, the grants in kind, the creation of new things, and the rectification of titles, which is also divided into sections, in which the author treats of the writ of right, essosia, defaults, warranties and exceptions. A larger abstract of the contents of this work may be found in Recueil's History of the English Law, vol. ii. p. 85, &c. A description methodical 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 laws in the thirteenth century are how far more obscure. It was the Piz, of whom the two former lived in the reign of Henry VIII. and supplied Piz, 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. The name occurs once as a justice 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 obtaining value. It is possible that the original, of 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 in its printed form not less than 880 pages. Many of these manuscript copies exist. It is said that there were no less than eight in the 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 is not a complete copy, for we have been informed that 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 France and that of England.

BRADDOCK, EDWARD, a native of 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 their other possessions in Louisiana by a chain of fortified posts, they made its connections with their factories, General Braddock, with an army of 2000 English, was despatched to Virginia, where he arrived in February, 1755, at Richmond. With 390 waggons of provi-
promoted by the Kennet and Avon can., which passes by Bradford, and opens a communication by water with the cities of Bath, Bristol, and London, and with the towns of Trowbridge, Devizes, Hungerford, Reading, &c. This important canal consists of forty-two miles of viaducts, one of which is situated in the neighbourhood of Bradford. The riv. at Bradford is crossed by two bridges. One of these is of great but uncertain age: it was the sole bridge in Bradford's time, and is noticed by him as having 'nine fair arches of stone.' Over one of the piers there is a small square building with a pyramidal roof, which may perhaps have been originally designed as a chapel, where contributions were levied for the support of the hospital, which stood at one end of that bridge. There is now another bridge of four arches over the same stream.

The houses in Bradford are built with stone; but the streets are mostly very narrow. The town has however undergone much improvement of late years, and the streets have in several instances been widened. There is no public building of any note except the church, which stands at the foot of the hill. The living is a vicarage, in the gift of the Dean and Chapter of Bristol, and is valued at £100 per annum. All the principal denominations of dissenters have chapels at Bradford.

There is a charity school at Bradford for the education of sixty boys, which was opened in 1712, and the income of which amounts to £431 8s. 4d.; there is also a payment from a separate college for the support of poor children teaching in the schools. The curates of the vicar's house, and the other for women, besides sundry small benefactions for the relief of the poor.

(Leland's Itinerary; Gough's edition of Camden's Britannia; Britton's Beauties of Wiltshire; &c.)

BRADFORD, part of the division of the riding of the co. of York, and in the Morley division of the wap. of Morley. It is one of the new bor. under the Reform Act, and sends two members to parliament. The bor. comprises the t. of Bradford, Manningham, Bowling, and Horton. The bor. is situated for the purpose of houses of 1,001 rent and upwards 1835. The returning officer for the bor. is appointed by the sheriff of the co. The pop. of the par. of Bradford is 76,996, and includes the following t.:

Bradford, 28,333; Bowling, 5938; N. Birkley, 7234; Eccleshill, 2578; Manningham, 3564; Allerton, 1733; Clayton, 4469; Howarth, 5835; Heaton, 1425; Horton, 10,782; Shipley, 1926; Thornton, 5698; Wibsey, 2252. Bradford is one of the polling-places for the W. riding members.

It is 103 m. from London in a straight line; its measured distance from the county town is 28 m. by road, and 43 m. by navigable water. 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 one place it is crossed by the floods from the neighbouring hills, it 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 'Doonesday Book' (Bawdwin's translation, p. 141.) In Saxo times it 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 civil capacity, and was almost, if not entirely, independent (see above).

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 early 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 eight houses, and its dependents, with the tenants at will and villains, 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, married the powerful family of the St. Thomas Fairfax at their head, the inh. 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. (Scatcherd's Hist. of Morley.) Though now impoverished, the republican spirit was not extinct at Bradford, and the popularity of their cause was soon made manifest throughout the co. by the successes of Fairfax, the decen- sion of the cause of Charles, and the decisive battle of Preston 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 1712 a spirit of insubordination was diffused through the wide and densely-populated dist. 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 ordinances to the contrary were, however, relieved by the employment of many operatives in the dressing of woollen cloth. 'The lawless system under which the insurgents acted, was called Luddism, and an imaginary personage styled General, alias Ned Ludd, was their reputed commander. To effect the destruction of machinery in the manufacture of woollen goods, the cloth was attached, fire-arms became necessary; hence bands of men confederated for the purpose, and, bound by illegal oaths, were found prowling about the disturbed districts by night, rousing the inh. from their beds, and demanding the arms of the inhabitants. Many of the persons employed in the dressing several mills were entered, and the shears employed in the dressing of woollen cloth by the new system broken and destroyed.' In the course of that year government augmented the power of the magistracy in the disturbed districts, and passed an act which rendered the administering of illegal oaths a capital offence. Sixty-six persons were apprehended and committed to the county gaol, of whom ten were executed. This terrible example extinguished every vestige of Luddism in the co. The above in connection with the number of persons who were ex- cused for the circumstances attending these disturbances, which is given in Baines's History and Directory of Yorkshire, vol. i. p. 551.

In 1825 occurred a strike for wages, which was protracted during ten months, at an immense expense to the trade's unions, and at a dreadful sacrifice of comfort on the part of the operatives, who were plunged into a state of poverty from which they were long in recovering. Since that date, the history of the trade of Bradford has been one of constant prosperity, the effects of which are visible in the modern improvements of the town, and the apparent healthiness and happiness of every class of its active and intelligent pop. During this period schools have been established and well attended; a mechanics institute, a philosophical society, and a library have also tended to spread a knowledge of those principles on which alone society can be safely based.

Manufactures.—The chief manufacture of Bradford and the neighbourhood is worsted stuffs. The spinning of worsted yarn employs a great number of persons, and the stuffs are woven from the wool. Woollen yarn for the manufacture of cloth, broad and narrow, is also spun and woven at Bradford in considerable quantities, but the worsted manufacture is the staple employment of the place. Leeds is the market town, and a large and respectable woollen manufacture. The piece hall, which is the mart for stuff goods, is 144 ft. long by 36 broad, and has a lower and an upper chamber. The manufacturers of Bradford are characterized by their skill, enterprise, and diligence. The co. is represented in the cabinet by the Hon. Sir H. Bache, a native of the town. Bradford's Thursday markets is very great, and forms one of the most animated commercial scenes in the kingdom. Many pro- prietors of worsted mills supply the small manufacturer.
with yarn, besides employing a great number of looms themselves. Machinery, worked by steam, has almost superseded manual labour in the stuff-manufacture, the works of which are very largely supplied with flax and cotton. The 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 neighbourhood of Bradford. The historian of Sheffield, the present Mr. A. H. Balme, says that the iron-mines of Yorkshire were explored by its Roman inha., 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; which shows that the ancient 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 foundries some of the most ponderous works in cast-iron are executed. A vast number of works is built in the different departments of the establishments—from the raising of the ore and coal, to the various marketable stacks 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 Bradford and upon the trade, among which are the manufactures for combs, shutters, and machinery. The proportion of other occupations is about equal to that of similar towns.

A cancellous festival is held in Bradford in honour of Bishop Ingilby, the iron-combining to which is attributed. This 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 and the Irish Sea. This can traverses much of the W. portion of the W. Riding, passing through or near 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 navigation, Leeds and the neighbouring towns are connected with the Aire and Humber, and 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; a branch, three m. in length, runs by the Bradford canal, and is then turned to 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 numerous and effective than they have hitherto been. One of the most interesting features of the system is the general wish of the masters 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. Boulton on the Cotton Manufacture, and of 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 bestial tendency in their employments. The 'Education of the Bride' by Mrs. Warren, "A Boy and a Girl," by Mr. G. W. M. Reynolds, and "Military and Naval" by Mr. B. Disraeli, are 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 particularise the schools for 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 430 boys, 470 girls.

Christchurch Sunday-School 430

Baptists' Sunday-Schools 490

Independents' Sunday-Schools 448

Wesleyans' Sunday-schools 600

Boys. Girls.

The name of Balme, in which old age is finely personified. Christchurch was erected in 1813; its interior is commodious, but externally it is heavy and possesses no interest. Whicker, in his "History of the Town of 460." has remarkable exterior mention, and is mentioned by Rickman as being principally of the perpendicular style of architecture. Among its monuments may be mentioned a very beautiful work by Flaxman, for a gentleman of the
The National and British Schools each require a small weekly payment from the children; their numbers are:—

<table>
<thead>
<tr>
<th>School</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural</td>
<td>106</td>
<td>80</td>
</tr>
<tr>
<td>British</td>
<td>240</td>
<td>180</td>
</tr>
<tr>
<td>The Founders' School (including both schools)</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>School of Industry (the limited number)</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

A museum was established in 1829, which is well sustained, and has about 450 members: there is also a philosophical 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 deposit of works published by the Christian Knowledge Society is attached to one of the Church Sunday-schools, and the British and other religious societies 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 clarities 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 inhabitants. 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 commenced at Bradford. The society is governed by two stewards who are elected annually, a revising and nominating body, and by the retiring officers; one of them is for the E. and the other for the W. end of Bradford. There is a court of requests for the recovery of debts under forty shillings, and a court of record for the recovery of debts in which debts may be sued for under fifty pounds. The piece of land which has been set aside for a court-house is to be a part of the common lands, and the building of the court-house may be built entirely with the common funds; this piece of land is about forty acres, and is purchased from the owner. It is the plan of the society to erect a court-house in which the society can meet and hold its sessions; and the plan is one of the most excellent schemes of the kind. The society has also a building for the purpose of instruction, and is adorned with the residences of the most opulent merchants.

The occupations of the families in the par of Bradford, according to the Enumeration Abstract of Population for 1821, were as follows:—

| Families employed in agriculture | 790 |
| Families employed in trade, manufactures, &c. | 1046 |
| Families not comprised in the preceding | 3246 |

15,049

**The t. of Bradford par.**—Bowling, formerly Bolling, about a m. and a half S.W. of Bradford, was once the manor and residence of a family of that name. The hall is an ancient building, and was one of the Brad-Quarters of the Dean of Lichfield in the year 1642 during the siege of Bradford. It was here, while in bed, after he had formed the purpose of giving up the inhabitants of Bradford to military execution, that he was dissuaded from his intention by a female attendant or companion, who really appeared to him and remonstrated with him on his suicidal determination, or that a dream produced the effect. Bowling has been mentioned as the seat of extensive ironworks.

**North Bierley** is about two m. S.E. from Bradford; its inl. are 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 episcopal chapel at North Bierley.

Eccleshill, Manningham, Allerton, Haworth, Heaton, and Clayton, are all scattered vill. at short distances from Bradford; their populations are chiefly employed in the silk and cloth manufactures. At Manningham is the beautiful seat of E. C. Lister, Esq., one of the members for the borough of Bradford.

**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 places of worship are a small episcopal chapel, and chapels for the Wesleyan, Congregational, and Methodist. The Baptist seminary is at Horton.

**Shipley** is three m. N. from Bradford. A church was built here in 1825, which will contain about 1500 persons. There are chapels for the Baptists and Wesleyan Methodists. Worsley, woolen cloth, and paper manufactures are here carried on.

**Thornton** is about four and half m. W. from Bradford; it has numerous manufactures of stuffs, a church, an Independent chapel, and a Methodist chapel. It has a school, which is supported by subscription, and which is provided for some of the children. This school has an endowment of about £50, a year, derived from various benefactions. There is also a school on the national system.

**Wilsden** is five and a half m. N.W. of Bradford; 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 Bradford, indicates by its appearance the prosperity and activity of its pop.

Abraham Sharpe, the celebrated mathematician, and machinist, was born at Horton, about 1651.

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. The second hot-house which was ever constructed in the west of England was built in the garden of his villa, and was a splendid specimen of this beautiful tree. It was sent a seedling to Dr. Richardson from Sir Hans Sloane.

John Sharpe, Archbishop of York, was born at Bradford in 1644; he was a man of great eloquence, of fine manners, and of general abilities. He died in 1718, and was buried in York minster, where an elegant monument was raised to his memory.

(Whitaker's *Loidis in Elmete*: Baines's *History and Directory of Yorkshire*: Bigland's *Yorks.*: Parsons's *Leeds and the adjoining Towns*: Scatcherd's *Moorley*, *Communications from Bradford*.)

**BRADLEY, JAMES,** the third Astronomer Royal, and the first, perhaps, of all astronomers in the union of theoretical sagacity with practical excellence in the business of observation, was born in March, 1692-3. For all authorities, &c., we must refer the reader to the excellent and minute account of him in the Oxford edition of his *Miscellaneous Works and Correspondence,* Oxford, 1832, by professor Rigaud.

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, he lately passed some time, and found in his house the means of applying himself to astronomical observation. As early as 1716 there is a letter of Halley to Pound mentioning Bradley as an observer; and in 1718 and 1719, we find some observations of double stars practised by him. In 1719-20, 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. 195, 202). At the same time he turned his attention to the motions of Jupiter's satellites, and 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.* 1751.

Bradley was entered into 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 Bridstow, in Monmouthshire. In 1720 he obtained another living, but in 1721 resigned his benefice to the college in order to accept the fellowship of Astronomy at Oxford, with the holding of which they are incompatible. He also resigned the office of chaplain to Bishop Hdbury. We find him now engaged in miscellaneous observation, particularly with the long telescope introduced by Huyghens. 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. Molyneux at Kew, which afterwards became the palace of that name, lately pulled down. "Molyneux believed," said Bradley, "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 author. Perhaps farther investigation will clear this up.

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 subject of further investigation. The annual parallax of the fixed stars, which was first pointed out by Bradley, is 38 arc seconds. This is to the velocity of light as a man running a mile in a minute is to the velocity of light. The 38 arc seconds per year is a remarkable and unanswerable demonstration of the motion of the earth.

Bradley's observations were not mere astronomical speculations, but were connected in a direct manner with international questions. Bradley was the greatest member of the Royal Society, and Prince George, who had great influence in the affairs of princes and states, used to meet him. He was a member of the Society of Jesus, and was a most ardent opponent of the French mathematicians, who were the enemies of the British.
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 10 years instead of one; secondly, in his discovery of the circumstances on which it depends, namely, the position of the moon's orbit with respect to the equator. This orbit shifts the position of its true place in the heavens by the amount of the monthly revolution, which lasts about 23 years, or 1.8 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 dependence of the greater part of the nutation on the motion of the moon around the earth. It is the former, and the latter being 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 distinctly from the rest, and displays considerably mathematical sagacity: we refer to a determination of the last term 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 infinitesimal quantities. His table is correct to one second 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 table of refraction) does not differ more than half a second from that deduced by Mr. Pond from 720 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. It is also ascribed to him, as well as to his lord Macclesfield, his early friend, and the author of a great many successful schemes of frouse 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 equivalent to robbing them of eleven days of their natural lives, and called Bradley's scheme a decline of judgment of heaven. This was, as far as we know, the last expiring manifestation of a belief in the wickedness of altering the time of religious observances which was to be found in the world, more or less, and at different periods, for 1400 years, to the time of the observance of Easter by 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 handwriting recedes from the few that survive in the Greenwich 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 bore the long years of tempestuous habits. His wife died before him in 1757, and he left no 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 tell us how his great 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 Narrative, &c. Lond. 1792):—Dr. Bradley's valuable observations were made in the course of time 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 a suit instituted by the executor, 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 into the law courts of Dr. Hortensio Savilian professor, &c., whose bad state of health had 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 an important point. He says that while 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, Flamsteed and How, were allowed to consider 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 of the astronomers as his property, and that this was the consequence of the non-sphericity of the earth, and of the moon's attraction on the protuberant parts. [Nutation.]

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 the result of 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 to baffle all attempts both at finding and causing. Nevertheless, the name of Bradley hardly appears in popular works, nor will it do so until the state of astronomy is better understood. Let any man set up for the founder of a sect, and begin his history under the title of The New Philosophy 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.
On January the 1st, 1648-9, it was adjudged by the Commons that the fundamental laws of the land, it was true, were not made by the people, but for the people, and for the 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 Sergeant Bradshaw their president. Lord Hume was appointed one of the commissioners; and surprising 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 court ordered, that John Bradshaw, Sergeant-at-Law, and a member 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 deanery house in Westminster was given him as residence for his life, and weekly allowance of £140 for his support; and the necessity of 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 duties only being the 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 allowance be made on account of the dignity of the office, the great accumulation of offices in one man appears somewhat disproportioned to the quantity of it.

When Cromwell seized the government, Bradshaw was one of those who opposed all the other in power, and never went over to him. Bradshaw conducted, in courage and spirit, which is called Ludlow's. His boldness extended 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 under his government, Bradshaw absolutely refused, alleging that he had received his commission as Chief Justice of Chester, to continue quodam di se bene essearet, and should retain it without any loader, unless he could be proved to have justly forfeited it by want of integrity; and if there were any doubts upon it, he should submit it to try, which is appointed president of the kingdom, having seven great men 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? With the mixture of dignity, firmness, and sincerity, which the English have in every 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 preside in our royal courts never use to the lowest assistant'? 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 put an affront upon it; but truly, Sir, men's intentions ought to be known before they are acted upon. The court produced, 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, overruled that pious, 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, where, out of a hundred and nine, the greater part had been first bound over, or imprisoned, or procured imprisonment; and even the prisoner's own grandmother removed, and his father, while an infant, crowned in her stead. (Rushworth, vi, 1396; Whitechapel, p. 376; Ludlow, Hutchinson, Clarendon, and many others). 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 of the grammar school at Middlesex school. There are two codicils to the will; and by one dated September 10, 1655, he gives 10l. to John Milton. The will was proved December 16, 1659. (Ormerod's Cheshire, vol. ii. p. 409; and the character of him by Milton, in the Debeatte Secunda pro Po. Auctore. And...

BRADY, NICOLAS, a divine whose name is known chiefly in connexion with that of Nathan Tate, his versifying collaborator in producing the new version of the Psalter, for the New Derby Dit, which has since become generally used in the Church of England, from the first revision 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 October 26, 1619, in Bandon, a town of Ireland, in the county of Cork. At the age of six, 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. Hence, though he professed to write on government, never seemed to have understood the meaning of sovereignty, though Hobbes had made it sufficiently clear.

— Lives of the Regents, i. 68.
of Christ-Church, Oxford. He subsequently graduated at Trinity College, Dublin; which, in testimony of his zeal and ability, is recorded in the University Registry. He was afterwards licensed 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 by his firm and decided support of the old government, and, by his frequent attendance on the King of Orange, and on three occasions prevented the execution of King James's orders to destroy with fire and sword the town of Bandon, his native place. On the establishment of the new dynasty of William and Mary, he was deputed by his fellow-townsmen for the purpose of obtaining their 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 a prebendary of St. Albans, and archdeacon of the Our Lady and St. Chad of Birmingham, in place of Dr. 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 'Aeneids of Virgil,' in 4 vols., 8vo, which is considered as that author's best work. He was a man of small instruction and an ordinary production is a tragedy, entitled 'The Rape, 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 they have acquired is as the result of a metrical version of the Psalms; of the merits of which everyone who possesses a Prayer Book may judge for himself.

BRADYPUS. [At and Blov.]--

BRAGA, a comarca of Portugal, situated almost in the center of the kingdom. It is bounded on the north by the districts of Barcellos, 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 well watered by the river Duero, and its principal streams are the Duero, Douro, Mondego, and Vouga. The former of those streams rises in the Serra de Geres, 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 Villa-do-Conde. The productions of the soil are the same as in the rest of the province. The whole district comprises one city, one town, and 101 parishes, containing a pop. of 49,838.

The chief occupations of the people are agriculture and the manufacture of wool. The soil is very productive, and 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 perpendicularly divided style, which was rebuilt by Count Henriques, the first Duke of Braga. The city of Braga is reckoned at 20,097. 41° 13' 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 surrounded by the Spanish provinces of Leon and Galicia, and by the Portuguese comarcas of Chaves, Miranda, and Moncorvo. The territory is very mountainous, being crossed in every direction by the ramifications of the serras and mountains. The streams which flow into the Douro, or are fed by the waters of the Duero, are very abundant, and raising 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 888,675 inhab. It is situated between lat. 41° 30' and 40° 30'; long. west 7° 30' and 8° 30'.

BRAGANÇA. Bragança, the capital of the district, is situated in a very agreeable and fertile plain on the Terceva, an affluent of the Sabor; it was erected into a duky by Alfonso V. in 1442, the eighth possessor of which, Dom Manuel II., was raised to the crown of Portugal in 1567, 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 and a church.

It is generally held that 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 of Henry II., was raised to the crown of Portugal in 1567, under the title of John IV. By that marriage the line of the dukes of Bragança, marquises of Villavicencio, &c., has sprung. By the fundamental laws of the Portuguese monarchy, passed in the Cortes of Lamego in 1385, all foreign princes are made subject to the crown of Portugal. It is said, that, in default of legitimate heirs, the illegitimate issue of the royal blood has been repeatedly called to the throne. When the line of the Portuguese kings became extinct by the death of King Sebastian in Africa, 1578, and by that of Philip II. of Spain, whose mother was a Portuguese princess, urged his own pretensions to the crown of Portugal, in the person of his brother, Don Pedro, and of his sister, Dona Maria, the means of an army commanded by the duke of Alba. [Ar- vion : A lb a.]--

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, the king, he being the next remaining heir to the crown. He assumed the title of John IV., and was styled the 'fortunate.' The crown of Portugal has continued in his line ever since. John IV. was succeeded by his son, Dom Pedro, who, being dethroned in 1668 for his misconduct, his brother, Dom Pedro assumed the crown. Pedro was succeeded in 1706 by his son John 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, afterwards becoming insane, her son Dom João was made prince regent in 1792, and at the death of his mother in 1816 he assumed the title of King João VI. He married a Spanish princess, by whom he had two sons, Pedro and Miguel, and several daughters. In 1822 his son, Dom Pedro, was proclaimed Emperor of Brazil, which became thereby independent of Portugal. In 1828 King John VI. died at Lisbon, and his son Dom Pedro being considered as a foreign sovereign, Dom Pedro's infant daughter Dona Maria II. was proclaimed queen of Portugal. Dom Pedro died in September, 1834, at Lisbon. His son Pedro II. is now (1852) emperor of Brazil.

BRAHE, TYCHO. The influence which the labours of this great reviver of correct astronomy exercised upon the sciences of the age is too well known to require more than a more minute detail of his life than we can here give. It will be convenient to place all references at the beginning of this article, which we shall accordingly do. (See also general references in Astronomy.)

The life of Tycho Brahe, born at Lyngby, near Roskilde, in Denmark, Jan. 14, 1546, is written by Gassendi; first edition, Paris, 1564, with copperplate in the title-page; second edition with two title-pages, both ' Hage Comitum,' the first, 1665, marked ' Editio secunda auctior et correetor,' 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
Funeraria,' etc. of John Jessenius. See also Teissier, 'Eloges
des Académiciens,' 1932; Biblen, 'Die Leben und Wirkungen des
Johannes Kepler,' etc., 1718; Riccioli, 'Chroni-
clon in Almagestum Novo,' etc. p. 46. For modern accounts
of his astronomy see Delambre 'Ast. Mod.' and in English
the chapter on Tycho Brahe and Kepler in Nauen's 'Ac-
tocny.' It may be of interest to know that the authorship
of the 'Opus Astronomicum' (translated 1633) to which
the 'Biog. Univ.' is by Malte-Brun. The writings of
Tycho Brahe are as follows. The capitals serve to separate
different works.

(A) 'De Novi Stelli,' anno 1572: Hafniae (Copen-
hagen, 1601). Extreme scamps, afterwards inserted in the
'Progronymastema: English translation, 1582 (copy in the
Bodleian, Hyde, cited by Lalande).

(B) 'De Munduli, Jheronimorum Phoenicium liber secundus, qui est de
Illustri Stelli Caudatus anno 1577, conspecta 1588: is
Lalande, 1652.

We have some 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 Responsio, etc., to the charge of
Brahe, (Copenhagen, 1603);

(D) 'Epistolarum astronomicae
rum libri,' Uralburg, 1596; some have on the title-page
Frankfort, 1610, others Nuremberg, 1601.

(E) 'Astrono-
mius Instrumentum Mecchanice, Wandsburg, 1596, reprint,
Nuremberg, 1601. (F) 'Astronomici Instrumenti
und mastricti Anno Oratio in Astrologia defenditi,' an academical
lecture of 1574, printed, not by Tycho, but by Curtius,
Hamburg, 1621.

(I) 'Geistliche Weissagung,' etc., translation of (A) with the astrological part, omitted in (F).

(J) Lucii Barreti Syllone Ferdinandi, Vienna, 1657.

(K) 'Historia Coelestis, Augsburg, 1656, by this same Barretius, con-
taining the results of the observations of Vincke
Vind.,' 1668, Ratisb, 1675, Dillingen, 1675. Errors pointed
out in Bartholinus 'Specimen recognicionis,' etc., Copen.
1668.

(N) Kepler, 'Tabulae Rudolphinae,' Ulm, 1627.

These are the final tables deduced from all Tycho's observa-
tions. They were not published in their original form, but by special
permission of Cassiopea, in Danish, translated into German by
Wetstius, Leipzig, 1756.

Tycho Brahe printed his works at his own press of Uralburg, so long as he remained there, and probably distributed them principally in print.

When they became dispersed, the booksellers varied the title-pages, and hence all the confusion of the preceding list. We suppose
these 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 of the three sons, coming at an early age
betrothed to a branch which had settled in Denmark. Tycho
Brahe himself was the eldest son and second child of his
father, who was born at Knudshope, near the Baltic (lat. 56
40 N. according to Cassiopea), on the 14th of Decem-
ber, 1546. His father had ten children, of whom the last, Sophia Brahe, was known in her day as Latin poetess, and
was also a mathematician and astronomer. This family
was as noble and as ignorant as sixteen undisputed quarterings
could make them, but in this respect, the natural uncle of Tycho,
volunteered to take charge of him. Possessing a 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 1559 Tycho was sent to the University of
Copenhagen, where he remained in the pretensions of the astronomers, and by the total eclipse of the
sun, August 21, 1600. He began to study the doctrine
of the sphere, and the ephe-merides of Stadius. In 1561
his uncle, who intended him for the law, sent him to Leip-
zig, where he studied with a teacher, but remained there
not even long enough to save appearances; he disliked the
study, and made a pandering epigram on it as follows:

1. Despuse cuncta et duxit numine jura sub uno,
Nam hunc praebet studiis cognitum vatum et artium.

In the meanwhile he spent his time and money on astro-
nomical instruments; and, while his tutor slept, used to take
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 very wrong, and particularly so the observation of
1603, the first instrument was a pair of common compasses, which
he used as an instrument for observing the angles between
stars. But to make a circle of strong enough metal to
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
by almanacs, and redrew his own, according to the heliocentric
rule, or radius, in the manner of Gemma Frisius.

He was recalled in 1605, by the death of an uncle, and
soon became disgusted by the contempt with which his
equals and associates spoke of all liberal knowledge. His
uncle Steno offered him a house and an income for his
vouer pursuit, and he left his country once more, and took
up his residence at Wittenberg in 1666, from whence he
was driven to Rostock in the autumn by the plague. While
in this place, a quarrel arose between him and one Paulsen,
who had made a book about the moon, and had shown himself
a pestilenter in answering Tycho, who lost 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 colored as to be hardly distinguishable from the one
with which he began; and he always carried a small
box of ointment, with which to anoint this artificial member.
1667, Tycho, now an Augsburg, where, being pleased with
the place, and finding the astronomers there, determined to
remain. He here caused to be constructed a large
quadrant, such as twenty strong men could hardly lift, with
which he observed while he remained there. He left
Augsburg and returned to his beloved Holmia. The uncle
Steno offered him a part of his house, with the means of
eering an observatory and a laboratory; for Tycho had
become much attached to chemistry, and declares himself
that from his twenty-third year he attended so much to that
science as to neglect his observations. It is, however, a large
quantity, for he always intended to return and pursue his
studies in Germany, finding the public life of a Danish noble
to be a hindrance. An event however happened in 1572,
which, if our memory serves us, has been sometimes stated
in popular literature, but has in reality no importance in
astronomy—what with correctness we have seen.

Returning from his laboratory on the evening of November 11,
1572, he cast his eyes upon the constellation Cassiopea,
and was thunderstruck by there perceiving not only a new
star but one of greater splendor than any in that constel-
lalion. 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 aspect
of the universe was the same. He then took the new
star into the observatory, and observed its movements. He
excited great derision at a convivial party by mentioning
his discovery, which however was changed into astonish-
ment on his actually showing them the star. They there-
on became urgent that he should publish his notes,
which he refused, being, as he afterwards confessed, under
the prejudice that it was unwelcome for a noblesse to
publish anything; but afterwards, seeing how many and
worthless were the writings on the same subject, and being
pressed by his friends at Copenhagen, he sent out his account,
but without giving it a title. The work was itself continued
visible, though gradually diminishing in brightness, till March, 1574. It was at one time as bright as
Venus. [Cassiopea]
least a plebeian, girl of Knudsthorp, 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 were 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 (H) in our preceding list, which, putting aside the astrology, is a sensible discourse; and, excepting a hint as 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 supposed derogation. He informs his audience at the end that he intends to lecture on the Prutenic tables, and he did so accordingly. This lecture was first published in 1610 by Conrad Asilacus (we cannot unlatitude 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 meantime embassadors 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 Knudsthorp in 1576, and offered him possession for life of the island of Hven or Hoëcæ, taking upon himself all the expenses of his settlement. The offer was gladly accepted, and the first stone of the astronomical castle called Uraniberg or Ormuzenberg (the city of the heavens) was laid August 12, 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 Astronome (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 26 instruments, all extra-meridional, but distinguished, as appears in (E), by many new contrivances for avoiding error, and by a size and solidity which rendered graduation to a single minute sustainable; 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 2000 dollars a year, besides a fief in Norway and a canonry in the church of Roeskilde.

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 (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 sublunar, 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 Uraniberg. No space here allowable would suffice to do so 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.*

* In reference to that article, the reader of course must be aware that so very 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 that he began to take true observations in that year. In this he did in that year begin the regular observation of stars and planets (Mars particularly) which led to the Rudolph’s tables that he had been observing (though not with finished means or methods) from 1577.
Arab astronomers did some good by their observations, they did nearly as much mischief by their theories; and the Alphonsine tables, and the views of the astrologers, led them to suppose that they 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. And yet the entire destruction of a system of astronomy, that may be called the basis of any system of astronomy, is not a proof that the system as a whole is entirely wrong. The failure 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 observation ought not to be surprised that a result of observation bears in it the traces of what was erroneous in the instruments. Thus, if by chance he observed Tycho Brahe to be in error, he thought that he was the first who saw 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 instruments would have to be used and the results of observation to be expected. 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 an instrument maker, and the skill in using them, such as had not appeared since Hipparchus; and it is to his observations that we owe, firstly, the deduction of the real laws of a planet's motion by Kepler, and of their proximate cause by Newton. There are many instances of error in observation, which do not seem to be due to the instruments, of 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 a very large majority in thinking that his observations were not only worthy of belief, but of exactness. We may have an instrument of a second. Undoubtedly, but 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. But nobody reason wrong because he did not know 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 then. In that day. Tycho Brahe's difficulties consisted in the fact that the earth fell directly under the point it was dropped from, Copernicus accounts for by supposing that the air carries it; he, as well as his opponents, believing that but for the air the spot at first directly beneath the stone would move from place to place, and that the stone would fall from that spot; and to reason wrong because he did not know a fact which could only be known by an instrument invented after his death.

Frederick II. died in 1588, and Tycho remained unmolested under his son Christian IV. till 1596. Gassendi relates that the nobles were anxious when they saw forebode some evil, and arranged that Tycho should be sent to Sweden with Tycho; that the medical men were dispensed at his dispensary of medicines gratis to the poor; and that the minister had a quarrel with Tycho about a dog. Malte-Brune relates this more distinctly, apparently from the Danube; and says that when Tycho was made a commissary of ordinances, it seems most probable that the destruction of the observatory at Hööne arose from a personal squabble between this minister, called Walckendorf, 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 worse than useless.

On the 16th March 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 1596, he received a pressing invitation from 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 circumstances of a large disorder raging in Prague. The emperor settled upon him, and offered him the choice of three different residences. He chose that of Bonnach (Benachia or Bensitio, Ganz) five miles from Prague, and called the Venice of Bohemia. He sent the two other of his astronomers, Gassendi, and remained at Bonach till February, 1601, when he settled in Prague.
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 that Kepler lived a long time to his own fame; so that 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, 1601, 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, aged 54. In his will he bequeathed himself to *futurae vitae securam*, 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, without fear of the one supposed minister of God's anger.

Some of his earlier observations are preserved at Copenhagen. For the present state of Uraniborg, see *Höhler*. 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. His neighbor, his fellow, his country, his soul, his creator.'

...some trans-...
mervals Ghat near Bihore; a silt, an object of adoration, the full mile of Agrabhaya (November-December), a numerous attended fair is annually held here in honour of Brahman. (Wilson, in the Asiatic Res., vol. xvi. p. 14, 15; Ward, View of the Hindus, &c., 2d edit., vol. i. p. 29, 30.)

BRAHMANES. [HINDUS, CASTES OF.]

BRAHMAPOOTRA, one of the largest riv. 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 the Ganges more than three centuries before the beginning of the Christian era.

The most remarkable branches of this riv., which has a common embouchure with the principal branch of the Ganges, rise between 29° and 29° 30' E. Long. and between 26° and 26° 29' N. Lat. Here, about 29° 30' N. Lat, and 29° 20' E. Long. stand the most easterly portion of the Himalayan range; the Talukas, the most of the sources of the Brahmapootra, 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 masonry rocks, till it joins the heads of the Taluding, a riv. not inferior in size, which descends from the mountains of Nambo (28° 15' N. Lat.), a ridge belonging to the Langtang chain, which latter divides the branch from the Brahmapootra that proceeds from the upper bend of the Irrawaddi. After the junction of the Talukas and Taluding the riv. continues its course to the S.S.W. between high mountains, and about 20 m. lower is the most E. point to which Wilcox advanced. Here the embouchure of the Taluding joins with it and then is a mixture 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 riv. even in the rainy season, but their great variety shows that they are not in situ. Sienitic granite, in which garnets are found 7-10 lbs. an inch in diameter, serpentine of a flinty hardness, and primitive limestone are most numerous.

Nor this does the riv. change its direction, flowing for some 5-6 m. between two high mountains and in a narrow valley; it then turns to the S. and a few miles lower it is surrounded by the mountains from the by a narrow pass, called Prabhu Kathar, in which the riv. is about 200 ft. wide, but running deep. Not far from this pass, on the S. banks of the riv. is the Brahman-kund (the source of the Brahama) 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 riv. descend into it. From this place the riv. has obtained its sacred name of Brahmapootra, the off-spring of Brahman, though it is commonly called by the natives Lohit, or Lohitya (Lauhiyita in Sansc., the red river).

A few passing the Prabhu Kathar 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 Sonpura, 12 m. above Sadiya. In this distance the riv. does not issue from rocky strata, but the torrents descending from the hills bring the rainy season an immense and yearly accumulating collection of boulders and round pebbles of every size, which blocking up the riv. divide it into numerous channels, and projecting banks of stone 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. North of 24° 51' N. Lat., and 22° 51' 27" 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. further downward. The island thus formed is about 2 m. wide.

From the Prabhu Kathar to Sonpura the riv. runs nearly W., and in this tract its waters are only increased by small streams. But between Sonpura and Sadiya, where it makes a bend to the S., the Lohit is joined by the Noa Dihing, a considerable riv., whose upper branches rise above a hundred miles from its mouth. The best known is the Dupsa Pan, which originates on the W. declivity of the mountains, or which Kichanga Bum pass (27° 30' N. Lat.) leads to the countries on the banks of the Irrawaddi, and attains a height of 11,000 ft. Hence the Dupsa Pan flows between mountains in wild rapids to the E. and unites with the other branch, called the Noa Dihing or Sadiya Lohit. The upper course of this riv. is not well known, but it would appear that its source is farther from the place of junction than that of the Dupsa Pan, and probably on the S. declivities of the Langtang Mountains. From Google downwards the Noa Dihing is navigable for a few miles.

Nearly opposite the mouth of the Noa Dihing the Kund joins the Lohit. On the banks of this small river stands Sadiya, the capital of Upper Assam: the Lohit is here about 1200 ft. above the level of the sea.

To the left of Sadiya, but at a great distance, the waters of the Lohit unite with the head of the Dihong, which brings a volume at least three times as large as that of the Lohit at their junction. A few miles from its mouth the Dihong is joined by the Dihong, a considerable riv. descending from the N.E., but by far the largest volume of water is brought down by the Dihong itself, which as it is known from the N.E. This river has been examined only to a short distance from its mouth, where it was found rushing down in rapids, interrupted only by calculi. The great volume of its waters, added to other circumstances, has made this riv. the most important; and the Dihong, which is known in Tibet by the name of Sampo or Yaru Tzuog-toa, which opinion is noticed more particularly at the end of this article.

After it's junction with the Dihong, the Lohit 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 seasons of the year it barely reaches the water of the Noa Dihing. The Buri Dihing rises near the eastern boundary of the Dihong, a large river of Tibet; an opinion which is very probable.

Into the southern branch of the Brahmapoortra, or the Buri Dihing, falls the small riv. Dikho, on which the present capital of Assam, Jorhath, is situated, and lower down, the riv. continues its course, which rises at a great distance to the S. in the territories of the Raja of Mooinopore, in a country not yet explored by Europeans.

After the Buri Lohit and the Buri Dihing have run 30 miles and flowed down for nearly 30 m. in length, divided only at a few places by small islands, the Brahmapoortra divides again at the town of Bishenath (33° 15' E. Long.) into two large branches, of which the northern and larger retains the name of Lohit, and the southern is called Dihong. The Buri Dihing, which rises in two branches of the Brahmapoortra 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., Ritter calls it the island of Kullung. The Kullung branch, a large tributary of the Brahmapoortra, divides in the Chine, the Deyong, whose sources are situated far to the S. in the kingdom of Kuteher, which breaks through the chain of the Naga Mountains, like the Dhumstri.

The Kullung branch of the Brahmapoortra re-unites to the Lohit a few miles above Gowahattv, below which town
the extensive valley of Assam may be considered as terminated; for here the outlets of the Himalaya range on the N. and the Garo Hills on the S. approach the river within a short distance, and in many places leave but a narrow tract almost shut in by the seemingly inaccessible ranges of the Brahmapootra runs here with an unbroken stream, and is hardly the 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 take the force of the current. Below Goyalpara, the Brahmapootra courses through the plains of Bengal, where it is only about 120 ft. above the level of the sea.

The general direction of the Brahmapootra from the western extremity of the island of Kullung to its entry into the sea is nearly due N. and S., but the course of the river preserves this direction still farther down to the mouth of Rangamut and below Goyalpara it receives on the N. the Bonsa or Manas, a considerable river which traverses the eastern portion of Assam, but whose course is nearly unknown, except so far as runs through the plains of Bengal.

Near Rangamut the Brahmapootra 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 20° and 23° the first communication with the Ganges commences. That of the Brahmapootra running due S. falls into the Isamut or Goyali river, which joins the Ganges near Jaffergunge; and another water-course, which branches off from the Brahmapootra a little farther down, and is called Lobnee, falls into the antient bedding of the Ganges below Jaffergunge.

The Brahmapootra after its south-eastern course nearly to 24° N. lat., where it is joined by the Barak or river of Silhet. This latter river has its still unknown origin in the mountains of Tipher and enters the kingdom of Keta, and is supposed to fall nearly 35° E. long.; it then turns suddenly to the W. and courses through the whole length of the prov. of Silhet; 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 Brahmapootra near the point called the Morero, where the parallel 24° is cut by the meridian 91°. From here the course of the point runs S.W. with large bends until it reaches the neighbourhood of Fringybazar, where its channel widens to such a breadth, that it struck with amazement our great geographer Rennell, and led him to suppose that the Megna, which is the name for the river in front Fringybazar to the sea, had in some remote period received the waters of the principal branch of the Ganges in addition to those of the Brahmapootra. He traced the old channel of the Ganges from Fringybazar to Dacca and Jaffergunge, and hence through the lakes and marshes of the neighbourhood of Bhojpur, Pundak, and Beauches.

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 one has been left the continent its currents are still divided, that of the Brahmapootra remains the larger stream of Shabarpore, while the Megna sends its waters to the gulf of Bengal by the channel between the islands of Shabarpore and Hatta.

The whole course of the Brahmapootra, as here described, may be estimated at 800 m., of which 160 m. belong to its upper course E. of the mouth of the Dihong, 350 m. to its middle course to Goyalpara, and the remainder to its lower course to the isle of Hatta. The Ganges runs 1250 m., and therefore exceeds the Brahmapootra by nearly 600 m. But the Brahmapootra discharges only 80,000 cubic ft. of water. It was found, in January, 1828, that it discharged near Goyalpara below the mouth of the Bonsa, in one second, 146,188 cubic ft. of water, while Rennell calculated that the principal branch of the Ganges in the dry season discharges only 26,000 cubic ft. This fact is a strong reason in support of the Brahmapootra being the river which in Tibet is known by the name of Sampo; but others are of the opinion that the Sampo joins the Irawaddy. We shall briefly advert to this controversy. D'Arcy believed the Brahmapootra 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 Gaddhur or Tchin-tau descends from the Himalaya of Bootan. He knew, however, that the Sampo runs to the E., and that it does not join the Kinche-kiang or Yantsze-kiang. He therefore conjectured that this river must join one of the large rivers of the peninsula without the Ganges, and be hit on the largest, the Irawaddy. When Rennell surveyed the lower course of the Brahmapootra in 1769, he was struck by its magnitude, and he collected some information respecting its upper course, which led him to conclude therefore that Dihong and Tibet discharged its waters by this channel.

The conjecture was confirmed by the information obtained by Turner at Teshoo Lomboo. Rennell inserted this river in the first edition of his map of Hindoostan, where with great integrity he has nearly only copied it. Its actual position the Dihong is found to break through the Himalaya mountains. This representation of the union of the Sampo and Brahmapootra was not questioned till 1824, when the British troops entered Assam, and it was discovered that the very large river, which had previously been supposed to be exceeding the 26° than the place where in Rennell's map the Sampo enters the vale of Assam. Lachlan and Julius Klaproth accordingly conjectured that the Sampo runs much farther to the E., and, entering the mountains at the sources of the Brahmapootra, joins the Irawaddy. 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 Dihong was by far the larger river. Their observations were confirmed by Jaffiergunge. The river enters the mountain range in a succession of rapids and cascades, and partly by the mountain-trenches. But Wilcox succeeded in passing the mountain range between the upper branches of the Brahmapootra and the Dihong, and he observed that in the country of the Bor Khama, the Irawaddy is an inconsiderable river, only 80 yards wide, and the natives were not acquainted with any large river in the neighbourhood. This renders it all but certain that the Sampo of the Irawaddy joins the Irawaddy, or any other river in the adjacent counties.

On the other hand, as far as the course of the Sampo as well as of the Dihong has been fixed by astronomical observations, it is by no means improbable that both are the sources of the Brahmapootra. We find, then, that the banks of the Sampo, by actual observation, is Teshoo Lomboo, which Turner found at 89° 7' E. Farther down, the position of H'Lassa, which lies at no great distance from the Sampo on its northern bank, has been calculated by Wilcox to be 88° 17' E. and 76° 30' W. 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, according to the survey, at about 33° 30' E. long. and 76° 30' 20' W. of Greenwich, at a distance of about 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., because the Chinese place Tibet much too far S. We refer the S. of D'Arcy to the known and unknown portions of the course of the Sampo, which terminate at 28° 40' N. lat., and on the Chinese map of Kienlong at 27° 30', and consequently to the S. of the valley of the Brahmapootra: Klaproth accordingly, to support his opinion, has been obliged to place it at 28° 30' and Berghaus even on 29° 15' 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 banks of the Dihong, to which Wilcox ascended this river (29° 30' N. lat.).

Klaproth supports his opinion of the identity of the Sampo and Irawaddy, by a few passages from Chinese geographers; but it is evident that all the countries between the termination of the known course of 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 Lohit and the vale of Assam, they thought it necessary to unite the Sampo with the most considerable river of the peninsula without the Ganges, the Irawaddy. To the same objections as was made for the join of these geographers 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 Brahmapook.

All these circumstances make it very probable that the Dihong is the continuation of the Sampo. By adding this riv. the course of the Brahmapootra is increased by upwards of 1000 miles: this circumstance would sufficiently explain
why this riv. brings down a volume of water, which raises it far above the Ganges and Irrawaddy, and claims for it the first place among the rivers of S. Asia. (Rennell; Francis Hamilton; Klaproth’s Mémories; Nevile and Wilcox in Asiatic Researches; Ritter, Asien; Maps of Klaproth, Berghaus, etc.).

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 has 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 knowledge of the system of the deaf and dumb from the direct and intimate study of the system. His method 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. xliii. London, 1809). A work entitled For Octdis Subjida, 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 additional light upon the subject. It is signed by those 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 which are the marks of the first animals, and age, 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 of them, which had such a wonderful effect. 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 of the Hebrides), and 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.

BALAIN, 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 [NERVOS SYSTEM]. In man and all the higher animals the nervous system consists of four distinct parts—the white threads called nerves; keepers or carriers, the nerves; the trunk of the nerves 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, now 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 common term brain, is connected with the vessels, which consequently 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, within its name, little brain, 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, beneath the cerebrum and cerebellum. The medulla oblongata is the cavity of 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 membranous coverings, two of which have been called materices, from the faithful 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, forming 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 perioticum adheres to other bones. When torn from the cranium this surface appears some the rough and irregular, and is supplied 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 junction of the sinuses of the cranium. The inner surface of the dura mater, which is shining and smooth, is lubricated and kept in a state of moisture by a fluid secreted by its own vessels. This membrane performs a twofold office; it supplies the place of the periosteum 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 projections called processus, 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 as it approaches the back, and is, in the more recent received, some resemblance in shape to a sickle or scythe, whence the common name of it, fals cerebri.

Where the falx cerebri terminates behind, there proceeds a large lateral expansion of the same membrane, extending along the side of the brain from the posterior part of the cerebrum, and forming a complete floor or vault over the cerebellum. This membranous expansion is called tentorium, the obvious use of which is to prevent the cerebrum from pressing upon the cerebellum; while from the middle of it extends 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 falx cerebelli. Moreover, the component parts of it are completely 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 fluid in its vessels would cause the mass of matter composing it to expand, and it 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 investing membrane, which is named the tunicæ arachnoides, from the extreme tenuity and delicacy of its tissue, which give it a resemblance to a spider’s web. This thin arachnoid is interlaced with a network of vessels so uniformly over the surface of the brain, covering all the compartments of convolutions (fig. 1, 2, 3), but not insinuating itself between any of the depressions between the convolutions (fig. 11, 7). On account of its extreme tenuity and its close adhesion to the membrane beneath it, it cannot be easily separated from the latter; but there are situations at the basis where the arachnoid membrane, as it passes between
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 tunicæ arachnoïdeæ, 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 tender cerebral substance with too great force. When a portion of the pia mater is gently 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. 1.**

[Upper surface of the brain.]

1. cut edge of the bones of the cranium; 2. superior convex surface of the two hemispheres of the cerebrum with their convolutions; 3. separation between the two hemispheres of the cerebrum occupied by the falk cerebi, into two equal lateral halves termed hemispheres (fig. 1. 2), which have an ovoid figure somewhat resembling an egg cut longitudinally into two equal parts. The hemispheres are separated from each other by the membrane already described, the falk cerebi (fig. 1. 3); and their inner sides, in apposition with the falk, are flattened, while their upper and outer surfaces are convex, being accurately adapted to the concavity formed by the inner surface of the bones of the cranium.

Each hemisphere is subdivided into an anterior, a middle, and a posterior lobe, but it is only on the under surface of the brain that these lobes are accurately defined (fig. 11. 1, 2, 3). The anterior and middle lobes are separated from each other by a deep fissure, named the fissura sylvii (fig. 11. 4), which extends obliquely backwards from the brain to a considerable depth between the convolutions; but the middle is distinguished from the posterior lobe, not by a fissure but by a superficial excavation on the under surface of the posterior lobe (fig. 11. 5). The anterior lobes rest upon the orbital plates of the frontal bone; the middle lobes are lodged in the temporal fossa formed by the sphenoid and temporal bones, while the posterior lobes are supported upon the tentorium.

**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. fascic separating the anterior from the middle lobes, named the fissura sylvii; 5. situation of the superficial excavation forming the boundary between the middle and the posterior lobes; 6. the two hemispheres of the cerebrum composed of flattened lamina from; 5, the medulla oblongata, which in this position of the brain rests upon and covers the vermis process; 8. corpora pyramidalia; 9. corpora olivaria; 10. tuber symvis, or pons varioli; 11. destruction of the corpora pyramidalia; 12, e, 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. 1. 2). 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. 1v. 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. 1v. 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. 1v. 7). The outer substance is sometimes termed concrescences, from its being 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. 1v. 7).

The inner substance, termed white or medullary (fig. 1v. 7), is firmer in consistence and larger in quantity than the 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 fibres between them, which for the most part are placed in such a direction as to converge towards the base of the brain (fig. 1v. 6, 5, 4). The fibres do not merely unite, forming what are called commiss
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 fœtus 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 cerebrum is divided into two hemispheres, but on the basis of the cerebellum, towards its posterior part (fig. 11. 6, 8). Its form is ellipsoidal, 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 process (fig. 11. 7), which may be considered as the fundamental part of the organ, because in the lower animals, whatever other parts of the cerebellum are absent, this is invariably present, affording thus the nucleus or rudiment of the organ, from which, by the addition of other parts, as the hemispheres or lateral lobes, &c., the more perfect organ of the higher animal is built up.

The external surface of the cerebellum is divided into distinct regions or layers (fig. 11. 6), separated by fissures which correspond to the clefts 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 each 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 arboraceous appearance commonly denominated the arbor vitae (fig. 111. 3). These strata diverge towards the circumference of the cerebellum, and are covered externally by grey substance (fig. 111. 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). Off this external surface it is divided into two lateral halves 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 cerebræ are continued forwards and forwards to the upper and middle part of each hemisphere of the cerebrum, in which they are lost. In like manner the crura cerebelli are continued backwards and backwards into the hemispheres of the cerebellum, in which they terminate.

The medulla oblongata is a long oval 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. 9): and the two internal the corpora olivaria (fig. 11. 9), or the olivary bodies.

If the membranes which invest the medulla oblongata are profusely removed, and its surface gently drawn, they will be discovered for a five or six superficial 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 opposite side, which are interwoven like plaited straw (fig. 11. 11). These bands or liga menta of the corpora pyramidialis, 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 consequent disturbance of function is manifested on the opposite side of the body (fig. 11. 10).

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 passing through the body at right angles with the axis, and the parts 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 fellow 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 cerebellum are united by means of the large mass of cerebellar matter already spoken of under the name of the corpora quadrigemina, or the callosum majus. The hemispheres of the cerebrum are united chiefly by a broad expansion of medullary matter, which extends transversely across from the bottom of one hemisphere to that of the other, called the corpus callosum, or the great commissure of the brain (fig. 11. 6, 5). There are other connecting 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 or layers (fig. 11. 6), separa tions being marked by a tendinous band known as 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 mem brane is the pia mater, which lines the outer surface of the brain into these interior cavities, and which the 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. 114), 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 substance; 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 Systeme Nerveux en general, 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 ideas may be formed of the course of the fibres from fig. 14, taken from a smaller work by Dr. Spurzheim. Let us follow the course of some of these fibres; those, for example, that compose the pyramids (fig. 6, and fig. 1), and trace them from the tuber annulare to the convolutions of the cerebrum (fig. 14). Immediately before their entrance to the tuber annulare, the pyramids are a little contracted (fig. 14). As soon as they enter this mass, the pyramids are divided into innumerable bundles of fibres (fig. 14), which are covered by a thick layer of transverse fibres (fig. 14) that come from the cerebellum (fig. 14). These fibres of the pyramids, thus increased in number, ascend and receive at every point of their course fresh accretions, until at their exit (from the tuber) forward and outward, they form at least two-thirds of the crura cerebi, as is seen at fig. 14. Followed in their course forwards from fig. 14, they are manifestly increased at every point by the accession of infinite numbers of fibres (fig. 14). At the point (fig. 14) the fibres, now exceedingly numerous, manifestly assume a diverging course, proceeding in every direction forwards, upwards, laterally, and backwards (fig. 14, 5, 6, 7, 8). At length the radiating fibres, crossing and interfacing each other in all directions, form an expansion or tissue, which being folded in various ways and covered with grey matter constitute the convolutions (fig. 14, 5, 6, 7). Thus the pyramids progressively increased and developed form a large portion of the anterior and middle lobes of the cerebrum. If the corpora olivaris (fig. 11) were traced in like manner, they would be found to form the posterior lobes of the cerebrum; and the other fibres constituting the main bulk of the cerebrum can be demonstrated with the same clearness and exactness.

From the preceding account of the structure of the brain, which shows it to be an exceedingly complex organ, it might have been inferred that it requires a large supply of blood; but the quantity actually sent to it is far greater than any analogy could have led us to suppose. Haller made a calculation, from which he concluded 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 one twentieth part 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 circulations in the brain, the blood passing 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 circulation, in consequence of its stagnating in various parts of the brain, 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 it must be supposed there is some plausibility to the opinion that the brain has some analogy to a secreting organ. Without doubt, one use of both 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 in consequence, 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, contained within another layer. The small globules resemble the ultimate globules belonging 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 excellent examination of an emulsion of the brain its fibrous appearance; that the diameter of the globules varies from 1 to that of an inch, the general size being 3 ; that they are both larger and in greater proportion in the medullary than in the crenitious 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 the sal ammoniac, being soluble in 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 and adipocerous matter, soluble in alcohol; also the peculiar animal principle called cerebro-zome, containing a quantity of phosphoric and a small quantity of phosphates, and some saline matter, consisting principally of the phosphates of lime, soda, and ammonia.

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.

* BRAIN OF ANIMALS, its peculiarities and diseases.

The most obvious distinction between the human and that of the other mammals 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 latter is strikingly 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 scarcely weighs a pound: the average weight of the brain of the human being is more than 24 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 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 probabilities 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 downgraded. They are, and often shift for itself, 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 this sense so very important to it.

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 is the transition 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 horse; 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 cerebrum 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 prey of the acuteness of the senses and the prodigality 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 the quadruped differs: whereas, the medullary parts 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 organs, but, often, the pleasing 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 the dog it is one-third of the size of the human brain, but that of the mouse is so small as to be relatively little important. But of what is it composed? 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 as in a larger animal. This must necessarily occupy a considerable bulk; but there is little of the cerebrum, 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 Ciolon's edition of Blumenbach's Comparative Anatomy, and to the later works of Cuvier and of C. L. B. 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 eagle is not more than a two-hundred-and-sixtieth part of the body, with the brain of the goose not more than a three-hundred-and-sixtieth part. If in some of the lesser birds, as in the eabfinch 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 cerebrum matter forms only a very small part of the brain. The brain of the bird has no connection with the surface of the cerebrum, no convolutions, no pons varolii between the brain and the spinal cord; and the origins of the optic nerves are separate from the brain, and lie behind and below it.

In fishes the brain is yet more diminished in proportion to the size of the body, but constitutes 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 different portions, which are referred to the optic, platycephalic, and the other, 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 often form a twisted pair of tubercles 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 cerebrum is a substance found in an exceedingly small proportion in the brains of fish.

As for insects and worms, little need 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 osseous, and thence proceed nerves, which are variously termed, white or yellow, to the digestive canal. In insects, the upper ganglion usually surrounds the osseous, and a ganglionic system of nerves can generally be traced proceeding from it. In the larve of insects the brain is included in a horny cavity. The animal can proceed from this cavity through 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 central medullary and motor nerves discovered 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 unfrequency of any affection of the brain that can be called insanity in animals. If there is so small a portion of cemicitarian matter, if the intellectual principle is so slightly developed, abruption of the mind is scarcely to be expected. In certain cases, the intellectual and other senses are occasionally observed. It is one of the commonest symptoms of rabies. Pure mental alienation unaccompanied by inflammatory or other disease is however, although very rarely, seen in the quadruped. The eagerness of the animal to be alone, the desire of the sow, the bitch, the rabbit, or the cat, will search out and pursue their own objects 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 which is not true monomania? A mare that had not the least notion for any other object, was always roused to uncontrollable fury by the sight or rustling of paper; another mare would endeavour to fly upon and tear to pieces every light grey horse that came in her way; a third would rush fanatically against every white object, calling it aIMATE 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 the twelfth, and that of the ox is not a twentieth part so large as the brain 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 causes, as a woman in a fit of parturition, or on the bed of a sudden, a still greater quantity of blood is sometimes determined to the brain than to the body 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—and the man becomes a kind of brain of apoplexy, and unless the current is speedily diverted, and the overcharged vessels and 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 the ox?”

The peculiar fever, which has been giving rise to so much anxiety in the markets, has been attended with a very extraordinary phenomenon; the animals are turned into more luxuriant pastures, or they are driven to the turnip-field. They have not been there many hours before one and another begins to have violently at the flanks—the head is extended, the eyes are protruded, the mouth, the mouth, the mouth, the mouth, and the mouth; the whole animal is in flames, and perishes. The flock or herd of the farmer, has occasionally been decimated in this way.

Thousands of horses used to be lost from a similar cause. From exciting the labour of this animal during too many successive hours, and then suffering him to gorge himself at will, stallagers prevailed to so dreadful an extent that whole establishments were swept away at once. The hours of labour were shortened where this could be effected, and the use of the nose-bag was introduced; a little more accommodation, and it has been cured. This disease now rarely occurs except from some evident mismanagement. Apoplexy is a disease of frequent occurrence among swine. It sometimes rages like an endemic through the piggery. Poultry of all kinds, and caged birds, are occasionally seized, almost or wholly in the act of warning they drop from their perches and die. Although every attention is paid to the quantity and the kind of food, two-thirds of the birds, and one-third of the quadrupeds that die in the menagerie belonging to the Zoological Society of London, die of this disease. It is on account of the small portion of cedebient matter in the brain, that the intellect is so little deranged in the diseases of quadrupeds. There are few cases of intense fever, in which the mind of the human being does not occur. It may be said, in general, that phreny, or pure inflammation of the brain or its membranes—and the peculiar aberration of mind which characterizes rabies, delirium is rarely observed in any of the maladies of brutes. The intellect may be extinguished at once, as in apoplexy; but there is not sufficient of it to permit the frequent and dreadful exaltation of it which is often observed in man.

It is probably owing to the comparatively small bulk of brain, and the condensation and firmness of that which is given to them, that hydrocephalus is of such unfrequent occurrence as it is. Nevertheless, the most remarkable case on record was in a fish—[HYDROCEPHALUS].

On the other hand, the brain of the quadruped, and particularly that of the ox and the sheep, is often inhabited by hydatids, which produce effects similar to dropsy in the head, and are quite as fatal. Yarning cattos and sheep are observed to have cysts in the head, as well as in the field, as if they were produced by some wild beast. They neglect their food, or become unable to feed, and rapidly pine away and die. On examination after death an hydatid, and occasionally several of them, are found lying on the brain between its membranes, by their presence, the brain is thrown into the hands of the surgeon, producing all this derangement. This disease is very fatal; no fewer than 600,000 sheep are supposed annually to be destroyed by it in France: it is, however, only in young and weakly animals that it usually occurs. [HYDAT.]
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 magnitude, and remarkable for its spacious court, surrounded by open galleries—a combination of column and arch constituting itself a mixed style, as it was here managed by Bramante it is at least free from absurdity, for he suppressed all appearance of entablature, and made his arches of the same size from the top of the columns to the ground, which with the capitals may be considered as the imposts surrounding circular instead of square piers; whereas blocks made to resemble pieces of an entablature not only cause the superstructure to be too much as if it was made of fragments, but call attention still more forcibly to the imperfection 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 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, with its polygonal pillars and 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 their own beauty. There is in magnificence the general necessity of making the constituent features the array 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 intercolumns alternately: in the former are placed the windows, while 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 principal order are those of the abased, although covered 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 intercolumns alternately: in the former are placed the first order, crowned by a horizontal frieze and cornice, but with these differences, that the lesser intercolumns are narrower than in the other instance, although still of too great width to allow the pilasters to be termed 'coupled;' and the other, which are almost as high as these, are left blank.

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 ofsignalizing his reign by some noble monuments of architecture and the other arts. By him Bramante was commissioned to project plans for unifying the Belvedere with the buildings of the old Vatican palace, so as to render the whole, if not a coherent pile of regular buildings, at least an imposing mass. The architect seems in some measure to have been assisted in this design by the first instance 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 was five lesser niches containing a group of the Laocoön and other master-pieces of sculpture, may be seen (very rudely executed) in Serlio's work on architecture; where is likewise shown part of one of the galleries or loggias—the same that was copied by Sir Robert Taylor in his plan of St. Peter's in the Vatican. But as they exist, and not 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 now 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 the 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, Julius the Third invited 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 to time to patronise others, and he enjoyed the honour of having been the first to be called upon 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 a vast stately edifice ornamented with forty statues by that artist, some of them of colossal size; and also that he recommended him to employ Michael Angelo preferably in painting the Sistine chapel: yet that he should, as some have conjectured, have suggested the latter undertaking in the hope that it would prove a failure, is hardly credible.

At least he had no very particular reason to be dissatisfied with the scheme of the mausoleum, because it was in order to provide a suitable situation for it that Julius determined upon taking up his residence in a building near the Campachione, as had been intended by Nicholas V, who had actually commenced the end tribune or semicircle, which was chosen by Michael Angelo as the most fitting place for the mausoleum. Such was the origin of the present fabbrica 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 his work in 1513, and carried 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 soffits of the arches, by means of moulds fixed into the surface of the wall to the formation of the masonry 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 restorations made by Sangallo and his successors were such that the original design was entirely lost sight of, the present edifice can in nowise be considered the work of Bramante. On the contrary, there is reason to imagine that it would have been a much nobler building if we had been able to see it in its perfect state, 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 extent and arrangement is concerned is not only more liberal than the other, but on almost every account, 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 arches similar to those of the Pantheon at its base, above the profile 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. If these mere architectural ideas, 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 peristyle of sixteen Doric columns, above which rise the walls of the cella, forming a disproportionately lofty cupola, 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 which there is a particularly uncouth balustrade above the entablature of the peristyle, whose balusters are combined the whole circumference, without any intervening pedestals. At the best it is a very conglomeration of these, and the unorderly mixtures 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 Bramhall, but to some of other his claims are either dis-putable, 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.

BRAMBANAN, a vil. in the isl. of Java, about three m. N.N.E. from Djojokarta in 7° 49' S. lat., 116° 25' E. long. Brambanan 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 bown stone in large blocks, and are uniform in their character, each of them being of pyramidal form, and highly ornamented with sculptures. The large central building is divided in the second story into apartments and rooms named the 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 those entrances is apparently guarded by colossal statues in a kneeling attitude. The interior walls of the buildings, which are of modern date, are covered with a gold and silver leaf; 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 in similar remains in the East.

The names of these temples were erased towards the end of the 12th or the beginning of the 13th century. (Crawford'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 counties of Wessex. Of its history little is known, and neither the church nor the manor has been definitely identified. It appears that the Raper of Bramber was subdued on the N. by the co. of Surrey, on the S. by the English Channel, and on E. and W. respectively by the Rapes of Lewes and Arundel. Its length from N. to S. is 22 m.; from E. to W. 11 m. It contains ten hundred, 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.

The disfranchised bor. of Bramber, which is a vil. of the manor of the same name, was of considerable importance than the ruined castle of Bramber or Brembre. The castle and manor were granted in 1066 by William the Conqueror to William de Braose. They now belong to the Duke of Norfolk.

Bramhall, William, a notable of the time of the Reformation, was one of the two members for the bor. of Shoreham being elected by the qualified inh. of the Raper of Shoreham. The total number of the pop. of the Raper in 1811, was 22,777; in 1831, 30,113.

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BRAMBLE, a wild fruit-bearing bush, belonging to the natural order Rosaceae. [Ruscus]

BRAMHALL, JOHN, Archbishop of Armagh, in the service of the church of England, in Yorkshire, about the year 1593, 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, 1598. In 1623 the Archbishop of York made him his chaplain. He was also prebendary of York and Ripon. In 1630 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 1654 he was promoted to the bishoprick of Cloyne, and by great exertions he increased the yearly revenue by advancing the rents and recovering lost lands which had been detained from his predecessors.

Bramhall appears to nave 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 for the Crown; he obtained permission to sell the goods of dying prelates, together with several other of Stratford's coadjutors, by the Irish House of Commons. He was in consequence imprisoned, and after some time, through the King's intercession, set at liberty, but without any public acquisitum. Some time after, not considering himself safe in Ireland, he went over to England, when 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 troopers, the servant of the late King, with two other of distinction, and landed at Hamburg, July 8, 1644. It was by his advice that the exiles, 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 the prelate's name might have perhaps been forgotten. At the Restoration, Bramhall was made Archbishop of Armagh, Primate and Metropolitum of all Ireland. He now renewed his elections for the archbishopric, and aggrandizement of the Church. He died in 1662. But his wife he bad four children, a son, Sir Thomas Bramhall, bart., and three daughters.

Bramhall, whatever in his day might be his reputation as a bustling and intriguing churchman, will be remembered as one of the most judicious of the writers of the age. His works were very numerous, and were full of vigorous expression and grateful sentiments. The chief controversy with Hobbes, and his other works, resolved into a discussion at Paris in the company of the Marquis of Newcastle, while they were all living there in exile. (Bliss, Brit. art. "Bramhall.")

I shall briefly draw up the summary of what we have both said, and the point which must be determined is—that no man hath his future will in his own present power; that it may be changed by others, and by the change of things without him; and when it is changed, it is not changed nor determined to anything by itself; and that when it is undecided, it is undecided because every one that wills what is something in particular; that deliberation is common to men with beasts, as being alternate appetite, and not rationing; and the last act or appetite therein, and which is immediately followed by the action, the only will that can be taken notice of in the act of reason, and that the action in public judgment voluntary—that to be free is no more than to do, if a man will, and if he will, to forbear; and consequently that this freedom is the freedom of the man, and not of the will—that the will is not free, but subject to change by the operation of external causes;—
that all external causes depend necessarily on the first
eexternal 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 concur with God, either as an actor, or a spectator,
without God, or by means whereof it is only a fortuitous,
by a cause, or nothing without a cause or concurrence of
causes sufficient to bring it so to pass; and that every such
cause, and their concurrence, do proceed from the provi-
dence, good pleasure, and working of God; and consequently,
though I do, with others, call man volition, and uncontingent,
say they happen, yet because they had every of them
several sufficient causes, and those causes again their former
causes, I say they happen necessarily; and though we per-
ceive not what they are, yet there are of the most contingent
ev 'en the least possible causes, which whose we perceive, or else
they could not possibly be foreknown, as they are by him that foreknew all things.

On the contrary, the bishop maintaineth,—that the will
is free from necessitation, and in order thereto the
judgment of the understanding is not always practic-
tum, nor of such a nature in itself as to oblige and deter-
mine 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 will, do so without any obdurate and certain 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 concurring and pouring something in
the will, which, being after the likeness of the will, 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
permissu will, not an operative will, and be hallowed the
human will; and (which is something observable) in case of
his own will, but his motu primo pristin not in his own
power, nor necessary, save only by a hypothetical necessity;
— that the will to change is always a change of will;
that not all things which are produced are produced from
sufficient causes;—that they are sufficiently produced;
that the power of the will 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 doth 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 whole
world hath of election; for when of the six electors the votes are
deposited, they are not only a voice, but the whole
voice;—that the presence of God supposeth no necessity
of the future existence of the things foreknown, because
God is not eternal but etern; and eternity is a stand-
ning now, without succession of time, and therefore God
stands ascribed by the presence of it in nunc stant, which comprehseth in it all time, past, pres-
ent, and to come, not formally, but essentially and virtuously;
— that the will is free even when it obsteth, but that is in
a compounded not in a divided sense;—that to be made and
to be done are different things;—that the principles made,
and are nevertheless eternal;—that the order, beauty,
and perfection of the world doth require that in the universe
there should be agents of all sorts, some necessary, some
free, some contingent;—that though it be true that to-mor-
or's will may be the guide, yet neither of them is determined;
—that the doctrine of necessity is a blasphemous,
desperate, and destructive doctrine;—that it were better to
be an atheist than to hold it, and be that maintaineth it is
fitter to be refuted with rods than with arguments.

And now whether this doctrine or mine he the more
intelligible, more rational, or more conformable to God's
word, I leave it to the judgment of the reader. But what-
soever be the truth of the disputed question, the reader
may peradventure think I have not used the bishop with
the civility that was due to him, nor have I economized
all that I might have done, for which I am to make a short apology. †

The Question concerning Liberty, Necessity, and Chance,
clearly Stated and Debated between Dr. Bramhall, Bishop
of Derry, and Thomas Hobbes of Malmsbury. London,
1656, 8vo. 5th ed. 1685.

BRAMINS. [HINDUS, CASTES OF.] BRAMPTON. [CUMBERLAND.]
BRANCALEONE D'ANDALO, a Bolognese noble and count of Casalecchio, was chosen by the people
of Rome as their senator in 1233, with the summary powers
of a dictator. The iniquitous IV., from 1234 to 1239,
was, indeed, in his own time, and Rome was distracted by quarrels between
its feudal nobles, who had fortified themselves in their respective
palaces, or in some of the antient monuments, such as
the Colosseum, the tomb of Cimelia Metella, the mausoleums
of Augustus, Helen, and Caligula, on the Palatine, deciding the fate of the nation by their
votes, and the number of lofty towers, from which they defied the attacks
of their enemies. Each baron had a band of his relatives, clients, or dependants, and of hired swordsmen. These
sailed frequently out of their strongholds, either to attack a rival baron, or to plunder protected citizens and
a country people. Such was at that time the general
condition, not only of Rome, but of Florence, Milan, and other
great Italian cities which lived in what was called munici-
pal independence, until the citizens, weary of this state of
anarchy, reverted to the establishment of the podestà,
a temporary magistrate, who was always chosen out of
the foreign city or state, and who had summary powers to put
down the disturbers of the public peace. The Romans
styled theirs Senator. Brancalone was a man of a stern,
peremptory temper, and being a stranger had no sympathy
with the popular party, and not that of the podestà. The
invasion of the French—of which the crusaders brought
destruction against the barbarous, attacked their strongholds,
rased their towers, hanged them and their adherents at
the windows of their mansions, and thus succeeded by terror
in restoring peace and security to the city. In the numerous
revolts against the podestà, he made his escape unhurt,
despite the severity of the war. The people of Rome,
like the rest of Italy, disliked the podestà, and, when
Bramhall, or the podestà, who resumed his authority, which he exercised with re-
doubled vigour. He made war against several towns in the
neighbourhood of Rome, and obliged them to submit to his
authority. He threatened to destroy Anagni, but desisted
when the people offered him presents of wine, treasures, and
under IV. Although that pope was the declared enemy of
Manfred king of Sicily and Naples, Brancalone maintained a good understanding with the latter. In 1239
Brancalone died, much regretted by the citizens, who had
indeed thought a man of his kind could do no wrong, with
notwithstanding the opposition of the pope. A column was
raised in honour of Brancalone, with an urn at the top, in
which the head of the senator was enclosed.

BRANCASTER. [NORFOLK.] BRANDEGA. [HADKIN.

The first order of the Estomatostraca [Entomostraca], the sixth of the class Cus-
taceae [Crustacea], according to Latreille, who thus char-
acterizes it. A mouth composed of a labrum (lip), two man-
dibles, a little tongue (linguette), and one or two pairs
of corneas, or antennae. Each of these parts is represented in most marine
species, are always in motion when in an animate state, and are generally protected by a skull or crust in the shape of a
shield, or of a bivalve shell, and are furnished sometimes
with four, sometimes with two antennae. The feet, with
a small exception, are entirely natatory and vary in number,
some Brachiopods having only six, while in others these
organs which so beautifully minister both to the circulating
system and to locomotion, amount to from twenty to forty-
two, and, in some, to more than a hundred. A great
number of species, and especially of the marine,
possess the presence or absence of the mandibulary palp or feeler, and are generally used as a character in the larger crustaceans, being difficult
detection in creatures so minute as many of the
Brachiopods are. Latreille, with good judgment as we think,
depends upon the eyes, the shell, and the antennae as the
guides of his classification. In that of De Geer, Fabrice,
and Linnaeus, the genus Monoculus (Linn.) appears to
have been the only representative of the order. Latreille proposes the following arrangement.

**Section I.**

**Lophynopa.**

Feet never more than six, the articulations more or less cylindrical or conical, and never entirely lamelliform or foliaceous. The Branchies are not numerous, and there is but one eye. Many have the mandibles furnished with a paupis or feeler, and though M. Strennstratus organizes the whole of the Order, his genera Cyclops and Cypridula, which compose his order of Ostracopa, the elder Jurine and M. Ramdhor are convinced that it is also characteristic of Cyclops. The antennae are always four in numbers, and serve for locomotion. Three groups are arranged under this section.

**Carcinoidea.**

Shell more or less oval, 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 sessile. 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.

a. **Two eyes.**

Shell entirely covering the thorax. Eyes large and distinct. Antenna intermediate, terminated by two bristle-like appendages.

Under this subdivision Latreille places the genera Zoea (Bosc), Nebalia (Leach), and Condyllura (Latreille). As our limits will not permit us to describe and figure more than one of these, we select the genus Zoea as an example. Latreille considers the genus Nictheo of Audouin and Milne Edwards to belong to the Pacilopoda (Pacirola), remarking at the same time that the feet, with the exception of the anterior ones, resemble much 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.

**Zoea (Bosc)** has the eyes very large, entirely exposed, and is furnished with processes in the shape of horns upon the posterior part of the thorax. The general description of Zoea pelagica which he found in the Atlantic Ocean, body semi-transparent, four antennae inserted below the eyes, the exterior joined (coUNDLE) and bield. A sort of long beak on the front of the thorax between 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, crescent-shaped, and spiny.

Desmarest 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 Cypridinae in their early state of existence. They thus become most highly interesting, as affording, according to him, positive evidence of the metamorphosis of the Crustaceous decapods.

Having taken certain zoas in the harbor of Cove, Mr. Thompson states in the first No. 1 of his Zoological Researches, (April, 1833) that he saw them undergoing the change, and that enough was gained to show that the distinctive characters of Zoas, and of Slaber's changed Zoas, (Zoea taurus), were entirely lost, and that the members from being natatory and cleft became simple and adapted to crawling only. 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 Zoas taurus; and he believes, from these and other observations of the structure and metamorphosis of the animals, that they undergo 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 claws (pinners), and with feet almost solely adapted for crawling.

But the publication of M. Rathke's elaborate researches on the formation and development of the crawfish (Astacus fluviatilis) serves this general conclusion; for his observations prove beyond doubt that no such metamorphosis takes place here. These animals, in the process of growth, however, to a certain extent, but, 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 if any delusion exists, or source of error, it must rather attach to M. Rathke than to him; namely, that, in regard to the Brachyurus decapods (crabs, &c.) he has actually ascertained the newly-hatched animal to be a Zoas in the following genera: Cancer, Carcinus, Portunus, Ergyptra, Gecarcinus, Thelphusa, Panorhita, Inachus—what in all; and that in the Macroura (lobsters, &c.) he has actually ascertained that the following seven genera are subject to metamorphosis:—Pogores, Portellana, Galathea, Orangus, Philias, Homarus, Astacus. He admits, indeed, that the genus Zoea (Astacus) is in some degree in degree in any other of the above enumerated genera, and consisting in a change from a chelifereous Schizopusod to a Decapod—in its first stage being what he would call a modified Zoea with a frontal spine, spatulate tail, and wanting sub-abdominal appendages, but in the second stage to appear as 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 Astacus or crawfish as an exception? or whether there is no reason, from the facts which have been detected, that this similarity 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 will render it necessary to consider these 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 his elaborate details and illustrative figures, and, if they cannot procure M. Rathke's work, to the 4th 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 them opportunity, to publish all interesting facts. The following figures of Zoas clavata (Linn.) 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 Zoas.
The anterior and the largest segment presents a single eye. The two anterior segments are united in the female by the secretion of a thin, transparent gelatinous envelope. These two segments are divided into four parts: one anterior, consisting of the head and thorax, and the other posterior, forming what is commonly called the tail. The segment immediately preceding the sexual organs, and which in the females carries two supporting appendages in the form of little feet (functions, &c.), may be distinguished from the first segment of the tail, which is not always very clearly defined or strongly distinguished from the thorax, and consists of six segments or joints, the second of which in the males is provided on its lower side with two articulated appendages, a kind of antennæ, sometimes, sometimes having a small division at the internal edge, and constituting entirely or in part the organs of generation. In the other sex the female organ is placed upon the same joint. The last segment terminates in two points forming a fork, and more or less bored with delicate beams or pennon fringes. The anterior portion of the body is divided into four segments, of which the first and by far the largest includes the head and a portion of the thorax, which are thus covered by one scale common to both. Here are situated the eye, four antennæ, and feelers. The latter are furnished with a feeler (which is either simple or divided into two articulated branches, two jaws (the external mandibles or lip with little beards of J urine), and four feet divided each into two cylindrical sterna, fringed with hairs or beard. The antennæ are nearly equal, being a little from the preceding pair, and are compared by Jurine to a kind of hands. Each of the three succeeding segments serves as the point of attachment to a pair of feet. The two superior antennæ are longest, setaceous, simple, and formed of a series of articulated parts grouped together, and with their action the motion of the body, and perform very nearly the office of feet. The lower antennæ (antennules of J urine) are filiform, consisting most frequently of not more than four joints, and are sometimes simple, sometimes forked. By their rapid motion they produce a small eddy in the water. In the males the upper antennæ, or one of them only, as in Cyclops Castor, are contracted in parts, and exhibit a swelling portion which is followed by a hinge joint. By means of these organs, or of one of them, the males seize either the females, or the eggs and young of the latter. In their amorous approaches: when these last are unwill ing they carry the males about for some time. The copulation is prompt and reiterated. Jurine saw three acts in a quarter of an hour. Before his time, it was generally believed that female Cyclops never moult, and that the males are incapable of forming the new caryophyllaceous leaves on their antennæ, an error which was supported by the analogy of those of the araneids. On each side of the tail of the females is an oval bag filled with eggs (external ovary of J urine), adhering by a very fine pedicle to the second segment, near its junction with the third, and where the origin of the deferent egg canal may be seen. The pedicle which forms these bags is only a continuation of that of the internal ovary. The number of contained eggs increases with age. They are at first brown or obscure, but afterwards present a red color, and are nearly transparent, ever increasing in size, when the young are about to come forth. When isolated or detached, up to a certain period at least, the germ perishes. A single fecundation, which is indispensable, suffices for successive generations, and the same females may lay eggs ten times in the course of three months, so that the number of births amounts to something enormous*. The time for the fetuses to remain in the ovary varies from two to ten days, the variation depending on the temperature of the seasons and on other circumstances. The females are sometimes elongated, glabrous bodies, more or less numerous, which are supposed to be congregations of infusory animals. The young at their birth have four feet only, and their body is rounded and tailless. In this state they are the genus Ammonea of Müller. Some time afterwards (in

* Taking eight卵possessing and allowing forty eggs for each, it has been calculated that one female Cyclops may be the progenitor of four thousand five hundred millions.

about fifteen days in the months of February or March) they acquire another pair of feet; they are then the genus Nauplius of the same author. After their first moult they assume the form and all the parts which characterize the adult state of the sex. When the second and third portions: their antennæ and feet, for example, are comparatively short. At the end of two more moults they are fit for the reproduction of the species. The greater part of these entomopteraea swim upon their backs, darting about with vivacity, and possessing the power of moving either backward or forward. They are generally distinguished by an organ of 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 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 also at each end a vessel supposed to represent the branchio-cardiac canals observable in the circulation of the Decapod crustacea. Jurine, who on many occasions reduced the Cyclopes to a state of entire simplicity and restored them to life, found that in the process of respiration 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 antennæ, especially in the males, the heart and antennæ being far more exposed to view. Each portion of an antennæ 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 antennæ and body of Cyclops Staphylina, and in the kind of borny processes attached to the extremity of it, so that don't search, formed round, which latreille considers it as forming a distinct subdivision; and he seems to be of opinion that Cyclops Castor and some others, whose lowers antennæ and mandibulæ feelers are divided, beyond their base, into two segments, and having a number of other generic characters, the observers, may be a sub-genus, if it be true that the animal which forms the type has no inferior antennæ; but on the contrary, he is wont to doubt whether this absence was made out by Leach's own observations, or whether the assertion is made on the authority of Müller.

The genus Cyclops is an inhabitant of the fresh waters; and we select the common Cyclops, Cyclops vulgaris, Leach; Monoculus quadricornis, Linn.; Cyclops quadricornis, Müller; Monocule a queue fourchue, Geoffroy, as an example of the genus.

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 antennæ (antennules of Jurine) are tolerably large. All the four joints of the tail, the anterior antennæ are three the length of the posterior.

There are several varieties.

Var. a. Rubidus; eggs brown, forming two oblique masses near the sides of the tail. Total length eight-twelfths of a line. This is the Monoculus 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. quadr. albidus of J urine.

Var. c. Greenish. Direction of the two egg-masses intermediate between that of the egg-masses of the two former. Length nine-twelfths of a line. Mon. quadr. varidus of J urine.


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. quadr. praesertus of J urine.

According to Leach's observations, the common Cyclops, when hatched is nearly spherical, and is furnished with four feet only and but two antennæ. In this state it continues till the fifteenth day, and then a small elongation
takes place at the posterior part of the body. When twenty days old it acquires two additional feet, which are not however fully developed till the expiration of five days more.

At the age of twenty-eight days it molts, and is not in a condition to assist in the continuation of the species till it has changed its skin a second time, when it takes its permanent form; this happens about the month of August. The females when once fecundated makes a succession of deposits of eggs without having occasion again to have recourse to the male.

Ostracaoda, Latreille; Ostræpoda, Straus.

The shell of the Ostracaoda* is formed of two pieces or valves representing those of a conchiferous mollusk or bivalve shell, but horny, not testaceous. As in the bivalves, the two pieces are united by a hinge, and when the animal is inactive they close upon and shut in the body and its parts. The feet are ambulatory, six in number, and none are terminated by a digested swimming organ, nor accompanied by a branchial lamina. The antennæ are simple, bilobiform, or testaceous. There is but one eye, which is composite and sessile. 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, Cythera, Müller, (Cytherina, Lamarck) and Cypris. Of the former, which is found in and comprehended in protection as they bring into action (according to Jurine) the filaments of the antennæ—sometimes they only show one, at others they put them all forth. Latreille thinks that these filaments may also assist in respiration. The two anterior feet are moved with the same rapidity as the antennæ when the animal is swimming; when it creeps over the surface of the water plants, the progress is slow. The female deposits her eggs in a mass, fixing them by means of a glutinous substance on the water plants or on the mud. Anchored by her second pair of feet, she allows the agitation of the water, and when the eggs are mature, she occupies about two hours in this operation, the produce of which, in the largest species, amounts to twenty-four eggs. Jurine collected some of these at the time of their exclusion, and, after having insulated them, obtained another generation without the intervention of the male. A female which laid her eggs on the 12th of April changed her skin six
times between that day and the 18th of May following. On the
29th of the last-named month she lied again, and, two
days afterwards, made a second deposit. Jurine concludes
that the number of molluscs in the young state corresponds
with the gradual development of the individual. Desmarest
considers that they do not undergo a metamorphosis, but
that they present, on their exclusion from the egg, the form
which they preserve throughout their life. Their food is
said to consist of dead animal substances and of con
cerver. In summer, when the heated have dried up the pools,
they plunge into the humid mud, and there remain in an
apoccephalic kind of existence till the rains again restore
them to activity.

The present species are numerous; Jurine describes
twenty-one. Of these we select the largest, *Cypris ornata*
(one line and 2-12ths), Müller, for an external view, and
*Cypris fusca* (2 of a millimetre), Straus, to show the internal
organization.

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**Cladocera. Latrellia; Daphnidae, Straus.**

These, which are very minute, have a single eye only, and
are protected by a shell doubled as it were, but without
any hinge, according to Jurine, and terminated posteriorly
in a point. The head, which is covered with a kind of beak-
like armour, projects beyond the shell. There are two
antennae generally large, in the form of arms, divided in
to two or three branches, placed on a peduncle fringed with
filaments always projecting, and serving the purpose of
oars. The feet are ten in number, terminated by a digit-
ted or pectinated swimming organ, and furnished, with
the exception of the two first, with a brachial filament.
Their eggs are situated on the hack, and their body termin-
ates with a sort of tail, with two delicate hairs or filaments
at the end. The anterior part of the body is sometimes
prolonged into the form of a band, sometimes into a shape
approaching that of a head occupied nearly entirely by one
large eye.

Latreille gives the following subgenera: *Polypphemus*,
Müller; *Daphnia*, Müller; *Lynceus*, Müller (Chlorodes,
Leach). Of these, *Daphnia* is the most numerous sub-
genus, and among this the species are so extremely small, that
the observations of naturalists, and more especially of Schaffer, Ramdohr,
Straus, and the elder Jurine, have rendered its organization
and habits extremely well known. Straus, who has given
an excellent monograph of the *Daphnidae*, adds two sub-
genus, *Latreille*, characterized by the form of the
oars divided into three branches, with a single joint
(*Daphnia setifera*, Müller); and *Sida*, with antennae divided
into two branches, one of which has but two joints, while
the other has three (*Daphnia cristailina*, Müller).

We are not at present in a position to say whether
these limits will not allow us to go into more detail
upon these interesting animals, and we must content
ourselves with referring to the authors above mentioned,
with the addition of Swammerdam, and Latreille, for particulars,
oberving by the way that one junction of the sexes fecun-
dates the offspring hasty and excessively generally, so that
their molluscs are very frequent; that they lay at first
but one egg, then two or three, and so on progressively
as they advance in life till their number amounts to 58 in
one species (*Daphnia magna*); and that the young of
the species develop in the form of two or three males in a
female batch, and *vice versa*. As the winter approaches, their molluscs and oviposita cease,
and the frost is supposed to destroy them, leaving however
the eggs unharmmed, which the genial spring season hatches
to fill the pools with myriads of *Daphnia*. Then those
who have microscopes will find ample employment for them.
Every ditch, every pool, every garden reservoir, will furnish
the observer with Branchiopoda.

The species are numerous. The most common is the
intermediate *Cypris Faba*, Desmarest; *Cypris arborea*
*Cypris arboreascens* of Swammerdam. *Le Perrouquet d'eau* of
Geoffroy. Despised as this minute creature may be by those
who, like the orientalists, consider size as absolutely neces-
sary to produce grand ideas, it has fixed the special atten-
tion of Swammerdam, Needham, Huxley, Geer, Schaffer,
De Geer, Straus, and above all of Jurine, who, in common
with other philosophers of great name, have found as much
interesting information regarding the development of ani-
mal life in the admirable organization of these animated
specks as is afforded by the largest vertebrate animal.

**Section II.**

*Phyllopoda.*

Distinguished by the number of feet, and by the lamel-
ulae, the some falciform form of the joints, representing,
according to Latreille, the *Myriapoda* in the class *Insects*. The
latter sort, which are most remarkable, are shown, &c.
these are of the genus *Cyclops*. May not Baker have had
*Cypris* in his eye when he wrote 'testaceous animalculae'—
for when the valves are closed, it has all the appearance
of an asceptous testaceous mollusc in a bivalve shell—
and may not this be the parasite referred to by bentnet?

The following authors may be consulted on these animals,
whose highly curious organization and history have employed
the pens of Linnaeus, Joblot, Geoffroi, Müller, Ledermüller,
Bennet, De Geer, Fabricius, Boso, Cuvier, Latreille, Deau-
vard, De Ferussac, Lamarck, Straus, Jurine, Desmarest.
Ceratophthalma, Latreille.

The Ceratophthalmas 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 foot. The legs 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 Limadia of Adolphe Brongniart is an example of this structure. Limadia Hermanni, Adol. Brongni., Daphnia nigra of Hermann, occurs in great numbers in the saline pools of the forest of Fontainebleau, and we must refer the reader to Brongniart's memoir in the sixth vol. of the 'Memoires du Museun d'Histoire Naturelle' for its description.

1. With a Tail.

To this subdivision belong the Brine-shrimp, or Brine-worm, Artemia, or Artemis, Leach—Branchipus, Latreille, and Chirocephalus, Benedict Prevost and Jurine. We are now arrived at that development of form in the Brachipodites, where the numerous legs or feet become pedicles adapted simultaneously to the purposes of locomotion and respiration. The Brine-worm or Brine-shrimp, Cancer Salinus of Linnaeus, Gommarus Salinus of Fabricius, Artemia 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 Lymington by Mr. May. There these animals are found in myriads in rapid and continual motion in the saltures, 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. Ray observed, destroys most decomposing matters, the brine-shrimp, animals the brine-shrimp revels. 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 (clearers) 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 salture, 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, Chirocephalus and Apus, animals with which its alliance can no longer be doubtful. Artemia 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, offering very satisfactory opportunities of observing their habits and of confirming the theory 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 unembayed undulating motions of their respiratory paddles render them very interesting objects, and convey a deep impression of the harmony of adaptation of members to two such apparently anomalous ends as breathing and locomotion at the same moment.

The salt-pans at Lymington and some salt lakes in Siberia appear to be the only localities where these animals have been hitherto detected. For further particulars we must refer to Mr. Thompson's memoir; and as our limits will not allow us to devote more space to this highly-interesting group, we select Branchipus as a proper vehicle for conveying some idea of the organization of these crustaceans to the eye of the reader.

Branchipus then, if we adopt the views of Mr. Thompson, and consider Branchipus paludaeus, a native of the swamps in Greenland, and about three-quarters of an inch in length, as a fourth species of Artemis, will offer but one species, Branchipus stagnalis, Cancer stagnalis of Linnaeus, Gommarus stagnalis of Fabricius and Herbst, Apus pleurophthalmus of Schneider, who found it in a ditch by the road which leads from Ratisbon to the town of St. Nicholas.

2. Without a Tail.

The genus Bulimene, Latreille, belongs to this sub-section. The body is nearly linear, and there are four short antennae almost filiform, of which the two smallest, which are movable feelers, are placed at the anterior extremity of the head, which is furnished with two eyes mounted on cylindrical pedicles. The brachial paddles are eleven, and immediately behind them is a terminal semi-globose piece in place of a tail, from whence issues a long, delicate, thread-like process, which may perhaps (according to Latreille) be an oviduct. Bulimene albida, whose body is for the most part white, with its posterior extremity black (Artemia Eu-
imene, Leach), the only species described by Latreille, was found in the Mediterranean near Nice.

Aphistopoda.

Of this last division of the Phyllopod, Latreille says that they have sixty pair of feet, all furnished near their base with a large ovoid 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 from 10 to 15 inches in length, and bears anteriorly on a circumscribed space three simple sessile eyes, of which the two anterior are largest and lum-

ated. There are two bivalve capsules containing the eggs and annexed to the eleventh pair of feet.

Apus productus (see Brionecta, the figure of which has been reversed by the printer) is an example. Mr. Thompson figures a species, Apus Buildingi, from the West Indies, and observes that there appear to be two European
species confounded under the specific name cancriformis, viz., Schoen's and Dr. Leach's, which most resemble Amphibolus, but which are described in it, in which the elated shield entirely covers the notatory members. Mr. Thompson observes that there is a considerable approximation between Artemis and certain Trichites (Bisphalithus, &c.), nor can there be any doubt that the analogous characters of the two genera contain 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 organs to subserve both to locomotion and respiration.

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 is stated by Dr. Preuss to have been observed that after 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 best and most tender parts of the leaves, it causes the 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 vulgarly ascribed to some unknown atmospheric influence, to certain exhalations which have invaded it; and most part, have 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 carbonic acid of the leaves to cause it. 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 into a focus; and therefore, 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 which it has on vegetable matter immersed in it; it softens and dissolves a portion of it, especially when the temperature is somewhat raised, and decays the vegetable vessels, and accelerates the diffusion of the water and the increased effect of the heat. It is well known that light is the great agent which produces the changes 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 descending sap, 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 attempt to decide this question, but it appears nearer the truth than any of those more commonly received. (De Candolle, Physiologie végétale, vol. iii. chap. iv. p. 2.)

It is a fact that the principal mischief arises from a sun that has been too soon after sunrise, and that, when there has been a heavy dew or hoarfrost 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 is capable of doing great damage to them, which considerably 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 water condensed on the glass is nearly pure, and can hardly be prejudicial to a greater extent. The acidperspiration as a dissolvent, 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.

BRAND IN THE MARK. [Burnt Ear] BRANDENBURG, a prov. of the kingdom of Prussia, derives its name from the Mark of Brandenburg, the ancestral dominions of the reigning family; the Mark itself being indebted for its own denomination to the ancient t. of that name, which was distinguished by the word "Mark," and was 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 to Prussia. The alt-mark is bounded on the N. by the resort of battlefields, and other parcels of land, all of them once forming a portion of the districts of Wittenberg, Meissen, Querfur, &c., in the kingdom of Saxony, are now comprised in Brandenburg. With the exception of two insignificant tracts, such as the territory of 8° 50' and 100', the territories of Mecklenburg-Schwerin, and the prov. of Saxony, and the Duchies of Mecklenburg-Strelitz, and the prov. of Hanoverian dominions. Brandenburg thus extends between 51° 10' and 53° 37' N. lat. and 11° 13' and 15° 12' E. long. Its area is about 15,300 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 loam, and in others with stone; it is well watered, and produces 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 proportionally beneficial to another. The more elevated and undulating parts of the surface, which are generally covered with oak-leaved beech, either on the fort on the Oder and the Silesian frontier, are improperly called "mountains" by the inhabitants; among these are the Oberberges (m. of the Oder), the Neis and Schlagadörfel, in the vicinity of Ouben, the Mügelsberge on Lake Mügels, and the Miiggelsberg. The N. range begins at the heights which run along the Havel. These are prominent features however in the midst of a wide and wearisome flat, and intermingling with numerous lakes, many of them lying in deep hollows, form landscapes of considerable beauty. The river Havel forms the boundary between Brandenburg and Saxony. The most fertile districts are the low lands, termed the Havelland, the Brüche (or Carsees) of the Oder, Warth, and Netzel, the Spreewald (wood of the Spree), the N. and E. parts of the Ucker-mark, the Lenzerwiese on the Pregnitz, and what is denominated the "Alle 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 canals are of almost uniform extent; they are exceedingly variable: the result of several years' observations fixes the maximum of heat at between 24° and 25° Reumur (89° and 88° of Fahrenheit); the maximum of cold is said to be 9° R. (18° below freezing of Fahrenheit), but the temperature is rarely so low as this for more than two or 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 canals of Germany, the Elbe, which has its N.W. boundary for a short distance, and the Oder, which drains its Elbe districts. The Elbe skirts Brandenburg only from Sandau to Dömitz, and on this line of its right bank receives the Havel, Steinstep, and Elbe. The number of canals on the left bank of the Oder, both within the province, and in N. Silesia, are numerous, and the lesser canals, too, are protected from inundation by artificial dykes. The Havel, which is a channel for the influx of the Böblitz and other small lakes in Mecklenburg-Strelitz, becomes navigable at Fürstenberg, below which point it enters the Oder, and forms an artificial lake of about 22 miles in length between 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 canals of that name, skirts Rathenow and Havelberg, and enters the Oder near the town of Müncheberg and Quitzöbel. It passes through a low tract of country, in which sand, woodlands, and pasture-grounds alternate; its width at Oranienburg is 100 ft. 120 ft. at Spandau 2000 m, in consequence of passing through several lakes; below Brandenburg it narrows again to 300, 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 Elbe 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 past Wittenberge, and falls into the Elbe near Neustadt and Werbellin, thence flows in the deepened bed of the Finne 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 has a fall of 196 ft. between Berlin and Warnemünde. The Elbe flows by the provs. of Brandenburg and Pomeser, and the rail line from Lake Lohau to the E. of Templin, passes through several lakes, and joins the Havel above Zehndruck: its length is about 23 m. Between the Spree and Oder there is the Canal of Müllrose or Frederik William, the last name being derived from the celebrated Elector of Brandenburg, under whom it was constructed between the years 1669 and 1668. It leads out of the Spree from the vll. of Neunbrück, below Betschkow, and pursues an E. course past Müllrose and Ober-Lindow into the Oder: it is about 14 m. long and about 36 ft. wide, but not of sufficient depth; the current 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 Oder Canal, between Güstrow and Hohenstett, which forms part of 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 Oder, Elbe, and Oder-Lindow, by the Spree, and by the N. and S. Biers. The principal 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, hemp and wax, bog-iron, coal, lime, gypsum, coal, &c.

The majority of the inhab. 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 150,000, reside in Lusatia, the bailiwicks of which form a separate prov. to the W., and the Landkreis of Potsdam, which leads to the New Mark; and in some few parts there are Herrnhutters and Mennonites, particularly in Berlin. The progress of the pop. during the last eighteen years is shown by the following table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1801</td>
<td>1,287,795</td>
</tr>
<tr>
<td>1817</td>
<td>1,287,795</td>
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<tr>
<td>1825</td>
<td>1,287,795</td>
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<tr>
<td>1835</td>
<td>1,287,795</td>
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<td>1845</td>
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<td>1875</td>
<td>1,287,795</td>
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<tr>
<td>1885</td>
<td>1,287,795</td>
</tr>
<tr>
<td>1895</td>
<td>1,287,795</td>
</tr>
<tr>
<td>1905</td>
<td>1,287,795</td>
</tr>
</tbody>
</table>

The majority of the inhab. are of the Lutheran religion; but the royal family, French refugees, or their descendants (commonly called Hugenots), and a small portion of the German pop., are of the Reformed Lutheran Church. The following table for 1831, than which we believe none later has been more correct or useful, may be useful to the reader.

<table>
<thead>
<tr>
<th>Church</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Protestant, 1,338,887</td>
</tr>
<tr>
<td>2.</td>
<td>Roman Catholics, 1,431,399</td>
</tr>
<tr>
<td>3.</td>
<td>Mennonites, 327</td>
</tr>
<tr>
<td>4.</td>
<td>Jews, 3,912</td>
</tr>
</tbody>
</table>

In 1831 the number of births was 58,059, and deaths 53,514; the marriages amounted to 12,125.
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 actually brought under cultivation is 5,145,890. The ratio of the cultivated nat. pop. only being included, it does not amount to more than 9.8%. 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 as well as other vegetables are cultivated extensively, and the government 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 grape should not and cannot mature fast enough 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 Züllichau, and a few other spots. The crops of fruit are not adequate to supply the demand. The woods and forests are estimated to contain 3,300,000 acres; the sandy eminences and plains produce mostly fire- and pines, 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 Warthin and Netze, in the Neus and Ucker Marks, and the S. and W. districts of Brandenburg. Considerable quantities of tar and potash are produced.

Great attention is paid to the rearing of cattle; the most thriving branch is breeding sheep, the number of heads of which increased in 1831 from 4,129,920 to 4,562,785. 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 of goats increased from 61,918 to 66,141; but in consequence of the devastations occasioned by the intervening wars, they did not amount to more than 523,981 in 1821 and have since diminished to 511,224. Swan are not reared in any considerable number; in 1821 they numbered 10,398 in the whole empire, and in 1831 did not exceed 117,187. Much honey and wax are produced, particularly in the six Livonian cantons, the heaths of which afford abundance of flowers for the bee. The inland consumption is amply supplied with fish, especially eels and crayfish, but none are exported. There is no supply of coal.

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 Röder-a.; v.; much gypsum is raised at Sprenberg; and large supplies of slates are obtained from Freienwalde, Gleisent, and Kanich. Coals are dug at Zilenz; peat is plentiful, as well as potter's clay.

Brandenburg possesses considerable manufactures, though not sufficient for the whole kingdom. The inasmuch 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. are engaged. 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 Marks; those for the finer sorts of goods are at Ruppin, Teltow, and Kötzschenbroda. Flax and mohair meres and merino cloths are made in Berlin, where woolen 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 Livonian districts and the manufacturing town of Witzlau near Berlin, where a milk of the best quality is sent to Berlin: the inh. have brought the manufacture of other articles of luxury to great perfection. There are large tanneries in several quarters, particularly in Kötzschenbroda 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. Berlin alone supplies all Brandenburg with wine, and in the production of which the town is preeminent. The manufacture of gunpowder is also carried on to a considerable extent in Berlin, both to the city the manufacture of ladies' necklaces and bracelets of cast-iron, which are much prized. There are smelting furnaces for iron at Tovot, Vetsie, Pleiskie, &c. Copper is also wrought at Neustadt-Roschen on a more extensive scale than in any part of Prussia as well as at Crossen and Rodach; and there is a large gunpowder manufactory 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 manufactory trade.

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 outlets of this trade are through Hamburg by the Elbe, and through Tostin 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 for the whole of the Prussian territory; and the manufacture of which is extending at a rapid rate, and of which are still of considerable magnitude, especially with reference to the sale of Brandenburg produce and manufactures. Brandenburg, Guben, Havelland, Köstritz, Lübben, Potsdam, Prüllau, Rathenau, and Züllichau are also considerable manufactures of which about 15,000 are engaged in the towns; and there are banks for effecting sales 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 the 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, the University, the civil courts, the board of revenue, 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 before them, but are purely administrative bodies. They consist of the minister of state, boards, and representatives of the account of Solms-Baruth, 32 deputies from the aristocracy, 22 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 7283 sq. m. and 15 minor circles, viz. Berlin, East Havelland (cap. Nauen, about 3700 inh.), Prenzlau (c. Prenzlau, 11,000), Templin, Angermünde (same name, 3500), Upper Barnim (c. Freienwalde, 3100), Lower Barnim, Tollow-Storkow, 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 Western Prenzlau (c. Perleberg, 3500).

The circle of Frankfort consists of 11 major circles and 17 minor circles, viz. Königstein (cap. Königstein, about 4900 inh.), Soldin (c. Soldin, 4400), Arnowalde (c. Arnowalde, 3600), Friedeberg (c. Friedeberg, 3900), Landsberg (c. Landsberg, 3900), Küstrin (c. Küstrin, 5500), Lepus (c. Frankfort, 22,060), Stettin (c. Stettin, 3900), Züllichau (c. Züllichau, 4300), Crossen (c. Crossen, 4800), Guben (c. Guben, 8900), Lübben (c. Lübben, 3700), Luckau (c. Luckau, 3700), Kalau, Kottbus (c. Kottbus, 8100), Sorau (c. Sorau, 4750), and Spremberg (c. Spremberg, 3900).

Krause, Jilger, and Stein's Pr. Monarchy; Hassel's Pr. Mon., Ungewitter; Hörschelmann; Official Returns, &c.)

BRANDBURG, ELECTORATE OF. The first known inh. of this country were the Suevi, a race recorded by Julius and Caesar, and who are said to have gone into what is now Germany in the 4th cent. The Suevi inhabited the "large territory extending from the banks of the Elbe and Saale to the Vistula, and for a time held the whole region which lay between the Baltic and the Rhine and Danube." In the time
pleaded the electoral Mark for a sum of 400,000 guildens to
Frederic, burggrave of Nuremberg, who was of the house of
Hohenstaufen. Otho, after this election, was conferred upon
him the dignity of arch-chamberlain of the church, as well as
full possession of the electorate for himself and
his heirs. With this prince began a race of sovereigns
whose talents and wisdom have elevated Brandenburg and
the electorate into a distinguished rank among the monarchies of
Europe. Having obtained the title of Emperor, in 1323, his son,
Frederic I. made himself respected both at home and abroad
for 23 years; he was, in 1440, succeeded by Frederic II. of
the Iron Teeth,' his son, who got back the New Mark from
the Teutonic, from the years 1618, upwards, granted this
prince the towns and dependencies of Kotbus, Priz,
Somersfield, Bobersberg, Storkow, and Berlow, to
his dominions, but established his right as lord paramount
of Pomemania and as heir to the Mecklenburg domains.
In 1471, he was succeeded by his son, Jobst, who
ruled but one year, and his death was followed by
his son, Jobst, who succeeded him in 1535, to intro-
duce the reformed religion into his states; he was a great
patron of learning, founded the university of Frankfort on
the Oder, erected Spandau into a fortress, built a new
palace at Berlin, and bestowed upon his son a
large estate of
Ulysses, one of the most distinguished commanders of
his day; but in 1486 Albert's ill state of health induced him
to transfer the electoral dignity, together with the mark
of Brandenburg, to his son, John Cicore; Ansbach to another
son; and that, now one of the first paths of school and
Church, his share fell to his brother Frederic of Ansbach, who
was the founder of the elder line of the markgraves of
Brandenburg, in Franconia. John Cicero was noted as much
for his learning as for his wisdom and economical habits,
and no less for his justice and magnanimity in the
conquest or prevent them from making repeated
inroads into Saxony and Thuringia. At last, Henry I.,
knight of Germany, brought the Vandals, of whom the
Hevelles dwelt about the Havel and the Retharri in the
Uckermark, to subjection, and for many years pointed certain counts to watch over the Saxons borders.
These were the first markgraves of Lower Saxony, or the
Vandal-mark; they were also demarcated markgraves of
Saxony, the mark having passed into the hands of the
earls of Saxe-Lauenburg, in 950, and held by them in
their independence in this quarter until the year 1144, when
the emperor Lotharius conferred the North-mark as well as
the Saalzweier-mark on Albert the Handsome (also
called the Bear), count of Ascania, or Anhalt, the line of Sack's,
having become extinct. 'This prince, who extinguished
the dominion of the Vandals in these parts, was the first
who assumed the title of Markgrave of Brandenburg; he
made himself also master of the Middle-mark, Ucker-mark, and
Prignitz; and, the other founded upon it the title of
an arch-chamberlain of the German empire. His wife was
interred in a vault of the cathedral church of Brandenburg,
and there his son, Jobst, was buried; and in the
words 'Judith, the gem of the Polacks,' still legible upon
it. His successors increased their patrimony by the
acquisition of the New Mark, Lebus, Sternberg, Lower
Lusatia, and other districts; and they were the first who set
aboard princes, princes of Moravia, and the New Mark to the
improving and cultivating them. Their line terminated in the
person of Margrave Henry, a.d. 1320, whose death threatening
the dismemberment of Brandenburg by conflicting claimants,
Lewis of Bavaria, then emperor, declared it a lapsed title of
the empire, and bestowed it upon his son, Lewis the elder.
This prince was, in consequence of incapacity, induced to re-
sign the sovereignty, and was succeeded by his brother Otho,
who made himself so acceptable to the emperor Charles IV.,
that he obtained from him a recognition of his descendants
right to the sovereignty. He was a dignitary to which Charles raised him in the golden bulb, declaring it
the seventh elector of the holy Roman empire.
But Otho, from his sluggish habits, was so inconstant
to the business of government, and so unreasonable found so
much to annoy him, that Charles forced him to re-
render the sovereignty into his hands, and in 1373 bestowed
the electoral Mark upon Wenzel, his eldest son, king of
Bohemia; and when Wenzel was raised to the dignity of
king of the Romans, he made it over to Sigismund, his
second son. This prince's non-residence and unconcern
involved the country in confusion, and its affairs growing
worse after he had ascended the imperial throne of Germany,
he made over the electoral Mark to his cousins, Jobst and
Procopius, princes of Moravia, and the New Mark to the
Teutonic order, in pawn for monies lent. The electoral
Mark having lapsed by the decease of Jobst, Sigismund
of the Emperor Augustus, Drusus, his stepson, compelled
the Suevi, who dwelt in what was afterwards called the
Markgrafenburg, to surrender it to the Emperor Tiberius.
This was subsequently termed the ' Old Mark,' to accept Vannius as
their ruler. A few years after the birth of Christ, the Langobard
were subjugated by Maroboduus, king of the Maro-
manni, at that time sovereign of Bohemia; and, a.d. 17, we
find them marching against the Sclaveni, or Slavonians, one race
of whom, the Vilzea, settling in the Middle Mark, founded
several towns, of which Breznabor or Brandenburg was one.
These new settlers were subsequently subdued by the Franks;
from 817 to 827, and they dwelt in this province, as they
had done under the Vandals; their remains are desolated,
and now fall into the hands of the Vandals or Slavonians, one race
of whom, the Vielles, settling in the Middle Mark, founded
several towns, of which Breznabor or Brandenburg was one.
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and now fall into the hands of the Vandals or Slavonians, one race
of whom, the Vielles, settling in the Middle Mark, founded
several towns, of which Breznabor or Brandenburg was one.
paign freed Prussia from their presence. At the time of his death, which occurred in 1668, this illustrious prince left the electorate in a state of renovated prosperity, and greatly augmented power and extent. His son, Frederick III., assumed the regal dignity in 1701, under the style and title of Frederick I., king of Prussia. Frederick William emancipated the Jesuits from the charge of the Roman Catholic prelates, and submitted to multitudes of refugees from other parts of Germany, and to 20,000 Hugonots, 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 those of his subjects who had been ruined by the calamities of war; re-established the condition of many towns which the same calamities had impoverished, built numbers of villages, was a zealous promoter of agriculture and commerce, and established a post-office in his dominions. The court of Brandenburg, after the fall of Berlin, moved to Potsdam, near which town lies a swampy district, which, from the 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 four gates for carriages, besides 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 'Rolandsäule,' in the middle of the market-place in the new town. The population contains 34,000 houses and 1400 houses; a considerable increase since the year 1816, when the numbers of the one were 10,676, and of the other 1320. It is the seat of a court of justice and a central tax-office, possesses a high school or gymnasium, a civic school, and an equestrian academy, a superior female seminary (Töchter-schule), five elementary schools, three schools for the sons of indigent children, five hospitals and benevolent asylums, and a house of correction or poor-house (Syrup-assist or Armen-Haus). The manufactures consist of woollens, 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 remarkable for its internal architecture, and the architecture and sculpture of St. Nicolas. It contains 34,000 m. W. by S. of Berlin.

BRANDBURG, NEW, a town in the grand duchy of Mecklenburg-Strelitz, on lake Tollens, is built in a circular shape, surrounded by a substantial wall, with some remains of forts and ditches, and is the chief town in the circle 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, manufactories of woollen goods, cotton-print factories, and a market for wool. It contains about 660 houses and 6600 inhab. It is about 70 m. N. of Berlin, in 53° 30' N. lat. and 13° 10' E. long.

BRANDON. [Suffolk.] A strong and healthy soil, or spirituous portion of wine, separated from the aqueous part, colouring matter, &c., by the process of distillation. This word is of German origin (brandtwein), 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 carrots, peas, and other vegetable bodies containing fermentable matter: these however are not greatly esteemed in flavour. It is made at Rums, summer, geneva, malt-spirit, &c. are compre-

**[Prussia.]**

BRANDENBURG, the capital of the minor circle of West Havelland, 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 the new town lies a swampy district, which, from the 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 four gates for carriages, besides 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 'Rolandsäule,' in the middle of the market-place in the new town. The population contains 34,000 houses and 1400 houses; a considerable increase since the year 1816, when the numbers of the one were 10,676, and of the other 1320. It is the seat of a court of justice and a central tax-office, possesses a high school or gymnasium, a civic school, and an equestrian academy, a superior female seminary (Töchter-schule), five elementary schools, three schools for the sons of indigent children, five hospitals and benevolent asylums, and a house of correction or poor-house (Syrup-assist or Armen-Haus). The manufactures consist of woollens, 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 remarkable for its internal architecture, and the architecture and sculpture of St. Nicolas. It contains 34,000 m. W. by S. of Berlin.

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BRANDY.

Mr. Parfary (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 Athna:—

<table>
<thead>
<tr>
<th>Spirit per cent.</th>
<th>Per Cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buxia (red)</td>
<td>18 18</td>
</tr>
<tr>
<td>do. (white)</td>
<td>18 16</td>
</tr>
<tr>
<td>do. (Sercial)</td>
<td>19 00</td>
</tr>
<tr>
<td>do. (white Talian)</td>
<td>18 98</td>
</tr>
<tr>
<td>Champagne still</td>
<td>13 30</td>
</tr>
<tr>
<td>Irish do.</td>
<td>15 20</td>
</tr>
</tbody>
</table>

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 acrid flavour than that procured from wine, which has generally been attributed to an admixture of oil of cloves in the grape-stones. M. Aubergier (Ann. de Chim. et de Phys., t. vii.) has published some experiments which tend to prove that this acrid taste is derived from an oil contained in the skin of the grape. He found that the grape-stones, distilled 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 small nor taste of brandy distilled from the marc; but the skins separated from the grapes and the stones, when distilled, and the marc, without any admixture, 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 acrid 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 others, and the brandy of Bordeaux, as well as that from Andrays, 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 the trade to partake of its original bouquet; by mere keeping 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, cochineal, or candy. Brandy has also been made from dates, sometimes called brandy, is procurable from potatoes, carrots, beet-root, peaches, &c. The spirit procured from these generally retains with great obstinacy the flavour of the substance yielding it, which circumstance renders these brandies so much inferior to French brandy.

BRANDY STATISTICS. In all wine-producing countries, a part of the produce of the vineyards is converted into brandy, and in some of these countries a part of the spirit is employed to give strength to the remaining portion of the wine. The following estimates of Madeira, the Cape of Good Hope, and other countries, are thus treated.

There are no certain means of knowing what proportion of the product is distilled in different places. The only country in which, as far as we know, the estimate of this has been made, is France, where the statistics, upon which this inquiry 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 gallons, of which about one-third is exported, leaving thirteen millions for consumption within the country.

The principal exportations are made from the Charente, from Bordeaux, and from the port of Céte in the Mediterranean (dep. of Hérault). From Charente comes the brandy of Cognac, which is principally used in England, to which country the largest quantities of all the brandies of France are annually sold. About one-fourth is taken by the Americans, chiefly from Bourdeaux and Céte, and the remainder is shipped in comparatively small quantities to the French Antilles, to 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 a view of encouraging our own wine industry, it 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, 5000 pipes to the former dominions 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 1766 to 1770, the average quantity amounted to 1,731,041 imperial gallons; in the five years from 1822 to 1826, the average has been only 1,379,547 gallons; the duty in the mean time having been advanced from 6a. to 22s. 6d. per gallon.

The quantity warehoused under the king’s lock is equal to about one-fifth of the whole; 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 1837 to 1845, were as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports</th>
<th>Exports</th>
<th>Taken for Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1827</td>
<td>1,724,805</td>
<td>629,526</td>
<td>1,325,079</td>
</tr>
<tr>
<td>1828</td>
<td>2,521,069</td>
<td>1,050,972</td>
<td>1,325,161</td>
</tr>
<tr>
<td>1829</td>
<td>1,994,849</td>
<td>661,097</td>
<td>1,300,746</td>
</tr>
<tr>
<td>1830</td>
<td>1,643,469</td>
<td>466,010</td>
<td>1,274,569</td>
</tr>
<tr>
<td>1831</td>
<td>1,461,957</td>
<td>450,972</td>
<td>1,287,535</td>
</tr>
<tr>
<td>1832</td>
<td>2,671,829</td>
<td>691,656</td>
<td>1,981,652</td>
</tr>
<tr>
<td>1833</td>
<td>2,623,313</td>
<td>793,487</td>
<td>1,835,211</td>
</tr>
<tr>
<td>1834</td>
<td>3,170,297</td>
<td>912,335</td>
<td>1,886,389</td>
</tr>
</tbody>
</table>

The exportations are chiefly made to India and to our colonies in N. America and New Zealand, and also to Australia.

The rate of duty per imperial gallon, which was fixed in 1767, received several small additions in 1771, 1774, and 1775, and in 1795 was raised to 10s. per gallon. In 1803 it was further raised to 16s. 7d.; in 1809, to 20s.; and in 1812, to 24s. 7d., by which rate it continued to 1826. 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 the Delaware river stands on the south side of Newcastle. 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 consequence of the battle of Brandywine was the occupation of Philadelphia, and the British army took possession of Brandywine. The flour-mills near Wilmington 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 water-power, which have been taken advantage of. Brandywine is the name of a township in Chester co. Penn. (Flint's American Geog.; Hinton's U. S.; Malte-Brun.)

BRANKA [Buck Wheat].

BRANTOME, the common designation of the French writers, Francois; Francois;' Dames; Francois,'; after whom the books of François,; Francois;' Dames, François;',' which is stated to have been written by Brantome in Spanish, and translated into French by Marc Aurel Batini, and printed at Toulouse, 1699, by Stephanus Juremens and Jurcmenos Espagnolae,' 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, in which he makes a last will and testament, and leaves all his papers, books, and manuscripts to his brother, Brantome's eldest brother. The letters of Andre 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 Bourdeilles, principally taken from Dinet's 'Tieétre de la Noblesse Françoise,' 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 Brantome, which fills about eighty pages. His portrait is prefixed to the volume.

There is no English translation either of the whole of Brantome'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 Brantome from our literature, any more than the same objection has determined us in the selection of the works of other famous lives, and 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 the modern point of view. Brantome was a man of good character, and it is probable that his head that either man or woman can be considered dishonoured, or to have forfeited a character for virtue, by the most lavish indulgence in what he calls gaiety. The most abandoned of the female worthies has little or no share in the catalogue. The list of the illustrious ladies and good Christians. So complete is his abstinence from every expression that might denote a sense of there being anything to blame in the indulgences which he has recorded, that he has been suspected by some of the chroniclers of having been not very accurate in the matter of underlying 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 Brantome's moral creed on the subject of gaiety, strange as it may appear, is in any degree underrated by him; 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 Erosaint, or, as we have already observed, than his contemporaries Cudmore, Hall, and Hall, in their praise of beauty and of the knightly prowess and courtesy, Brantome writes with warm and eloquent enthusiasm.

BRASENOSE COLLEGE, Oxford. The precise date of the foundation of this college is not known. The plan of it was probably drawn by M. Le Bocq, 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 from University College a lease of two of the halls of Oxford, Braybrooke Hall and Braybrooke Hall, with their gardens and appurtenances, for the term of ninety-two years, at the annual rent of 3£.; and it was not until the expiration of the above lease that an equivalent site was made over to University College, and Brasenose College obtained the freehold of the college first rose. Other messages or houses of education for students adorning were subsequently purchased: in the first instance Salisbury Hall, to which were afterwards added Little Edmund's School, Black Hall, Black Hall, Staple Hall, and Glass Hall; the chief of these buildings between what is now Lincoln College-lane and the High-street. The present lodgings of the principal were erected on the spot where Haberdasher's Hall stood. The first hall, from which the college took its name, was of great antiquity. In the thirteenth century it was known by the
same name, which was unquestionably owing to the circumstances of a nose of brass affixed to the gate. As the hall must have had a name before it got one from this circumstance, perhaps we may conclude that the name Brazenose, was derived from this feature.

It appears that a society 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, 1512; and it supposed that the college was erected in 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 rhetoric; and after at the age of thirty, and they might possess lands, &c., 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: Basket’s Fee, in the environs of Oxford, which formerly is supposed to have belonged to the Bassets barons of Headington, and the entire property of the suppressed priory of Cold Norton, with its manors and estates in the counties of Oxford, Berkshire, and Oxon. It was sold to Bishop Smyth, by the conveyance of St. Stephen’s, Westminister, for eleven hundred and fifty marks.

The estates given by Sir Richard Sutton were, the manor of Burgh, or Burrow, or Erdeborowe, in the parish of So-more, and the manors of Croyden and Buldream, 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 purchased in the parish of Burgh, in the county of Oxford, which was subsequently exchanged for other lands at Stanford, in the Vale of White Horse. Sir Richard Sutton gave also the manor of Croyden, in the county of Oxford, and certain lands there, and an estate in North Ockingham, or West Wykeham, in the county of Berkshire.

In the same year, by indentedure with Sir Richard Sutton, the society agreed to keep an annual endowment for Bishop Smyth and Sir Richard Sutton, on the days of their respective decease. Sir Richard Sutton’s last benefaction to the college, except that of 35l. for building a wall, was an estate in Garsington and Cowley, in Oxfordshire, of which he put the college in possession in May, 1522.

Bishop Smyth composed a body of statutes before the year 1513, but they are not now known to exist. In his will he directed the governors the business of correcting and amending these statutes, and all such new changes and additions as shall be 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 Sir Richard Sutton, the surviving founder. Of this however, not much can be said, as the manuscript of it is a considerable use was made of those of Magdalen College, which had been borrowed from Wyeckham’s statutes for New College.

In these last statutes the college is recognised as commonly called ‘The King’s Haule and College of Brasenose, in Oxford,’ to consist of a principal and twelve fellows, all of them born within the diocese of Coventry and Lichfield; with preference to the natives of the counties of Lancaster and Chester, and especially to the natives of the parishes of Lichfield, Stafford, and the vicinity of Cheshire. Besides those twelve, there were to be two fellows, masters or bachelors of arts, natives of the diocese of Sarum, or Hereford, agreeable to the intent of a composition between Edmund Audley, bishop of Salisbury, 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 Elizabeth Motley of Werry, in the county of Leicester, and other estates in the Sutton, at her request, had settled on the college in 1512 the manor of Pincopelles, &c., in Berkshire. John William, clerk, gave 200l. in 1521, to purchase lands for the maintenance of two fellows. John Elton, alias Baker, canon of Salisbury, founded another fellowship in 1528. 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 maintenance of a fellow in 1538. In the same year Dr. William Clifton also gave lands for the maintenance of a fellow. Another fellowship was settled on the college by Brian Dene, chancellor of Dublin, in 1539, and gifted to five native of Yorkshire and Lincolnshire, alternately. The continuing fellowship, which is the twentieth, was founded by Mrs. Joyce Frankland, a distinguished benefactress not only to this and to Lincoln College, but to Caia and to Emmanuel College, in 1543. The new foundation of Oxfordshire, archdeacon of Bolop, provided exhibitions in 1543 for two scholars born in Procest, or in the diocese of Chester or Lichfield; and in defect of such, ‘any 12 persons born in the king’s dominions.’ John, Lord Mordaunt, in 1547, founded his college, and added five fellowships. 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 Frisward, afterwards James Binks, alias Stoddard, George Palyn, Dr. Samuel Radcliff, John Milward, John Cartwright, Esq., of Aynho, Anne Walker, Hugh Henley, Thomas Church, Richard Read, Sarah ducesse-dowager of Somsom, Dr. Thomas Hammond, Richard Williams, Edmund Fenton, and others, have either founded or augmented scholarships and exhibitions.

The scholarships founded by the Duseess of Somerset amount at this time to twenty in number. They are approached at the rate of the facilities of admission to the chapel of 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 qualification, in defect of candidates educated in those schools. Mr. Hulme, however, in 1547, gave a fellowship to a certain trustee 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 (Manchester) stands as a part of the endowment, 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 adowsons, and presenting to the living. 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 rectors of Prestwich and Bury in Lancashire, for the time being; who again can nominate new but members of Brasenose College. The statutes respecting the society, which take in the foundation, also supply objects for the founder’s bounty, and to name the lecturer in divinity. The adowsons which have been purchased are entered in the college list, as the most convenient mode of giving information to the exhibitioners. The statutes respecting the foundation, are in 1543, 19th of Henry 8th, and their 35l. is annually expended in the purchase of books for each exhibition.

In addition to these and various other minor benefactions, lectureships have also been endowed, 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 consists of a principal and twenty fellows. There are also thirty-two scholarships, and fifteen exhibitions. The number of members of the college is fixed at 140. There are 110 books, according to the Oxford Calendar of 1835, is 396. The Bishop of Lincoln is their visitor.

Among the more eminent members of this college were Laurence Nowell dean of Lichfield, Fox the martyrlogist, Sir Henry Savile, Sir Henry Spelman, Brewe the mathematician, Humphrey Llyd the Welsh historian, Sir John Stradling; Erdeboeck and Sir Peter Leycer the Cheshire antiquaries, Lord Chancellor Egerton, Robert Burton, author of the ‘Anatomy of Mamelony,’ Sir Wil- liam Petty, Sir Thomas Erdeswick, and Sir Thomas ‘Worthies 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 lectureship, 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 many of the carved parts of the latter may 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 1776, the lodgings of the principal were on each side of the chapel, the south side, according to the ancient practice. 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 southwards to the High-street.

The chapel, on the south side of the principal quadrangle, is lofty and well proportioned. Its windows are partly embellished with the arms of the founders and benefactors, whose portraits also adorn the walls. Among these is the original portrait of Dr. Noll.

The chapel was designed by Thomas (or perhaps, as is more usual, by the others) and was built in 1675, 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 oriel window, were transferred to the present college chapel, to 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 present principal, Astron. D.D., elected in 1822, is the eighteenth from the foundation of the college. (Wood's Colleges and Halls of Oxford, by Gutch; Churton's Lives of the Founders of Brasenose College, 8vo., Oxf., 1809; Chalmers's Hist. of the Colleges and Halls of Oxford, 3 vols., Oxf., 1818; Ingram's Memorials of Oxford, 4to.; Oxford Univ. Calendar for 1835.)

BRA/SIDAS.
The first mention of this eminent Spartan occurs in the first year of the Peloponnesian war, in which he perfected the gallantry of his nation himself at the head of a body of troops into Methone when besieged by the Athenians, 'and for this 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 Cnenius in the command of the Peloponnesian fleet, which 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 surprising the Athenian port of Pirus, which failed, as Thucydides intimates, chiefly from the want of discipline, as he formerly expressed, in the 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, newly erected by Demosthenes on the mainland opposite the isthmus of Corcyra, and put the garrison to flight himself, by superior bravery, and being severely wounded, and fainting, he dropped his shield into the sea, which was picked up and made part of the Athenian trophy. This little incident is worth relating, because the loss of the shield was considered discreditable. 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 from some cities in the Chalidian peninsula, which had thrown off the alliance, or rather their allegiance to Athens. Brasidas was already so well known, that the Chalidians requested that he might be the leader of any force which should be sent to their assistance; and the text of Thucydides (iv. 99) seems to indicate that no contest was made to the command of the expedition. The Lacedaemonians gave him 700 heavy-armed foot; the rest of his army, consisting of Peloponnesian mercenaries, he was collecting in the neighbourhood of Sicyon, where he had the opportunity of protecting and preserving the Peloponnesian alliance the city of Megara, attacked by an Athenian army (iv. 70—74). This was early 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 Thessaly, a difficult and an unfriendly country. But by the assistance of a few principal Thessaliots, who acted as his guides, and by the decision, rapidity, and address of his 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 an episode in the Peloponnesian war. The thing chiefly to be remembered is its bad results. It contributed with the rashness 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 this time inexcusable; besides, the cities of Corinth's allies, on the other hand, even after the Sicilian war, 'the wisdom and virtue of Brasidas, to some known by experience, by others believed upon report, was the principal cause which made the Athenian confederates affect the Lacedaemonians; for being the first any of our andander's, i.e. first in the war, esteem 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 Chalidice were the revolt of Acarnians and Sicyrigs from Athens; and this success, before winter was complete, 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 Thracian possessions.

After the capture of Amphipolis, Brasidas meditated building a fleet in the Strymon, and he requested reinforcements from Sparta, which it certainly would have been well to have sent. But these were denied, partly because the leading men were jealous of him, partly because the government was intent on concluding the war, and obtaining the freedom of the Lacedaemonians made prisoners in Corinth. According to Thucydides, following spring in the ninth year of the war, a truce was concluded, which vided that each party was to retain what it then possessed. It became a question however to which of them had surrendered to Brasidas just about the raticen of the Trachis, the city of the leading men, were two days afterwards; but he probably was iii pleased with theodega that had been given up to the city, by which he had been eminently trusted and honoured, to the certain revenge of the Athenians. This circumstance, and the revolt of Mene, a neighbouring city, which he also received into the alliance of Sparta, alleging that the inhabitants were planning a plot against 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 Nicersus with an army to enforce it. The year passed, and in the autumn of the following year (near 422) the Athenians sent out Cleon to assume the command, who speedily undertook the siege of Amphipolis. Brasidas superintended the defence. In the quality of his troops Cleon had the advantage; the numbers were about equal, but his superiority was more than com-
the question, but from the expression put into the mouth of Alcibiades by Plato, in the 'Bouquet,' "such as Achilles was, we may conjecture Brasidas to have been.

The direct method of forming brass is by melting together a certain quantity of iron, copper and zinc, which has been known and used from the remotest antiquity; it is now extensively employed both for useful and ornamental purposes.

The next step in the 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 all the acid and impurities are removed, but some of the zinc 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 mixed, and put into eight earthen crucibles, 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 fire has been continued for about six hours, the operation is finished. Supposing 40 pounds of ore to be melted, it is added to the above-mentioned quantities of the ingredients, a plate of brass is obtained by pouring the metal into a brass mould, which is generally about 3" 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 quantities of copper so as to produce metal having different specific gravities, and the metal, of which zinc, lead, or zinc and lead, is thus obtained; the zinc being melted and used instead of calamine; it is then roasted to dissipate the sulphur, and there remains an oxide.

It has been stated that brass is now sometimes made by the combination of the two metals; but this process requires great caution, for if the heat be too suddenly applied, or if it 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, and the deficiency of zinc.

Brass for various purposes is made of different proportions of the two metals, and consequently possesses different qualities; its general properties are, that it has a well-known fine yellow colour, is susceptible of receiving a high polish, and is malleable and ductile when cold, and consequently may be beaten into thin leaves and drawn into fine wire: at a high temperature it is brittle. The specific gravity of brass is greater than that deducible from the specific gravity of the metals which constitute it, as shown by the following statement.

Brass, containing copper 70 and zinc 30, would give a calculated specific gravity of 8.390; but by experiment it is found to be 8.443: when the proportions are copper 80 and zinc 20, the specific gravity is found to be 8.560. On comparing the composition and density of different 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 extensively employed for pin-making. Our various other purposes for the tin-leaves, from which brass is made by hammering 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 supplyment to the 'Encyclopedia Britannica,' that one part of copper and two parts of zinc, with a proportion of other metals, and that one part of each forms prince's metal of a fine yellow colour. Mr. Parkes, Essays, p. 210, states (and we believe he obtained his information from an accurate source) that the most useful proportions are two parts of copper to one part of zinc, which are made from one equivalent of each metal. Berthier's analysis of the brass wire of Jemappe confirms the probability of this statement, for he found it to consist of

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Some old Dutch brass, analysed by the same chemist, which he states was much approved of by watchmakers, yielded

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In concluding this article, we shall give the method of analysing brass proposed by Mr. Keates in the 'Annals of Philosophy,' vol. 11, p. 396. Dissolve the brass in dilute nitric acid, add a little sulphuric 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 colourless, filter it while hot, wash the precipitated copper with dilute sulphuric acid, and afterwards with boiling water: this is dried to be put into a crucible, covered with charcoal powder and melted; the copper being cleansed from any adhering charcoal, is then to be weighed.

The filtered solution from which copper has been separated, is to be boiled with nitric acid to peroxiate the iron: neutralize the acid with carbonate of soda, and precipitate 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 precipitate the muriatic acid that evaporates to dryness, and heat the dry mass in a platinum crucible: to drive off the muriate of ammonia, dissolve the residue in dilute muriatic acid, and precipitate by carbonate of soda; the precipitate, after being washed and dried, is heated to redness; every 40 parts of this precipitate are equal to 22 parts of metallic zinc.

Another and more simple method is the following:—Dissolve the brass in a considerable excess of nitric acid; pass sulphuretted hydrogen gas, also in excess, through the solution. The copper only is precipitated, which is to be filtered off, washed with nitric acid, and precipitated by dilute ammonia, and the peroxide of copper precipitated by boiling with soda: 80 grains of this precipitate indicate 48 grains of copper.

The solution remaining after the separation of the sulphuret of copper is to be boiled to expel the excess of sulphuretted hydrogen, and then precipitated with a solution 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, comprehending, among other species, the cabbage, cauliflower, broccoli, horseradish, rape, turnip, colza, and the like. As these are objects of horticultural or agricultural interest only, they will be spoken of under their respective heads. We shall in this place consider Brassica in a botanical 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-
The seeds are spherical. The calyx is equal at the base and slightly spreading; the petals are univalved; the stamens entire.

In its wild state the caesarea (Br. oleracea) is met with in abundance upon the cliffs of many parts of Europe; common in Spain, Portugal, about the Azores, in the West Indies, along 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 woody stem, having but slender likeness 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, savoyas, borecoles, cauliflowers and broccoli have been produced.

Swedish turnip is supposed to be Br. campestris in a cultivated state, a plant with somewhat hispid, lustrous, 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 Trygge's of Thoephrastus.

Rape, Hr. Rapa; Colza or Coleseed, 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 most easternmost 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 generally healthy, the soil fertile, 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 for ships. The bay of Brava, called Brava, lies at the N. E. end of the island, where small vessels may lie sheltered from all but the S. W. wind. 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 archil, 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 Romoe, or Romoes Islands, which are connected with each other by a reef, but the passage between them is so narrow, that vessels of the smallest dimensions are liable to be injured. The islet on the S. side of which is near oval, six miles long north and south, and about five miles broad. The south point lies in 14° 46' N. lat. 24° 45' W. long.

(Finders' and Kruzenstern's Voyages; Voyage of the Leewarde,)

BRAVURA, in music (Ital. courage, intrepidity), an air consisting chiefly of difficult passages,—of divisions, some of which notes are given to one syllable, therefore requiring great spirit, much bravura, in the performer. (See, under the word Air, Air of Proposta.)

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 airs of the kind, by Handel, Hasse, Pecini, Guglielmi, Cimarosa, Mozart, &c., will be found in this species of vocal music; and thus inferior works in the same style continue to be tolerated.

BRANDBURG, a minor circle of the circle of Koenigsberg, in the prov. of Eastern Prussia. Its area is about 378 sq. m.; it is traversed by the Pasarzage, a riv. of some note, whose tributaries, the Walsh and Dresde, 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 species of good crops, besides good啤, being its N. W. shores on the Frische Haff, produces much timber, reed, cattle, and manufactures linen yarn, linens, woolens, leather, &c. It contains 4 towns, 178 vil., and 172 par., and in 1831 had 37,349 inh. In 1826, 85,354. The scant of load of goods of the former number in 1821 to 13,256, and in the town the Passage within about 5 m. of its efflux into the Haff, in 1831 19° N. lat., and 19° 54' E. long.: it is divided by the riv. into the old and new towns. The bishop of Ermland (a district which was formerly composed of the circles of Brandenburg and Heilsberg) has his residence here; the old castle is used in part for public offices. Brandenburg possesses a lyceum, with faculties of Roman Catholic divinity and law. There are 6 choral societies, and 51 schools, 27 of which are maintained by society, 27 for candidates for the priesthood, a normal school for educating clerics, 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 12,114, showing a considerable increase since the year 1755. Woollens and linens, as well as flax are manufactured; the trade of the town consists principally in yarns, grains, ship-timber, and grain. The Passage is navigable from Brandenburg to its mouth. In this circle lies Frauenburg, on the north side of the port of the Danziger, on the cathedral of Ermland and the residences of the members of the diocesan chapter are situated. It is an open town with a church, had 2021 inh. in 1831, makes yarn, woollens, pottery, &c. The remains of Copernicus, who was a member of the chapter and died here in 1546, were deposited in the cathedral. Frauenburg is noted for a tower which once formed part of an aqueduct constructed by him. Mehliszack, another town in this circle, is situated on the Walch, has 2 Roman Catholic churches, and had 1,912 in a year of 2,617 souls. It makes woollens, yarn, hats, vestings, &c.

BRAUWER, or BROUWER, ADRIAN, was born, according to some authors, at Oudenaren, but, according to others, at Haarlem, of poor parents. He was apprenticed to Frank Hals; who, it is said, finding him uncommonly skilful, made him the subject of his practice. The story of how confined and almost starving at home, Brauwer excelled in painting such scenes as his irregular mode of living made him most familiar with. The singular recklessness of his conduct is to him in many ludicrous and disagreeable situations. It is related of him that during the wars in the Low Countries, his vagabond appearance caused him to be apprehended as a spy, and he was put in prison. It so chanced that he was imprisoned in the same cell with the Duke d'Arenberg, who, was intimate with Rubens, and Rubens, in turn, was friendly with him. Upon his being permitted to be an artist, the duke asked Rubens to procure him materials for painting. As soon as he had them, Brauwer set to work, taking for his subject a group of soldiers playing at cards in the prison. D'Arenberg showed the picture to Rubens, who immediately recognized the work of Brauwer, 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 painter with a larger sum. Rubens exerted his interest, and procured the liberation of his confidant; and, being allowed home with him, clothed him, and maintained him for some time. But a life of quiet was not suited to Brauwer, and he quit Rubens again to plunge into excesses, which shortly after terminated his existence in an hospital, at the age of 42, in the year 1604.

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 South America. Its most N. point, at the sources of the Rio Branco, nearly reaches 31° S. lat. and the meridian, through which it divides itself from French Guiana, extends nearly as far N. The most S. boundary-line cuts the lake of Mirim, in 32° 30' S. lat. The most E. projection, Cape Augustinho, is in nearly 35° W. long. Brazil extends W. to the river Haya1 or Yavari, where its boundary-line falls in unknown countries, and probably passes 7° W. long. Brazil extends from N. to S. above 2600 m., and from E. to W. about 2400 m.; its surface is calculated by some at 5,000,000, by others at only 5,000,000 sq. m. According to the first calculation, it is about twice the size of France; according to the second, about twice 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 it borders on the republics 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 Yvimeires, 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 course of a riv. (about 13° S. lat.), by which river Brazil is separated from Bolivia as far as its confluence with the Mamore, which latter continues to form the boundary-line up to its junction with the Beni. At this point begins the boundary-line between the N. and S. It extends partly along the Congo (about 3° S. lat.), and is supposed to run due W. along the parallel of 11° S. lat., as far as the Hyabary, and then to the N. along the course of this riv, to its junction with the Rio de Amazones. The boundary-line between Ecuador and Brazil, from Cape San Lazaro to the mouth of the Rio de Amazones, to nearly 1° 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 Orinooe, and turns at the sources of the former to the E., extending hence along the Sierra Baracayna to the sources of the Mazarony, where Brazil begins to border on the British settlements in Essequibo and Demarama. This boundary in all its extent is formed by a mountain-range, on the S.S.E. an it continues the Dutch colony of Surinam, heading 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 E. Brazil is bounded by the Atlantic Ocean. The coast line is remarkably little short of 4000 m., presents various appearances. From Cape S. Maria in Uruguay, to the Morro de S. Marta (about 31° S. lat.), an extent of upwards of 300 m., the coast is low, sandy, and intersected by the outlets of numerous lakes, which skirt the shores of the inland sea. The coast from S.W. it is 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 island of S. FrancescO it trends to the N.E., and from the bank of the Rio de la Plata it runs nearly due E., and thence to the bay of Espirito 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 Espirito 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, especially between the capes of Greife, rooster and Neves, and thence 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 about 18° S. lat., at a distance of from 25 to 30 m., extend the rocky banks of the Atrous; the coasting vessels commonly pass between them and the shores. The coasts of the E. projection of Brazil from Cape S. Antonio nearly to the mouth of the river Paranhaya are of moderate height, rising perhaps nowhere above 50 ft., but they contain many points of height, except those formed by the mouths of the riv. This extent may be upwards of 600 m. The remainder of the shore, from the mouth of the Parna- hyba to that of the Amazonas, is extremely low and marshy, a few sandy hills rising on it at great distances from one another; in all this extent of about 700 m. there are few harbours. To the N. of the Rio Amazones 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 puroficas. [Boke] 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 establish the limits of these portions, except by 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 over it to from 2000 to 2500 ft. This range continues to the S., but S. of the bay of Santos it recedes to about 50 or 60 m. from the sea. There is here a small bay, called Serra Cubatão, and runs first S.W. and then S. to a promontory 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 S. of the Serra Aguazu, to the opposite bank of the river. From the S. side of this W. channel a detached table-land extends S. between the riv. Uruguay and the shores, and continues in Uruguay Oriental, where it terminates near the head of the riv. La Plata, with the Punta Negra and the Punta Mora. From the S. point of the latter, and in some places is called Serra dos Tappes, is of moderate height, and considerable width, approaching the banks of the Uruguay within a short distance, but remaining about 100 m. from the E. shores. A few low hills rise upon it. This table-land may be considered as the most S. and narrowest portion of the upland of Brazil. Another and higher range of mountains runs nearly parallel to the Serra do Mar, at a distance of about 40 or 60 m. from the sea. It begins to the N.W. of the town of St. Pedro, where it uniteS Serra de Itarague, and advances in that direction to the S. of the Morro de S. Marta, to the Rio Preto, a small tributary of the Parana. The Pico dos Orgaes rises to 7786 ft., the Morro de Papagaio 7-66 ft., and another summit which has not yet been distinguished by any name, to 8-96 ft. The Itacolomi is 6800 ft. high. Tassos is that this chain rise upwards to 3000 ft. To the N. of Villa Rica the chain again rises and e- points to the N. declining by degrees some points to the E. till it reaches the banks of the Rio de S. Francisco, which breaks through the chain, where it forms the estuary called Cachoeiras (fall) do Sante Affonso. This chain, which had not obtained any peculiar name among the inhabitants, is now called Serra Espincho. It is of considerable height in its part, but does not attain that of the Serra Manigcua; its highest summit, the Iambé, near Villa do Campo, is of this height, and it extends upwards to the Rio Preto, a small tributary of the Parana. The elevation of this point in the 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 Paranhaya, where it turns N., and running in that direction at a distance of from 40 to 60 m. from the coast, extends, being prolonged by low hills at about 180 m., above the mouth of that riv. Between the Serra de Pernambuco and the prov. of Piaui 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 Espincho, da Mantigueira, and da Cuba, extends the upland of Brazil far into the interior of South
The principal riv., and that which is the most acceptable of all the waters of the Paraguay. The Paraná rises on the top of the Serra Parúis in the Sete Lagoas (seven lakes), which are at 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 rapidly in two channels it winds round by the W. and takes a S. course. It descends from the range with a rapid course, receiving from the E. and W. a great number of small streams, until it arrives in the plain, about 150 m. from its source: but its course still farther down is broken in some places by low falls to 15 ft. and lower
distinguished by the influence of the Sipotuba, its first considerable tributary, which joins it on the right bank. From this point its waters are deep, and navigable for vessels of considerable size. Farther down it receives, on the right, the Jaurú, which likewise rises in the Serra Parúis, and at about the middle of its course is joined by the Agospéy, which originates in the Serra Agospéy. Opposite the confluence of the Jaurú is a range of elevated land, which ceases about 25 m. lower down, at a point called Escalva (15°40' N. lat.), the banks of the Riv. fall to about 1 m. below the level of the river, and interspersed with lakes. The low country extends to a great distance on both sides of the riv.; and of the lakes some are of considerable extent, especially three called Obarab, Gabyba, and Mandieo, which lie on the right bank of the Paraguay. From this point to the mouth, the riv. is divided into several branches, separated from the riv. by rocky cliffs, but united by its narrow channels which divide the cliffs. In about 21°29' S. lat. a chain of small mountains on both sides come close on the Paraguay, by which its waters are contracted, and flow with great rapidity in two channels it winds round by a rocky isl. of considerable length. This place, which is called Fecho dos Morros (the barricado 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 is most swelling, it carries them 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 it forms a lake, which is about 8 m. wide, but it is again laid dry. This temporary lake is called Xarayas, and indicated in some more antient 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 waterfowl and ducks feed. In the morning the boatmen while passing off to 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, is not inferior in length to the principal river, and runs in a S. W. direction upwards of 400 m., receiving about 100 m. from its mouth the Cayaba, which flows about 300 m. Both of these rivers are navigable as far as the middle of the Paraguay, and leave Brazil and enter the republic of Paraguay.

The table-land of the Paraná, which extends on the E. of the lowland of the Paraguay, is everywhere surrounded by mountain ranges. To the W. is the chain of the Serra dos Verdes, to the E. that of the Serra da Mantigueira, and to the S. the Serra dos Morros, all of which rise abruptly to a considerable height. The whole course may not exceed 300 m., rises with its numerous branches in the mountains E. of the plain; and though its navigation is rendered difficult by numerous waterfalls, it facilitates the communication of the interior provinces of Brazil. At the Fecho dos Morros the Paraguay leaves Brazil and enters the republic of Paraguay.

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The table-land of the Paraná is very uneven along its N.E. and N. border, where the offsets of the Serra da Mantigueira, Serra de Canasta, Serra de Marcella, and Serra dos Pyrineos extend many miles; but the remainder is a plate of considerable area, intersected at great distances by hills of very gentle ascent and small undulations. 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 high portion of the table-land. Trees occur only on the declivities of the mountains, at a short distance, and in the lower tracts along the course of the rivers: the forests cover probably less than one-third of the surface. The plains are overgrown by a coarse but nourishing grass, here and there dotted with a few small isolated trees. They serve as pasture for the innumerous 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 mandiocce and large and different varieties of rice. The 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 jucutaca (Mycorrhiza coniflora, 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. In July and August, in the northern part of the province, frost is only frequently 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.S.W. and S.E., but in summer they generally come from the south. The rains begin in October or November and last to April; it is most abundant in January, and then always accompanied by fog during the morning. Further to the W. on the plains it begins later. First it rains only during nights, afterwards in the day, and then alternately in the night and day; sometimes for days and even weeks without cessation.

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 mountains and dividing 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 da Canasta. The most distant branches of the Paraná, which rise near 50 and 60°, unite with the Paraná at the point where 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 Paranaiba. In the course of its descent it traverses the mountainous 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 Paranaiba the Rio Grande has already a course of upwards of 500 m., and then its name is changed into that of Paraná. The Paranaiba rises in the Serra dos Pyrineos, receives in its course the Coromã, 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-Punge, which is not, however, navigable; indeed the course traverses the middle of the plains. The last-mentioned river rises at no great distance from the shores of the Atlantic in the western declivity of the Serra de Curiabão, and runs upwards of 400 m. Though its navigation is rendered 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 Punge Urubú and the Sete Quedas the Paraná receives besides the Tiete two other large tributaries, the Pardo on the right, and the Paraná on the left. The Pardo, which rises in the Serra Sciaus, 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 Comprida (Long Island), upwards of 50 m. broad, and the Ilha Grande, 30 m. broad, of which the length is much less than 70 m. in length and of considerable width. The Ilha Grande terminates 4 m. above the Sete 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 depth. The water is clear, and the bottom is composed of granite and marl, by means of which it is seen through the clear water. This gives rise to the probability that the Paraná is formed by the junction of two rivers flowing side by side, and so the information here given is but an imperfect idea of the course of the river between the table-land and the countries below it. To the S. of the Sete Quedas, the Paraná continuing to the S. still receives a large tributary, the Iguassu or Iguága, which rises about 70 m. from the coast, and traversing a mountainous country, falls into the Paraná between the great cataract called Salto de 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 Paraguay low lands at a height of about 100 m. To the S. of the Serra dos Tappos the Paraná extends a smaller one of a similar description on both sides of the Upper Uruguayan, which is called Campos de Vacaria (cattle-field), being destitute of trees and covered with fine grass, which renders it favourable to the rearing of cattle. Its banks are bordered with oak and box trees, from its north-western boundary, and divides it from the Missions of La Plata, is here invincible in all its extent, though it has some rapids. The plain along the sea-shores extends from S.W. to N.S. upwards of 200 m., with an average breadth of between 50 and 60 m. The coast of Brazil here is low 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 extensive lake is the 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 35 at its greatest width, so that it occupies about half of the plain. It has sufficient 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 extremity, the Iacuhy, a winding riv., which rises on the northern extremity of the island, and is a country adapted to agriculture. About 15 m. from its embouchure, the Iacuhy forms a spacious bay on its eastern margin, on which the town of Porto Alegre is situated. At the S. extremity the lake of Patos receives the Rio de los Santiagos, which is properly a part of the lakes of the Mirom. This riv. is about 50 m. long, wide, and navigable. The S. part of the lakes Mirim and Manguira belongs to Uruguay. [BANDE ORIENTAL.]

The lake Dos Patos discharges its waters into the sea by the Rio Grande do Sul, which flows about 100 m. almost parallel, 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. This part of Brazil, extending from the所谓的 Cartago, enjoys temperate climate, and is equal to 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 find 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 120 m. above the level of the Rio Doce and the Bahia de Todos os Santos. In other
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
situation of the land and the hills are occupied by
interminable forests, extending even in the valleys along
the hanks of the rivers nearly to their sources on the
high land. North of Cape Frío, the trees and plants peculiar
unto 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, mandiocas,
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 na-
vigable by small canoes, or even by the bare boat, but nearly all of them are skirted by low ground, which are in-
undated 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 margins of the floods are 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
Parahyba, the Doce and the Rio Belmonto.

The Doce, which is divided by the Parahyba, preserves
their freshness for a considerable distance into the ocean, and
beneficently has acquired the name of Doce, soft or fresh.

The Rio Belmonto, in traversing a mountainous range
called Serra dos Aimores, is contracted by two high steep
rocks, and having a sudden descent, falls into the sea at a
point lower 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 con-
siderable stream after it descends the fall. About 20 m.
from the sea, the Rio Belmonto is united to the Rio Patypo,
its nearest neighbour to the N. by a natural channel called
Salsu.

This country, though mostly within the tropics, enjoys a
moderate climate. In Porto Seguro the medium heat, ac-
cording to Freyries, is only 70° Fahrenheit, but at Rio
Janeiro 74°, which he attributes to the neighbourhood of
the rocky mountains. At the latter place, however, the
thermal wave begins and falls in the month of Oct., ris-
ing again in Dec. and falling in April. In summer (Dec., Jan., and Feb.), the average heat at noon is 86°, and in the morning 79°; 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 partly 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 commonly begin at noon, rarely sooner, more frequently at two o'clock, and blow till night
for days, as the result of the daily temperature.

The effect of this great humidity of the atmosphere is
that the coast of Brazil has not such a regular succes-
dion of dry and rainy seasons as other tropical countries.
No part of the year is entirely exempt from rain, though
the winter is often rendered dry and 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 damage to be compared with that of the hurricanes
in the other parts of the American continent.

The Serra Espinhago, which bounds on the W. the coun-
tries on the shore, divides them from the highest part of
the table-land of Brazil. This extensive country, which extends
W. to the N. branch of the Serra Paris, 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 dos Aimores, which rise for a few hundred feet above
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 the trees lose 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 the sides of the true mountains give place to
plants 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
tent, the S. Francesco, the Tocantins, the Xingó, and
the Tapajós. The upper branches of the S. Francesco
rise on the N. decilivity of the Serra dos Vertentes about
3000 ft. above the sea, and between 21° and 20° S.
lat. They are principally two; the Parapeba, and that
more properly called the S. Francesco, which unite after
several days of course, and before they arrive at their level
is 1897 ft. above the sea. The riv. then flows in a nearly due N. direction to its junction with the
Rio das Velhas (S. of 17° S. lat.); but before reaching this
point, it forms the estuaries of Fipopo. At the junction
with the rio das Velhas the S. Francesco, which from its
rise in the neighbourhood of Villa Rica, on the N.
derility of the Serra Matoigueira, and runs upwards
to 250 m. From this point the Francesco con-
tinues to flow N. with a slight declination to the E., and
is the Tapajós, which flows down to its rapid 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. Below the Tapajós it is with a varying
fall, and forms several falls, of which the Cacheiri
of Affonso, the most considerable, is said to be 58 ft. in
fall and 30 m. in width. The Tapajós is bounded on the
space of nearly 70 m. and terminate at the Aldes do Canindé,
where a road leads to Vargem Redonda for the trans-
port of merchandise into the interior of Brazil. From the
Aldes do Caninde to its mouth, the riv. runs still about
70 m., and has a fall of about 20 m., and forms a
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of the Tocantins rise in the Montes dos Pyrinos and in the Serra Doirada, both portions of the Serra dos Vertentes. 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 through the Pyrinos to 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 river, called Maranhão, to its junction with the Paranatinga, about 140 m. lower down (12° 26'). The Para- natings is formed by the junction of two considerable riv., the Paranum and the Palma, the former of which flows nearly 300 m. Hence the riv. is called Tocantins, and be- comes a principal river of the country. About 374 fathoms wide. The number of its affluents lower down is great, but none of them is very considerable, except the Rio Aragua, which joins it at about 5° S. lat. Before the Tocantins arrives at this point, its navigation is inter- rupted by some cataracts, between 30° and 6°; among which the most considerable are the Cacheoheres de S. Bartolomeo or das tres Barras, and the Cacheoheres de S. Antonio. After its junction with the Rio Aragua the Tocantins flows between rocks and cliffs, forming many rapids and small cataracts, and part of its course is called the channel of Taniri. Issuing from this channel, it has near Itabauba (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. direction, and 1550 m. S. lat. It runs from the mouth 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 Uararabahy, which divides the mouth of the Tocantins into two arms; of which the E. is called Tocantins and the N. the Aragua. The latter is wider than the width of the riv. is here upwards of 15 m. The Rio da Pará, which divides the isl. of Marajo or Iocoies 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.). The whole course of the Tocantins is at least 1500 miles. The Aragua, the largest tributary of the Tocantins, rises on the N. declivity of the Serra Seia, 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 Cajapo. Its, waters are lower down in- creased by those of the Rio Claro, Rio Vermelho, Rio Ti- zorias, and Rio Crixá. All these riv. flowing from the S.E. join the Aragua on the right, and none of the three last riv. being greater in amount, the Aragua, being the merchandize has been carried from Villa Boa, the capital of Guyaz to Pará. About 30 m. from the mouth of the Crixá, the river divides itself in 12° 30' into two branches nearly equal, which reunite in 9° 36', enclosing the isl. of S. Ana, of which one branch is divided, the other is more than 200 m. in length, and of considerable width. The W. arm preserves the name of Aragua, and E. takes that of Furo; barges generally go through the latter; but both contain small falls and rapids. The branch called Aragua receives, about a junction of S. of the point of the island of S. Anna, the Rio dos Mortes, which runs nearly 300 m. At about 5° the Aragua joins the Tocantins after a course of above 1000 miles. The Rio Aragua may be considered as the boundary of our division of Brazil, and belongs to the region of Brazil, the countries are divided by the Xinghi, 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 Xinghi probably rises in the Serra dos Vertentes, about 30 m. lat., but it is not so well known as its upper course has not been visited. It does not appear that any of its tributaries are considerable. Between 5° and 4° lat. its bed is narrowed and traversed by a chain of rocks, and thus the cataracts are produced, which make the Xinghi, but not so much as to make the riv. form a large bend to the river. The branch of 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 Pará and the European settlements on the banks of the Guaporé, the Paraguay and the S. Lorenzo. The Rio Tapajos is divided into two branches, one of which runs S., and the other, the Serra Agraephe, 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 it has not yet been navigated. The Rio dos Arinos rises farther to the E., near the sources of the Paraguay, and runs first S.E., and then E. of the Guaporé, where it receives the Araguay, which likewise inter- rupts the navigation. 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 Cacheoheres de S. Joao da 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 Cacheoheres 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 Santarém, where it is about 4 m. wide. On the banks of the Iuruena, and to the N. branch of the Serra Paria, extends a sandy desert, called Campos dos Paria. The surface is formed by long-hacked ridges of sandy hills, parallel to one another, and divided by longi- tudes of small valleys, covered with a uniform appearance of the heaths of heart 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 con- sidered as occupying the centre of South America, has not yet been accurately described. The climate of the Campos Paria 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 Freyreis to be only 65° Fahrenheit, but it often rises to 100° at noon. The difference between the temperature of the day and night frequently amounts to 30°. In the months of June and July, the lakes are covered with a thin film of water, which is divided by the heads of the streams and the larger riv. being larger, and the wind is generally from the S. but not so regular as in the table-land of Brazil. 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 those riv. 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 estimate of Martyus, the country attains which forms the watershed between the Pireymceo and Ubahy. A small portion of the Madeira is divided when it runs along the W. declivity of the N. branch of the Serra Paria 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 between these are few barren districts without trees and with little vegetation. The Rio Guaporé, called also Itunez, rises (14° 30' S. lat.) in the Serra dos Paria, about 100 m. N.E. of Villa Bella, the capital of Matto Grosso, and at first runs S. parallel to the Urubé, a river which runs a little further, and receives the waters of the Rio Algores, a small but navigable tributary. In 1773 an unsuccessful attempt was made to unite this river by a canal with the Rio Agraopy, which falls into the Jaura. At the junction with this river the Guaporé is united to the N.N.W., and then to the W., where it is joined on the right by the large Rio Paraguay, and the still larger Ubahy. At the confluence with the latter it turns N., and
united itself to the Mamoré, loses its name. The Guaporé runs more than 400 m., and having only a few rapids such as the Guaporé at 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, meeting the upper part of the rivers Beni and Mamoré in 3° 44' 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, it would become the boundary-line of the province of Bolivia, but its course is 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 10° 37' with the Cachoeira de Baanares, and proceed towards the north, passing through the town of Tapacuri and de Acary, which chain divides the sources of the Essequibo and Marazaráony from the Rio falling into the Amazonas, the plain hardly extends S. and N. more than 3° of lat., or about 350 miles. Under the meridian of 6°E. it begins the cataracts of the Rio Madeira (6°48'W.) and extends N. to the S. branches of the Serra Parima (about 3°N. lat.) about 600 miles. It is probable that its width enlarges considerably still farther to the W., but here the boundary-line of the plain on the S. as well as on the N. side is more difficult to define. The S. branches of the Amazonas into two parts, dividing insensibly towards the bed of the river, 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 rivs., joining the Amazonas towards its mouth, form nearly right angles with its course, but the Madeira and the rivs., which unite with it farther to the W. form acute angles, and some of them, as the Rio Negro and the Yuru,-flow a considerable distance. 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 dry season, as is observed of the lower course of the Rio Madeira. Elevations deserving the name of hills are 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 inconceivable luxuriance of its soil.

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 waters in the rainy season, and thus are formed the almost countless large and small islands of interminable cataracts. Some of them 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 low beach, but the inland parts are higher and wooded.

The Madeira is the Rio Negro and the Boyacá unite with the Xingu, which rises at the headwaters of the Amazons, and drains into the Negro, whose name is derived from the word Negro, and means Black. The Boyacá is a very large and very rapid riv., rising in the mountains of the S. of the western part of the Bolivian Republic, and flowing about 2000 miles through the jungles of the Eastern Andes, under the name of Pampachicú, then called Yapura. It flows for about 40 miles through the jungle, then drops down to the plain, and after a most rapid fall, almost perpendicular, runs into the Amazonas. The highest point of the Boyacá in the mountains of the S. of the Bolivian Republic, is 23° N. lat., and 30° W. long., and rises 4800 ft. above the sea. It is not yet determined if the country between this fall and that of Cupatí, which occurs near 3° farther E. belongs to Brazil or to the rep. of Ecuador. In this tract the Yapura takes a northwesterly course, and is here called Yapurí, and generally approximately parallel to the Amazonas, with which it is united at the mouth of the Yapurí.

The Yapuru or Yapura, rising near the 10th parallel of S. lat., and one of the principal tributaries of the Negro, is the most rapid riv. of South America. From this fall downwards the Yapuru, 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 Yapuru, and near the low land of the Paraná, which lies from N. to S.W., and joins the Rio Amazonas nearly 200 m. above the mouth of the Yapurí. In this canal the water flows from December to June N.E. from the Rio Amazonas to the Yapurí, and from June to December, S.W. to the Amazonas. The large isle, 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 20° 30' N. lat. and 70° 39' W. long., and runs first N.E. and afterwards S.E., about 200 m., when...
it is joined by the cap. 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 Uaupé or Uaupes, which should be considered as the principal branch. This riv., whose sources are very imperfectly known, seems not to originate in the plain, but in the mountainous region of the Amazon, and has 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 Uaupé begins to turn to the E., it forms a considerable cataract, the Cachoeira de Ipanãc. The Uaupé may have run 500 m. when it crosses the Rio Negro below the equator, between 67° and 68° 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 large river, 30 m. wide, with numerous and thinly narrow channels than that of a riv. It sometimes enlarges 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 Uraricoera, originates in the Serra Parime, at no great distance from some of the branches of the Orinoco, and flows E. till it joins another considerable branch, the Tacutu, which rises near the sources of the Rio Branco, and has a slight declination S. and a considerable distance N. parallel to the Rupuniri. The Tacutu afterwards turns S. by a bold bend and joins the Uraricoera. Both branches have probably a course of more than 200 m. before their junction. The united riv., called Rio Rio Branco, sends its waters to the Amazon by the can. Cudaya, above 100 m. above the principal mouth of the Rio Negro. The whole course of this river may be 1200 m., and the Rio Uaupé is taken for its principal branch, probably 100 m. more.

No large rivs. traverse the N. plain E. of the Rio Negro. The Orinima or Rio das Trombetas and Guruputuba are the most considerable. The great plain of the Rio das Amazónias, 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 Brazil; whilst there every season has its share of both; 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 sky until after noon, when the hurricane begins to roar, thunders and lightning follow in uninterrupted succession, and the rain pours down in torrents. The heat is oppressive; but in a couple of hours the equilibrium of the air is re-established, and by degrees the clouds disappear and the sky becomes calm and clear, but this fine weather is very irregular and 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. February is the only month when it rains for the most part, and in January and February, which is called Voroaño (foresummer), and then they continue more abundant to April and May. The E. wind is by far the most prevalent. The trees are never without leaves; for while they are shedding the old, new ones are already forming, and along the forests and trees, especially those which are peculiar to a tropical climate, bloom between November and March, and bear fruit between June and September.

All the rivs. traversing the plain inundate the adjacent lowlands and villages, and the water in the plain does not take place in all of them at the same season. Some of the S. affluents of the Rio das Amazónias originate near the tropic, and others at no great distance from it; but the northern traverse an extensive country N. of the equator. 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 Tapajós, 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 in March; and finds 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 Amazons has nearly attained its lowest line. This explains why the canal of Atiparámara, between the Yupurú and Amazonas, flows from only to Aug., S.W., into the latter, and from Dec. to June into the Yupurú. The height which the water attains above the lowest level varies in different rivs.: in the Xingu and Tapajós it is 35 ft.; in the Madeira, as far as up to the cataracts, 35 ft.; in the Rio Negro, 60 to 70 ft.; and in the Rio das Amazons, in the plain, 40 ft. and upwards.

On the N. of the Rio das Amaz ons, 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 principal course of the Rio Tapajós, and extends to the series of hills which run at a distance of about 50 m. from the 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. of about 500 m. This is the celebrated Plain of the Parnahyba. This plain, which may be called the plain of Parnahyba, 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, and falling from these to basins, and even to plains, separated from one 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 Parana plain begins near, and is bounded on 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 15 to 40 tons to its junction with the Rio das Balas, 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 Ver o Rio. The Rio Parana is the only navigable river of Brazil, and is nearly 600 m. above the lowest point, as near 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 this plain is hot; the thermometer rises in summer above 100° 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 dry season wind is from the S., especially during the dry season.

The E. boundary of this plain is formed by the Serra Itipabá or Hybiapampa, from which extends E. the mountainous country that forms the projection of Brazil, and in the south terminates in the only hill of southern Brazil, the Tinguino. 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. Besides this, the tops of the mountains and on the sea coast are of very inferior altitude, and are covered only with coarse grass and low bushes. Numerous rivs. traverse this country, but their course is comparatively short; they have also very little water, and are, consequently, not well adapted for navigation. Though the climate is very hot, the vegetation is not altogether parched. The most important of these is the Rio de Janeiro; it runs 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 dusty 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.
Cape Augustinho (Augustin), in 8° 20' 41" S. lat. and 34° 59' W. long., is one of the most E. points of Brazil. About 30 m. from the cape, the great equatorial current, which flows along the Atlantic near the coast, 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 Amazones, and hence along Guiana to the West Indies. This current, combined with the trade-wind, which, along the coast, runs about S.E. and N.W., gives rise to the large islands off the N. parts of Brazil along this shore to the provinces of S. of Cape Augustinho 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 current runs S. of the equator, and thence, as is at first of inconsiderable breadth, but it grows wide in 16° and 17° S. lat., where it is 250 m. from the coast. At Cape Frio it only runs 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 S. Maria.

Between the coast and this current occurs a regular change in the winds 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 runs N. and S.W.; when the sun is on the N. of 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 S. of Cape Augustinho.

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. The direct extent of the S.E. wind is the great extent of the South American 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 farmers are 30,000, or less than 1-25th of the surface. But this is evidently a very exaggerate 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 Pernambuco, the farms occur at great distances 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 table land of the Paramâ, about S. Paulo in the mining district near Villa Rica, and along the riv. Parahyba in the prov. of Pauhy and Maranhão. Angola, Matanzas, and Veracruz, the forests 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 treated for the same way.

The cultivation of Brazil was not entirely unaccompanied with agriculture, but it was limited to a few articles. They planted maize, bananas, apire (Manihot api, Pohl.), mandiocca, and casseous. 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 mandiocca, of which different species are cultivated (Iatropha manihot, Linn.), is grown in every prov. except that of Rio Grande do Sul. Maize (Zea Mays, Linn.) is the common foodstuff of all the country people. The milo cadete, a species with smaller grains, is commonly cultivated; it yields twenty fold. The Milho de Serra, with larger whitish grains, is grown in the valleys of the tableland, especially in Minas Geraes, and yields 150 fold. The crops are annually got, one in September and the other in May: the first is the most abundant. Rape (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. In the latter in the interior 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 necessary. The rice plants are usually found in a wild state, as in the Lagos de Xarayes, and Martius found it also on the banks of the can. or Furo of Iraia, which divides the long island of Topinambares, or more properly Tapinambara, in the Amazonas, from the S. bank. The cultivation of wheat has been attempted in different parts of Brazil, but without success. The table-land of the Paramâ and the plains of Rio 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 the plain of the Amazonas. The plantations of Gragoatá are especially well known. A certain quantity is annually imported from England: but sweet potatoes succeed wherever there is a good sandy soil. The ara, a root similar to the sweet potato, and superior in flavour, is less productive. The plantain (Phantix dactylifera, Linn.) and the plantain (Musa paradisca, 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 S. coast. The cocoa-plant (Eirthoxyllum theobroma, Schreb.) which is used by many of the aborigines of South America pretty much as the betel in India, is cultivated on the banks of the Yurupã, as in Peru. The maté plant (Cusine gongonua, Mart.) produces the tea of Paraguay, is a shrub which is cultivated in the prov. of Rio de Janeiro and in the land of St. Paolo. 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 provs., more on the coast than in the S. districts, in Minas Geraes, and in Bahia. That of Rio 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 Rio de Janeiro. The variety which is raised in Pauhy 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 mungaba and the samuana (Eriodendron samuana, Mart.), which produce a kind of cotton that is used to make felts and mattresses, but hitherto, we believe, the attempts to spin it have failed. The cultivation of tobacco, which formerly was very extensive in Brazil, is now limited to the S. districts of Bahia and Maranhão. The tobacco grown in the S. districts is still exported to Africa and to Europe. The best is grown in the Province of Bahia, especially at Cacháeará and St. Amaro. In some other places also tobacco is grown which is much esteemed, particularly at Guaraniqueta, in S. Paolo, Martius thinks that this plant is indigenous, and that the use of tobacco was introduced in South America before the arrival of Europeans. Indigo was formerly much grown, but the cultivation has almost entirely ceased: little is exported, and that is of inferior quality. In the parts of the country (Rio de Janeiro, S. longa, L.) were once cultivated and exported from the N. Of these both articles are now entirely neglected. In modern times the pepper-tree (Piper nigrum, L.), the cinnamon-tree (Laurea cinnamonum, L.), the clove-tree (Caryphylleum zeylanicum, L.), the pepper-corn (Myristica moschata, L.), have been planted near Rio Janeiro and Pará, and three first seem to succeed at Para. The trial with the tea-tree has failed at Rio.
The immense forests which cover the plain of the Rio das Amazonas supply various articles of export. Cacao is gathered very extensively, as well as cloves, cinnamon, vanilla, sarsaparilla, enotchouche, Brazil-nuts, and different balsams, as copaiba, and copal. The forests on the coast provide a great deal of timber for making of furniture and dyers. The fruits of Europe, which succeed best in Brazil, are figs, oranges, pomagnates, quinces, and a small sort of lemons. It is commonly asserted that grapes do not ripen; but Martius found that they are more abundantly in the neighbourhood of Bahia, as well as in the plain of the Rio das Amazonas; 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. They are cultivated in the province of Goiânia, 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 cacao or outer part of the fruit, of which ropes of great strength are made. The caco de denti or oil-palm (Elaeis Guineensis, L.), is also cultivated near Bahia, and cauets are made which resemble 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 piacabana (Attalea funifera, Mart.), which grows wild between 10° and 3° S. lat., the sago palm, which does not succeed in these parts of Brazil. Cables made of these leaves are much preferred to those made of cacao, being three times as strong.

Of the natural vegetation of so extensive a country as Brazil, it is impossible to give any adequate account. The following is only an attempt to mention into numerous details for which we have no space. Those who are desirous of making themselves acquainted with this subject will find the most valuable sources of information in the following:—Auguste de St. Hilare's Voyage dans l'intérieur du Brésil, la Province Cisplatine et les Missions datant du Perouguay, by Auguste de St. Hilare, published in the Mémoires 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 uneducated reader, whose knowledge of Brazil is derived from the works of travellers who left it not long since, may be supplied. Future travellers may supply us, before any good connected account of the Brazilian Flora can be prepared beyond the provinces which Europeans have most frequent communication.

Though a small 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 Grande do 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 horns-tips, is exported in great quantities. As soon as the animal is skinned it is usually dried; but if the next summer it may be used fresh. The future travellers may supply us, before any good connected account of the Brazilian Flora can be prepared beyond the provinces which Europeans have most frequent communication.

The cars are numerous in the S. provinces, but less so in St. Paolo than in Rio do Sul. The number annually exported to the N. is vaguely estimated at 40,000 or 60,000 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 dis-
There are several species of turtles in the Rio Amazonas, but that called Tartaruga grande Pons Amazonas, Spix, is most common. Its flesh generally weighs from 9 to 10 lbs. The farms in the neighbourhood of the riv. have places well fenced, in which they are kept and killed as they are wanted. On some sandy islands of the Rio Amazonas, as well as in the Madeira River Negro, and Yupura, the turtles 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 Tartaruga, which is extensively used all over Brazil. About 20,000 pots of this fat, each containing 60 lbs., are annually made, and several thousand persons are occupied in its preparation.

The Indians eat its eggs and flesh, though the latter has a strong smell of musk.

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 klappernden, or the irrigator urubh, are the most dangerous. The largest species, which are not poisonous, attain eighteen or twenty ft. in length.

The insects of Brazil are remarkable for the beauty of their colours and their size, especially the butterflies. Some are very brilliant, on furniture, or in the gardens of plants, of which one species is fried and eaten as a delicacy. Persons especially Europeans, who have just arrived in Brazil, suffer much from mosquitos, sand-fleas (Pulex penetrans) and some kinds of conopa. The scorpion, which sometimes attains great size, the centipede, and some kinds of caterpillars, especially those of the family of bombyceas, 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 they have been brought from the Prov. of S. Paolo the nopal tree grows, and the inhabitants have begun to collect cochinchin. Several attempts have been made to introduce the silk-worm, but hitherto without success.

Martius is of opinion that perhaps the god of the Philibans, the L. I. bounds 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 Amazon; at first discovered on the banks of the J. de Tiquereira to the N. branch of the Serra dos Pararix, 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 Francisco, Tocantins, Araguay, and Guaporé, but by far the greatest quantity has been collected in the affluents of the Francisco. 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, was obtained by washing the sand from the bottom 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 incalculable, 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 Eschwege was able to obtain, it calculated that the whole quantity of gold collected during the years 1830 and 1831 amounted to 4,058,688 mares, or about 33,922 mares annually, including one-fifth which he thinks was smuggled out of the country. Between 1753 and 1763 it amounted annually to 34,560 mares, but between 1801 and 1810 only to 6,128 mares. The statement that this species 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

auriferaus sand having been exhausted, and to the want of sufficient capital to work the veins in the mountains on a scale equal to the quantity of gold found in the rivers, with success, and the productive mines at Congo Soco, near the Villa de Sahar, 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 metal comes to the surface, and in others it has been smelted and cast on the spot and placed in the banks of the river. It has been smelted in the other parts of the W. part of the district fall into the Francisco. In this district about 2000 persons are employed in collecting the stones by the government; and according to Eschwege, the diamonds collected between 1730 and 1822 were of the value of about 1,000,000 mares. There are also a few diamonds, large, and in a perfect state. 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 different districts. In the district of Eschwege, the whole quantity of diamonds has been valued at the lowest price, that is, as stones weighing only one earst; and it may therefore be presumed that the real value was at least double what he has given.

To the W. of this district, on the Abaeté and Itacai, both of which join the Francisco 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 90,000 mares, and is the largest yet known. In the course of the Rio da Serra and the Rio do Taima, which falls into the Paranapanema, a tributary of the Paraí, 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 occur on the surface covered with a salt efflorescence, which the animal can lick or scrape off. The salt spring on the banks of 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 steppes, which resemble those on the high land of Iran in Asia. Two of them are very extensive: one runs, on both sides of the Francisco, between 7° and 18° S. Lat., from the Villa de Urubá to the Villa de Iaape, 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 Agospey, beginning on the banks of the J. de Seara, and extending in a W. direction to 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 Francisco and in the prov. of Seara, large caverns occur, the soil of which is impregnated with salt petre. In others, more extensively on the Rio de Iacquitinhonha, alumin is found in abundance.

The inhabitants of Brazil consist of aborigines and of foreigners, who have settled here in the last three centuries. They are divided into a great number of tribes, but they are a muddling size and of slender make. Their complexion is a shining light copper colour, which sometimes passes into a yellowish. Their hair is black, lank, and rough, their eyes small, dark brown, or black, and 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 though these tribes agree so well in their external characters, 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. The coast of Brazil is covered with European civilization, but they are not unacquainted with agriculture. With the exception of one tribe called the Muras, who live a wandering life, all the aborigines of Brazil cultivate the ground and plant the two kinds of mandioca, bananas and a species of palm trees. They have likewise divided their hunting grounds, and marked these divisions by boundaries. Still they derive the greater part of their subsistence from the chace, the wild fruits of the forest, and from fishing. In some tribes the men and women go naked, in others the women wear few garments. They hunt and eat their enemies, a fact well ascertained of the Brotucudos in Espirito Santo. But modern writers do not state that they kill their parents or relations and eat them, like the Battas 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 240; many of them consist of only one or two families. This is particularly the case with the tribes in the plain of the Amazon. These have never had a barbary or contact with civilized nations, are completely isolated state, 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 Mundurucus on the Tapajos are said to amount to 30,000, the Mandacaru, the Guajarui on the bank of the Parana river, to 12,000; the people of the Paraguay, affluents of the Paraná, to 8000; and the Cherrantes on the Lower Tocantins, to 2000.

All the aborigines, who lead an independent and roving life, are called in Brazil Indians bravos, Japónitos, in the same strict sense as the Indians in the United States. Similar tribes have settled among, or near the European population of the Bahia. It has always been the policy of the government to induce a number of Indians to live in one place, and to accustom them to agriculture. But these means have seldom produced the desired effects; 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 600,000 individuals, as Freyreis conjectures. They were brought together by the Jesuits, and induced to settle in villages, called in Portuguese aldeas, where they were accustomed to agricultural labour. But on the suppression of that order, they have returned to their primitive state, and 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 these nations are found in the Carmel and the Meajá, the Caxias, the Marais, the Matapu, Melnucou; and those of the negroes and Indians, Caribocos. The offspring of the Mulattoes and negroes, who are called Cubras, are also very numerous. The descendants of the negroes are called in Brazil Creoles. The Mulattoes 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 included in this estimate. 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 Mulattoes, Melnucoucos, Caribocos, Cubras.

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 Mambutiba, a small riv. which enters the sea S. of the Morro do S. Marta, and also the whole country between this plain and the river Uruguay. This prov. is rich in cattle and horses, produces the grains of Europe and rice, as well as the wild rice of South America. Its climate is very warm, and the most N. districts along the Rio Uruguay there are still a few feebie 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 beach of land. It was once called by the Portuguese Salteau, and is now called Salto. It remains on the E. of the 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 Allegro, the capital of the prov., situated on a bay formed by the Rio Guaíba, is well built, and contains between 7000 and 8000 inh.

2. S. Catharina comprehends the hilly country along the coast between the Rio Mambutiba and the Rio Sabhy, which separates it from S. Pedro, and also the island of S. Catharina: it lies between 25° 20' and 25° 30'. Here the grains and fruits of Europe are cultivated together with those of a hotter 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 small fisheries, but most of the riches of the province are produced by the isal of S. Catharina. The isal of S. Catharina is about 30 m. long from N. to S., and from 4 to 8 m. wide; its surface presents a succession of hills and dale, and a great part of it is covered with fine trees; it abounds with lakes and large rivers. It is separated from the mainland by a strait, in which 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, on the river Gravata, is very well and deep enough for ships of war; it is one of the best ports in the province.

The town of Nossa Senhora do Desterro, the capital of the prov., is on the W. side of the isal upon a bay, a little to the E.S.E. of the narrowest part of the strait. It has between 3000 and 4000 inh., and some small manufactures of linen and cotton. The rice, which is not sufficiently cultivated, is taken in the strait, and the oil is prepared in several places of the isal. and the adjacent mainland. Laguna, on the continent, has a harbour for coasting vessels, and exports grain, timber, and fish, which abound along this coast. S. Franciscoo, near the boundary of the prov. of S. Paulo, and on an isal, also has a harbour for smacks, and exports grain and a great quantity of timber and cordage.

3. S. Paulo extends over the greater part of the plain of the Paraná, namely, that part of it which lies on the E. of the same, which is the natural sea-coast of the Rio Sabhy, to the bay called Angra dos Reis. On the table-lands cattle and horses are raised in great numbers, and grain, mandioca, and rice are cultivated and exported. On the coast, sugar, tobacco, cotton, and a little coffee, are raised. The W. districts, along the Rio Paraná, from the mouth of the Rio Tiete to that of the Iguassu, are still in possession of independent tribes; and the country to the N. of the Tiete is exposed to invasions from the Cipajos. This prov. has many good harbours for fishing vessels; and between the two capes of Monte Serrat, 7000 inh., and carries on a very considerable trade. On the same isal, but on the S. shore is the town of S. Vinripe, to which an excellent road leads over the mountains, is on the N. side of an isal, called S. Vincente, in the bay of Santos, and has a harbour capable of receiving vessels of 4000 tons. It is intersected by the harbour of Santos, and has an active trade on the coast. S. Antonio, at the mouth of the river of the same name, is 7000 inh., and is one of the largest towns 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 do Arasoyaba, which is several miles in circuit, and consists entirely of iron ore. Curitiba, on the N. skirts of the Cam-
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pos da Vacaria, is said to have a pop. of 12,000. It sends the produce of that country to the coast.

4. Rio Janeiro, comprehending the continent between the W. extension of the bay called Angra dos Reys, and the mouth of the Rio Capanhã, extends from 50 to 60 m. inland. It belongs to the greatest portion of the Serra do Mar; and the Serra de Mantiqueira stretches along its W. boundary. It is mountainous, but contains also extensive valleys. The grains of Europe do not thrive in this prov.; 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 Paraiba. It has some excellent harbours. It is traversed by the R. Rio Juncal, a tributary of the Rio Joao, 460 m. long. Its latter is formed by two isl. Ilha Grande and Marumbayba, 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.

5. Espirito Santo extends from the Rio Capanhã to the Rio Belmonte along the coast, and from 60 to above 100 m. inland. The rivers and streams and the sea-shore of the prov. consist 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 W. district is occupied by the independent aborigines, and one of whom the Brotudos are distinguished by their bravery and cannibalism. Along the coast are the isls. called the Abrolhos. There are some harbours, but only fit for trading vessels, Victoria, or Nossa Senhora de Victoria, the capital of the prov., is on the W. side of an isl. 15 m. in circumference, in the large bay of Espirito Santo, which is deep enough for frigates, and has safe anchorage. The town contains 12,500 inh., who carry on an active commerce in the produce of the country. Caravellas, the most commodious town of the prov. on the N. coast, is a considerable place, with a good but not deep harbour. Its inhabitants are principally occupied in the garoupa fishery.

6. Bahia. [Bahia; St. Salvador.]

7. Sergipe d’el Rey comprehends the country to the N. of the prov. of Bahia Real, as far as the embouchure of the Franzese, and 140 m. inland. Its surface is a plain, with the exception of a few hills; but the W. portion 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 is very deficient in water. It supplies only very indifferent pasture for cattle. In the E. district the plains are occupied by extensive plains, and 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. Paramoaguma, an arm of the Rio Vazaharris, 18 m. from the sea: coasting vessels come up to the town. It has a sugar house, a manufactur of tobacco, and some tan-pits. The pop. is stated by Schletter at 36,000, but this seems an exaggerated estimate. Estancia, the most populous and commercial town of the prov. lies on the coast near the mouth of the Rio Real, carries on an active commerce in the produce of the country.

8. Alagoas (D-o) extends along the shore from the mouth of the prov. of the Franzese, to that of the small riv. Una, and about 140 m. inland. It resembles 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. It has two good harbours, the united ports of Jaraqua and Pausa-
sara, and the bay of Curupipe. Alagoas, the capital, is on the S. side of the lake of Manguaba, which is 30 m. long, 30 m. wide, and is well stocked with game, and is connected by the sea 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-wools. Penedo de S. Francisco, a populous and commercial town, on the banks of the Franzese, 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 Serro de Pernambuco. The country along the shores extending between the rivs. Una and Guyana is in general flat, but farther inland it presents a succession of hill and dale, intermixed with some level grounds of considerable extent. Where it approaches the Sertão the surface is stony and sterile. The Sertão, which extends to the E. and W. of the prov. of Bahia and Goayaz, as far as the Rio Carinhenha, an affluent of the R. 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 riv. 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, nearly 100 m. from the sea. The inhabited districts are in the S. coast of Brazil. They have lately been subject to and expelle. The numerous harbours are only adapted for small craft, except those of Catuama, Recife, and Tambandare. The port of Catuama is at the N. entrance of the strait, which divides the isl. of Pernambuco from the continent. Recife is the capital of the prov. of Pernambuco; and the port of Tambandare lies about 30 m. S.W. of Cape S. Augustinho. The last named is the best, and capable of holding large vessels, being 4 and 5 fath. deep at the entrance, and 6 fath. in full. Beside the towns of Recife and Olinda, which compose the t. of Pernambuco, there is Guyana, at the junction of two rivers, 15 m. from the sea, which exports considerable quantities of cotton. It has above 5000 inhabitants. Porto da Norte extends about 60 m. along the coast from the R. Guyana to the bay of Marcos, and 210 m. at its greatest width 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 there are 9 and 10 fath. water, in which vessels can ride in safety.

Paraiba is on the right bank, 10 m. above the embouchure of the riv. of the same name, which, though above 3 m. wide at its mouth, allows ships to ascend only for 3 m.; nothing but small vessels 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 of Appolo, by which it is separated from Seara, and it runs 180 m. above the sea. It is an inland of some extent on which some few places rises into mountains; forests, however, are rare and of no great extent. In general the soil is very dry and best adapted to the cultivation of cotton, in addition to which mandioca and maize are raised abundantly. Along the river Ap- polo by the boundary of Seara and few others, are several salt-lakes, from which great quantities of excellent salt are extracted. No independent Indians at present exist here, but the descendants of the aboriginal tribes are numerous. The few harbours of this extensive coast are not very large; Recife is the chief port, which is 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 boats near 40 m. Its commerce in the produce of the country is increasing. On the W. side of the prov. 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 small few portions of land capable of cultivation. Convicts are transported here.
12. Seará, or Ceará, extends from the Serra Appody to the Serra Hibiapaba, which terminates between the riv. Camucim and Parnahyba, in hills not far distant from the sea. It is separated from Piauí by a plain. It is computed to measure, from N. to S., 1500 m., and from E. to W., 80 m. This prov. 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 in the broad summits of the mountains, where it is rich and covered with forests. In the latter districts grain and mandioces are cultivated. Along the rivers extending to the coast, other species are grown. The district about the upper branches of the riv. Jaguaribe, the principal riv. of the prov., is the most fertile and populous. This prov. often suffers much from long droughts. The descendents of the indigenous are numerous, especially in the less fertile districts. The shores, though low, in some parts are steep, in others flat and sandy, have no ports except for small coasting vessels.

Seará, the capital, is situated near the sea, about 7 m. N. W. of the mouth of the riv. Seará. It has harbors, about 10,000 in., and very little commerce. Aracaty, on the E. bank of the Jaguaribe, 8 m. above its mouth, is the most commercial and populous town in the prov. It has 26,000 in., and exports cotton and hides in large quantities. The prov. has a coast which runs 30 m. up the riv. du Seará, facilitating 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. It is port of Granja, on the left bank of the Camucim, 20 m. from the sea.

13. The coast of about 60 m. between the Serra Hibiapaba and the mouth of the riv. Parnahyba, which 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 mountainous in the S. districts, and it is composed of the southern portion of the plain of the Parnahyba being extensive and excellent. Besides cotton, cattle is exported, and, in addition to other grains, rice and mandioces are particularly cultivated. Independent tribes still exist in the S. districts, and it is possible that the Parnahyba is no port, except that formed by the E. mouth of the riv. Parnahyba, called Higuarassu. Oeyras, the capital, is situated on a small riv., which, three m. lower down, falls into the Caninde, a tributary of the Parnahyba. It is a small town with 1700 in. Parnahyba lies on the Higuarassu, the E. and most considerable branch of the Parnahyba, 15 m. from the sea, and carries on an active trade in hides and cotton. Its pop. amounts to 2600.

14. Maranhão comprehends the western portion of the plain of the riv. Turyuvasu and a coast by 250 m. from the western mouth of the riv. Parnahyba to that of the Turyuvasu, and nearly 400 m. inland. It is more hilly than Pianhy, especially in the S. districts, but towards the sea it is extremely productive in rice and cotton, which are exported in large quantities. The S. coast of the prov. is very low, most of the W. 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 St. Marcos, formed by the isl. of Maranhão, which is 20 m. long from E. to W., and 15 m. its greatest width. To the W. of the bay of St. Marcos, the shores are skirted by a series of small and low islands up to the bay of Turyuvasu, the limits of the prov. on the side of Pará. Besides the capital, S. Luiz de Maranhão [MA- RANTHAO], and the small places of Alcantara and Cachias. Alcantara, on the W. of the bay of St. Marcos, which has a port capable of receiving large coasting vessels, is a large well-built town, and carries on a considerable trade in the produce of the country. Cachias is situated on the Iapicurú, where that riv. begins to be navigable for large vessels, is a district which is productive in cotton, and it is a considerable thriving town. Its pop. may amount to 10,000.

15. Pará is the largest prov. of Brazil extending from the S. E. coast to the Amazon, and from the N. S. coast to the mouth of the riv. Amazonas, 900 m. inland. It includes the S. E. of Pará, between the mouth of the riv. Amazonas and the S. bank of the Amazonas; and farther to the S. to the E. bank of the riv. Madeira. This portion of Pará comprehends the greater part of the plain of the riv. Amazonas, and also considerable portions of the table-land; 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 riv. 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 Pará. As some attempts have been recently made to navigate the Tapajos, several important settlements may be made on that riv. In this portion of the prov. of Pará, is the capital, Pará [PARA], and the following places: Bragança or Cayeté, on the banks of the riv. Cayeté, about 20 m. from the sea, is an old town and a considerable place; the capital of the prov. of Cayeté, which navigates between Maranhão and Pará. Cameta, the most considerable town next to Pará, is situated on the left bank of the Tocantins, above 30 m. from its mouth. It has considerable trade with Pará and the prov. of Goyaz, and about 9000 in. Sanabria, on the mouth of the Tapajos, is the depot 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 2000 in.

The prov. of Pará comprehends also a considerable tract of the N. of the Amazonas, from the S. coast to the riv. Nhamunda. This tract, which is considered as part of Guiana, is almost entirely occupied by independent tribes. The European settlements on this coast are on the banks of the riv. Tocantins, above 30 m. from its mouth; and the prov. of Macapa and Cape de Norte on a narrow channel extends along the S. coast to 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 2000 in.

The coast between Macapa and Cape de Norte is shallow, and the small island 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 of the tide, instead of gradually rising in six hours against a great height of water in a few minutes, and is accompanied with a terrific noise. [Boer.] The isl. of Marajó or Ilha dos Joanes is the largest isl. of Brazil, extending above 90 m. from N. to S., and at least 120 m. from E. to W. It perhaps contains about 10,000 sq. m. It is nearly square, and is divided nearly equally by the principal branch of the riv. Amazonas and part of the cac. of Tagipuru, which unites the great riv. to the riv. das Bocas, a fresh-water bay, at the E. extremity of which the Tocantins has its embouchure. This bay and the riv. do Pará enclose the isl. on the S. and E. The surface is even, and it is its own marsh, with 7 m. of navigable river, containing 70 or 80 m. inundated, 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 riv. do Pará, is nearly without wood and pastured by great herds of cattle and horses. There is little covered with high trees and abundance of underwood. The top. is probably not much above 1500.

16. S. José do Rio Negro, which is not much less than Pará, extends from the S. coast to the N. S. coast, and from the N. side between the riv. Nhamunda and the limits of the rep. of Ecuador; or the S. between the riv. 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 less numerous and less important, and are only found on the riv. Negro and its tributary, riv. Branco, ou. the Tapurá, and the Madeira, except a few on the riv. Amazonas. The country between the Madeira and Hyabary has never been inhabited by it. There are some smaller islands, and of S. of it the numerous tribes of the Munducus, Mahés, Muras, and others. Barra do Rio Negro, the capital, is situated on the banks of the riv. Negro, about 4 m. from its mouth, and contains above 3000 in. Tabatinga, 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 Irraí, into which many riv. empty themselves. When the Madeira is swollen, the current runs through this channel E.; but in the dry season it runs partly in the M. and partly in the old path. The is. 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 Irraí with the Amazonas.

17. Mattto Grosso (Great Forest) occupies the centre of S. America. It contains the greater part of the table-land between the Madeira and the Araguaüy, the tributary of the Tietê, the portion of the plain of the Upper Madeira belonging to Brazil, the plain of the Paraguay, and the W. portion of the table-land of the Parana, which is the branch of the S. B. of the Paraguay. It is a desert of little value, of which the Campos dos Parecis is 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 Indian tribes, more especially the Caiapós. 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 now almost all worked out. The low country on both sides of the Paraguay is mostly occupied by the Guaiçurus. 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 tribes.

Villa Bella, the capital, a considerable town, situated near the Guaporé, has 25,000 inh. and considerable mines in its neighbourhood. Cuyaba, not far from the banks of the Rio Cuyaba, an affluent of the Rio de S. Lourenço, which is a tributary of the Paraguay, is noted for the quality 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, in a very fertile country, is a thriving town.

The rise of the Brazilian table-land, including the basin of the Tocantins to its confluence with the Araquá and the countries on the E. bank of the Araguaéy, together with the hilly country on the Paranahy, an affluent of the Paraná, European settlement is common, or on some of the upper branches of the Tocantins and Araguaéy, where gold was found in abundance. There are a few small settlements along the Tocantins up to its confluence with the Araguaéy. By far the greater portion of the country is in possession of independent tribes; among whom the most important are the Pataúés, or Paraué, an Indian tribe, and the Pataxós, or Timbó, a branch of the Paraué, who live near the Paraguay, and the Guaçu, an Indian tribe, on the S. bank of the Paraguay, which is a branch of the Paraguayan system. These tribes are also noted for the quantity of gold which they possess. The cattle and other products supplied for the European market are usually bought by the Portuguese traders, 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 advantages of the great Mississippi-Great Western canal, exports its gold and precious stones, and the coffee and cotton; S. Paulo exports its more bulky and heavy products by the port of Santos.

Commerce of Brazil.—The scarcity of the means of inland communication prevents the growth of the commerce of Brazil. Mattto Grosso is situated at a great distance from the sea, and the great part of the materials of commerce are carried to the coast of Brazil by water, 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 advantages of the great Mississippi-Great Western canal, exports its gold and precious stones, and the coffee and cotton; S. Paulo exports its more bulky and heavy products by the port of Santos.

The foreign commerce of Brazil is more extensive than that of any other country of America, except the United States. The vessels of all nations are met on the same conditions, and their cargoes pay the same duties. The most important articles of exportation are sugar, 1,500,000 cwts. annually; tobacco, 25,000,000 lbs.; cotton, 300,000,000 lbs.; coffee, 1,000,000 cwts.; and indigo, 100,000 cu. yds. rubber is also considerable. The smaller articles are indigo, castor-oil, castor-oil, and drugs.

The following are the ports frequented by European vessels. From S. Pedro it is usual for the vessels to sail and export 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 Antwerp. The greatest part of the hides and skins, however, in the slave trade in the S. prov. of Brazil; but a part of them is exported to the Hannover, as well as 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 Janeiro, and Brazil, and some sugar 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

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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 Trieste, as well as to the United States. Next to coffee, sugar is an important article of export. The export of cotton, some tobacco, rum, rice, castor, 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, raw cotton, 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 bags. 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 ports of Rio Janeiro and Recife, the quantity exported is insignificant. Every year a considerable quantity is sent to Cape S. Roque as to bear no comparison in value. The smaller articles are hides, cocoa-nuts, ipécaúana, and other drugs.

Maranhão exports chiefly cotton, rice, tapioca, hides, and tobacco. 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 (mandioca flour) is sent to Portugal. The hides (100,000) are divided between England and the United States. France and Belgium receive only a small number. What is called Maranhão caçu 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 variety of commodities. It is the great port of the interior. The commerce of these towns is comparatively insignificant; from the first are brought some few cargoes of cotton, and from the last the sugar and cotton.

The whole, nearly all the sugar of Brazil finds a market at Hamburg, Trieste, and Portugal; the rice is, with a triffining 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-sugar 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 shipped to England. The Brazil-wood is sent to the coasts of Africa. The rum, which is exported, finds a market chiefly on the African coast, and in some ports of Portugal.

The annual exports from Brazil may be estimated at about 5,000,000l., of which nearly one-half is exported to England by British vessels; of the remainder about one-third is sent 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 5,000,000l. More than four-fifths are brought from Europe; the remainder are divided among England, and France. An important article is cotton fabrics, which amount to nearly 1,500,000l.; next to these, woolen articles, linen, brass and copper ware, butter and cheese, iron and steel, wrought and unwrought, hardware and cutlery, hats, arms and ammunition, and pharmaceutical articles. Many articles of furniture and coarse cotton cloth are also imported, 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, 40,000 slaves were imported, chiefly to Brazil, Cape Verde, and other African parts. 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, Columbo root, ebony, and some East India goods; from the western coasts of Africa, wax, palm-oil, ivory, gum-arabic, and some gum-arabic; from the Cape Verde islands, sulphur, gum-arabic, and salt. The intercourse with Goa and Macao is not great. From these places are brought cotton piece-goods, indigo, camphor, pepper, salt, black cassia, and some other articles. 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 of the continent began to participate in it. As almost all the most important products of Brazil are excluded from consumption in England by numerous 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 not increased, the growth of the commerce has been considerable. For some years British shipping carried nearly the whole produce of Brazil, but now it carries less than two-thirds. North American, Hamburg, Swedish, and other flags have entered into competition with the British, and the English have been obliged, in consequence, to acquire 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 brought to England in small quantities. Accordingly 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 more reduced duty on the importation of these articles.

History.—Brazil was discovered in the last year of the fifteenth century. The voyages of Columbus and Vasco de Gama, who first sailed along extensive seas, had taught navigators to adopt the practice of entering at once upon their own open craft, and not to tarry in the crescent Shores of 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., and was carried by the equatorial current so far to the W. that he found his ship fully very unexpected islands, and arrived in 10° 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 (15° S. lat.), where he landed and took possession. He sent an account of his discovery to Lisbon, and immediately returned. 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
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, but it was engaged in their conquests 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 form settlements in the same part of the coast. In 1638, a considerable tract of land was granted 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 necessary to sustain a settlement, 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 noblemen received these properties of a few square 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. Vincente, Espírito Santo, Porto Seguro, and Pernambuco were founded between 1631 and 1645. 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 warlike savage tribes; and at the same period, King John III. of Portugal sent, to Brazil, Tomé 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 then existing from the donatários, either by purchase or by exchange.

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 1555, on the coast of the Rio Janeiro, by Nicolas Durand de Villepagnon, but it soon fell into anarchy. The Portuguese attacked it in 1565, and expelled the French, though without encountering considerable resistance. On this occasion the town of Rio Janeiro was destroyed.

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 agreement between 1531 and 1645. 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 warlike savage tribes; and at the same period, King John III. of Portugal sent, to Brazil, Tomé 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 then existing from the donatários, either by purchase or by exchange.

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deputies from Brazil quite as 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 government in Brazil and recalled the Prince Regent. But the prince, induced by the representations of the Brazilians, resolved to return as emperor, and the emperor was placed on the throne and stationed at Pernambuco and Rio Janeiro to Europe. The Portuguese commandant of Bahia however did not yield; he expelled the military 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 geraes) 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 proposed a new location of the deputies 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 was 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 the Portuguese, measures were immediately taken. The Portuguese troops still occupied the towns of Bahia, Maranhão, and Para. Bahia was besieged by the Brazilian forces, and after a few weeks the garrison was obliged to abandon it; upon the appearance of the admirals they ran away, and the Portuguese admiral also compelled the garrisons of Maranhão and Para to sail for Europe. Thus the independence of Brazil was established, with no other loss of blood than what took place in the town of Maranhão.

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 the 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 and published, which was adopted by the people in 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 assembly of deputies. The first is elected for life 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 1825.

The events took place which gave rise to great discontent, the death of John VI., and the war with Buenos Ayres. By the decree of the king, Portugal devoted 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 Banda Oriental, which country had expressed a wish to be united to Brazil. But the emperor was not disposed to cede such an opportunity to engage the Brazilians. But the republic of the Plate 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 emperor gave up the Banda Oriental and the Seven Main Provinces of the independence of the Uruguayan Oriental republic, the former under the name of Uruguay Oriental, and the latter under that of Corrientes.

But the internal peace of the country was not re-es tablished. The chamber of deputies had been formed on democratic principles, and they soon found other causes of discontent. Frequent disputes broke out between the emperor and some of the deputies, and on 7th July, 1828, an affray 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 demonstrated with the emperor to the latter. The emperor acceded 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 deputies 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 was under age.

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 independence of Brazil, the soldiers have been directed to the destruction or complete overthrow of the democratic party. For the last few years Brazil has enjoyed a greater tranquillity than the other states of South America. (Ayres do Castil. Corografia Brasileira; Travels of Signor Martius; Travels of Cochrane; Martius, Letters, of Travels of South America; Eschneges, Brazilien; Freyes, Beiträge zur kennniss BrasiJien; Schäffer's Brasilien; Weech's Brazilitens gegenwärtiger Zustand; Travels of Mawc. Caldecough, and Graham; Southey's History of Brazil; and Weis, Map of Brazil.)

BRAZIL NUTS. The seeds of BASTARDIA EXCELSA. BRAZIL WOOD. [CEPALPINA].

BREACH, an opening formed by the partial demolition of a rampart in order to permit an assault to be made upon the defenders in the interior of a fort or place. It is effected either by directing upon the escarp, that is, the exterior surface, of the wall, a fire of artillery, or by expelling a quantity of gunpowder which may be deposited in a mine formed for the purpose within the mass of the rampart. For the purpose of this work, when the gun is directed to and raised, the shot is placed at the bottom of the wall; and if the breach is to be made a 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 scene is complete.
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 rest of
the starch is made up of milk of milk; 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,
antil the filtered spirit ceases to become turbid on cooling.
The alcohol dissolves the gluten, as well as a 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 floccs; 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 ad-
hesive; water does not dissolve it, but it is taken up by
acids; it is not dissolved in alcohol or ether, but re-
lished, of a deeper yellow colour, and eventually dries into
a deep yellow mass, which is translucent, and has the appear-
ance of dried animal matter. When moist gluten is ex-
posed to the air it putrefies, emitting a very disagreeable
smell, and decomposes, so that there is left a greasy
charcoal. It is composed of carbon, oxygen, hydro-
gen., and azote, in proportions which have not been deter-
mined; it is owing to the presence of azote that it yields
ammonia, and in this respect it resembles animal matter.

These, the principal properties of gluten, are sufficient
for our present purpose; a more detailed account
of them may be seen in Berzelius, Traité 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
subjected to a process of distillation which, if not
merrily suspended, may be separated on a filter and after-
wards dried.

It is not requisite to give a minute account of the proper-
ties of starch; it is sufficient to state that it is colourless,
 tasteless, and odourless; when exposed to the action of
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
water, and a clear, colourless solution is formed, which
does not coagulate so long as the temperature does not
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
mixed 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 spoi-
aneous 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 por-
tion of the carbon and oxygen of the partially-decomposed
flour recombine so as to form what is sometimes called
fixed air, but correctly carbonic acid gas. This, during its
passage through the dough by the adhesiveness of the gluten,
and forms, owing to its retention, numerous cavities in it.
It is thus that wheat-flour makes lighter bread than that of
oats or rye, owing to the larger quantity of gluten which it
contains, while the bread of rye is more porous and
lighter, and consequently more digestible.

This plan 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 efficient. 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 complicated substance, and it is by no means determined to what portions of it the fermentive power is particularly owing. It appears to be a glutinous element, 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 20th 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 in which it is his intention to employ in making the required quantity of dough. In this water, which varies in temperatures, 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 required. The mixture is then poured, in consequence of which 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 next covered up and set apart in a warm place for a quarter of an hour after which signs of commencing decomposition make their appearance. The substance thus placed apart is termed, in the language of the bakers, the sponge; its formation and abandonment to spontaneous decomposition is termed setting the sponge; and it is by this means that 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 consistency, large air-bubbles soon force their 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 substance within itself, which is doubtless produced practically 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 actively carried on and frequently repeated during twenty-four, or thirty-six hours, provided it be prevented from allowing against 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 still leavened and to the smell. 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 usual process of kneading. When this 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 all intents and purposes 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 fermentation has proceeded by its usual and laborious duration, 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-raised bread, from the deficiency of this carbonic acid gas, which produces such fine qualities as too vesicular or spongy bread, from its excess on the other.

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 the mass of dough into a form of bread tolerable its having been 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 entire mass of each loaf, swells out its whole volume, and gives it the pired 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 cells, 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 properties of the bread.

It has been already observed that what is sometimes called the primary 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, the fermentative process is not considered as a mere fluctuations of temperature. Upon examining the condensed 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 unarmed consequent upon this completely disguised the smaller amount of alcohol when it was first distilled 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 has no particular influence on the quality of the flour, though its quantity compared with the others is so small: this was done by renewing the fermentation by the addition of sugar when it had been exhausted. The fermentation is also probably aided by the conversion of a portion of starch into sugar, as happens in the well-known process of malting.

The nature of the yeast employed in bread-making is a subject of considerable importance: porter yeast is too bitter, but ale and table-beer yeast answer perfectly well. When these are deficient in quantity yeast is manufactured for the purpose of bread-making, which is a mixture of malt, to which hops and brewers' yeast are added; by this yeast is obtained free from the bitterness which accompanies porter yeast.

Carbonate of ammonia is advantageous and extensively used as a substitute for yeast in making the finer kinds of bread: it is a substance which is totally volatilized at a moderate temperature, and though extremely pungent to the smell and possessed of a strong taste, it imparts neither to the bread on account of its great volatility. This ferment is used under the subject of carbonate of ammonia, for the sake of flavor and colour, but also to stiffen the clammy dough made from new flour. Good flour will bear a greater quantity of salt than bad, and new flour requires more than old, for the reason already stated.

When flour has been added to bread, it is found on weighing it when taken from the oven that it has increased from 28 to 34 per cent. in weight; but when it has been kept thirty-six hours, that which had gained twenty-eight will lose
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 grown—dry or rainy; the size of the flours; 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 attempt, however, need arise from such statement. The most innocent of them all is potatoes.

**BREAD-FRUIT.** [Antocarpus.]

**BREADALBANE.** [Perthshir.]

**BREAKWATER of 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 [Pogellers, Cantharus, 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 Malacopterygii. 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 tolerably abundant 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 commonly about two pounds, but spawned has been caught weighing from eight to twelve pounds. Brama bleuca (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 (itself if ever exceeding one pound in weight), and is of a silvery 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 E. T. 'History of 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 troops to be kept on fire over the rampart and within the banquette 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 ramparts which are merely chiefly designed to check the 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 gabionade, 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 breastwork which is made in a rampart. A breastwork however differs from an embattlement, 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 not constructed on a horizontal or transverse line.

The intrenchments with which the Greeks and Romans protected the ground occupied by their armies were breastworks, 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 not now recommended by engineers, and as in many cases the reed of earth and a number of earthworks are usually formed at intervals from each other to contain artillery, the word breastwork 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.

**BREATHERS.** [Breathers.]

**BREATHEING-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 adhere when they touch, but which have a power of contraction so as to leave an opening between them which acts as an escape-vale to the air-chambers immediately beneath them. [BRACT.]

**BRECHIN,** a town and royal burgh in Forfarshire, Scotland, bounded on the E. by the par. of Dunn, W. by Car
caston, N. by Strickathrow and Manmuir, S. by Farnell, and S.W. by Aberlemno; and situated on the N. bank of the South Esk, 73 m. of its junction with the sea at Montrose, and 112 m. of Fortrose, cap. of Ross. 2935 S.W. of Aberdeen. The par. is about 7 m. E. to W. and 6 broad from N. to S.; and contains 2411 ac. Brechin was formerly a walled town and a bishop's see. The bishopric was founded about 1150 by David I. In 1168 a new palace was erected by the bishops at Brechin, which contained 66 roods of land, and was surmounted by a tower 120 ft. high. In 1554 it was destroyed, and afterwards occupied by a garrison. The town contains about 1000 inhabitants. The castle, situated on a natural rock, was rebuilt by King James II. in 1277, and is still the property of the Marquess of Bute.

**BREDA,** a town and borough in the province of Brabant, in the northern part of the kingdom of the Netherlands, 63 m. W. of Amsterdam, and 416 S. of the equator. 6° 40' W. of the meridian of Greenwich. 49° 44' N. of the equator. The town is divided into two quarters: the lower, or S. quarter, and the upper, or N. quarter, the latter containing the prison and court-room. The manufacture of flax and hemp is the chief industry of the town, and many of the inhabitants are employed in the manufacture of hemp and flax. The town is also noted for the manufacture of leather, and for the production of barrels and chalders, and for the weaving of cloth.

**BREDA,** an ancient town in the province of North Holland, situated on the Scheldt, and consisting of two parts: the S. or lower part, and the N. or upper part. The town is built on a sand-bank, and is surrounded by a ditch and a wall. The town is situated on the left bank of the Scheldt, and is connected with the right bank by a bridge. The town contains about 1000 inhabitants. The manufacture of leather is the chief industry of the town, and many of the inhabitants are employed in the manufacture of hemp and flax. The town is also noted for the manufacture of leather, and for the production of barrels and chalders, and for the weaving of cloth.
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 belongs now to the Anibuirer, one to the Reformed, and two to the Seca-sionists. The church, in the old tower, is new, and of ease to the establishment, is now (1836) building.

In 1831 the number of houses in the burg and par. was—Inhabitants 960, building 9, and uninhabited 32; the total number of families was 1873, of whom there were 256 males, 937 females, 306 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 was 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 par. is about 13,000l., 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 beckling, 240 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 lime works and several freestone quarries, besides three nurseries, consisting of about 25 imperial acres, with ornamental shrubs, bushes, fruit and forest trees, &c.

The burg is governed by the town council, which since 1820 has consisted of thirteen members, chosen by the 10l. householders within the burg. One of the eleven is elected by the burgesses. In the par. the burg 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 13,933l.; it consists of lands, houses, mills, growing crops, &c. The total number of houses, 3644. 64. 2d. At this time the town's debts were 33,844l. 10s. 8d. 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 royal 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 1830 to 1834, 639 Civil Causes (proper). 456 Removals. 24 Building Warrants, since 1827. 54 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 burg. The six incorporated trades, except the weavers, possess the exclusive privilege of carrying on their trades in the burg. Brechin; in conjunction with Montrose, Arbroath, Forfar, and Inverness, returns one member to parliament: the number of constituents amounts to 733; for the district, 393; for the parish, in 1835, to 1551.

The church in the centre of the town is in excellent repair, and contains 1300 sittings. The chancel 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 chaldrons of grain, 24 loolls of wheat, with 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 chaldrons of grain, 41l. from bishops' rents, and 10l. for communion elements. When converted into money the stipend of each is about from 230l. to 250l. per annum.

In 1834-35 the arrangement of the schools was recast. The rector of the academy and preceptors of Maison Dieu has a fixed salary of 50l. per annum; 10l. per annum for a house, and 20l. as session-clerk, making in all 80l. besides fees from scholars. The parochial teacher has a salary of 40l. and the third teacher of 25l. per annum, besides fees. In 1835 the rate of par. school fees was, per quarter, reading 2s. 6d.; writing, 2s; reading and writing, 2s. 6d.; arithmetic, 4s. 6d.; French, 5s.; 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 the population of the par., one of them patronised by Dissenters: the average number of scholars in each about 40; they teach reading, writing, and arithmetic.

(Answers to Querries from Sheriff's on Parochial Education in Scotland. 1816.) A Enumeration Abstract of Population Returns, 1821; 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 Hondu, the mouth of the Hondud, 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 Hondu. 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 Trecastle 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. Excepting Trecastle Ward, the whole bor. is included in the parish of Llanfihangel-in-Chirchei, called the chapelry of St. Mary's, is within its limits. Two portions of the space comprehended 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 assessed to the rates. Two coroners are chosen 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 1833, was under 250l.

On the Castle hill, by Barnard Newmarch, a relative of William the Conqueror, who wreathed 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 British. The town has 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 con- demned [Brecknockshire], is 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 in the thirteenth century, and were afterwards allowed to fall into 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 promenade by the side of the riv. Honudu. The architecture of the church is not so antient as the institu- tion itself. It is in the form of a cross, and is built in the form of a cross, from the centre of which rises an embattled tower. A paved cloister extends from the church to the refectory. This is the principal church in Brecknock; it is frequented by the inhabitant of the county, and by those who visit the plaats of St. Mary's; the chapel of St. Mary's on building of no remarkable beauty or antiquity, is the established place of worship for the lower division. The Dom- inican convent, now the college, is situated near Llanhaf.
The Bryn-du, in the... the Black Mountain. Another line also branches across in a direction from N. to S., about eight m. below Brecknock, dividing between... to the Black Mountain... going by the name of Egypt, an obsolete British word for a hill; the other range, beginning with the Caermarthenshire Beacons, runs nearly parallel to the first. Part of the range that is... 1071 m. sq. in area, is 754 m. sq. The pop., in 1831, amounted to 47,763; thus Brecknockshire ranks the third among the S. Welsh co. in extent of surface, and fifth in amount of population. It was formerly called Gethin-sir, or the Fox-hold, and derives its name from Brychan, a Welsh prince, who lived in the fifth century.

The surface of this co. is extremely irregular, the valleys deep, and the mountains the highest in S. Wales. It is intersected on the N. and S. by two long ranges of moun-

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remarkable

Wheat

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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 the range in Brecknockshire 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 tile-stones, rarely more than 20 ft. in thickness, consisting of the red brecciated Mynydd y Bryn gres, 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, occupying the summits of the Pans of Herefordshire, is there cut into the under foundation of the red sandstones, which upon trial have proved to be impenetrable.

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 Erwood on the W. to the rocky promontory of Cwm y Fan, Bre. 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. Nothing is more often noticed by the husbandman than the series of strips containing a mixture of sandstone, hard brecciated limestone, and marl; and beside these there are orchards, from which good cider is frequently manufactured. In the hund. of Devynock, and perhaps more so in that of Builth, where there is much cold, wet, elswy, hurley and oats are the grain crops chiefly cultivated by the farmers. Agriculture has however made considerable improvement in 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 put out, and the farmers are better satisfied than they ever were before. The very small turnips are more generally 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 of the woolly, though finer and leaner than the sheep of the neigh bouring co., is not so suitable to the manufacture of flannel. In the low lands the Herefordshire breed of cattle predominates, and is on the increase. The eves are brought down from the hills in winter, and are not taken back until the colt is six months old, to prevent the danger of exposure of the fat lambs to bear exposure. The farms vary much in size and in shape: they are seldom let upon lease, and are chiefly held at a yearly tenure, at rents from 20L. to 100L. a year.

Brecknockshire is divided into six hund., exclusive of the boroughs, the three principal towns in the co. being Crickhowell, which stands upon the rich banks of the Usk, and Builth and Hay, which occupy two picturesque situations on the Wye. Among the principal vil. may be named Talgarth, Treaclest, Llangattock, Llyswen, and Llandyfri: and among the chief hamlets Bonylls, Llywel, Crickadam, Devynock, and Llangorse. The benefices are usually very small: a large proportion are under the value of 100L. per annum; and very few exceed 200L. Among the few that are considerable are the united vic. of Crick-
this breach of faith, laid siege to Brecon, which was however spared at the earnest intercession 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 1282, and was buried in the Priory church at Brecon. His inheritance passed to William, his eldest son, who was still a minor, and the king heading his troups exerted himself vigorously to conquer the Principality; while Llewelyn strained every nerve to maintain his independence. William de Breos was made prisoner by the Welsh; and though he obtained a release from the king for his ransom, he refused. Henry, harassed by the irregular warfare of the Welsh, relinquished his unsuccessful enterprise, and made a disadvantageous peace with Llewelyn. 

He omitted to stipulate for the release of his faithful tenant, William de Breos, who was therefore sold, upon the payment of a large sum of money and the surrender of Builth Castle. Llewelyn afterwards asserted, whether truly or upon false pretences it is uncertain, that de Breos while in confinement had intrigued with his wife; he inveigled her into a plot, and having his wish, and even to the tenants of de Breos, endeavoured to make himself master of Brecon; an attempt which two years after, in 1233, he repeated; but after having laid waste the country, he was foiled in his attack upon Brecon Castle, raised a strong castle within his retainer, and was rowed onwards with his body. At the death of Eve, William de Breos's widow, Humphrey de Bohun, Earl of Essex, who had married their second daughter, succeeded in right of his wife to the lordship of Brecon. 

War was still carried on between Edward I. and Humphrey, son of the last-mentioned lord, with the authority of the king, and by his own arms and arguments, convinced his dependents of the folly of resisting Edward. 

This change of adherence was fatal to the last of the Welsh princes. Humphrey, with the assistance of Edward's army harassed by the king's troops, quitted his stronghold in Snowdon, marched towards Brecon, and, in unaware of the desertion of his friends, was slain near Builth by one Adam de France, who was present. At the death of Humphrey, the son of Edward, died, leaving no male heir, and the lordship of Brecon passed to his young brother, who was afterwards made Duke of Buckingham. 

The death of Edward I., and the accession of Edward II., strengthened the authority and power of Bohun. He was the last of the powerful lineage of the family of Bohuns; the last of whom made ample amends for the offences of some of his predecessors, who see to have considered their Welsh territories of no further use than as a source of revenue and a nursery for soldiers. The lordship of Brecon now reverted to Henry IV., who had married Mary, the daughter of the last Bohun. During the first four years of this reign, Brecknockshire was greatly harassed by Owen Glendower. The castle of Brecon was intrusted to the care of Sir Thomas Stanley, who, by the defeat of the Welsh at Warwick, were ordered to defend the castle and the lordship, having 100 men at arms and 300 mounted archers assigned them for that purpose. Griffiths, the eldest son of Owen Glendower, engaged the king's troops upon a hill in the district of Brecon, of which the number was 1500 men. Henry IV. granted to the heirs of Brecon, an exemption from tolls and other payments, renewed the benefactions to the monks, and gave them their first royal charter. Upon the death of John, courteous dowager of Speakman, his son, Edward II., died, 1365, leaving no heir. 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 Brecknockshire than she disaffiliated the baron, revolted all their grants, and by force, kept the possession of the castle. The earls of Chester and North Wales, the bishop of St. David's, and the Earls of Pembroke and Glamorgan, received as hostages the entire government of the county, and the barons, the abbots, and the archbishops were summoned to reason with them 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 a warm friend and supporter of the king, was an oppressive governor, and landlord, and in 1450 at the battle of Northampton, his grandson, a minor, succeeded to his honours, and to Sir William Herbert during his minority, who intrusted the castle and lordship of Brecon, as well as the stately castles which had belonged to the last Duke of Buckingham. Upon coming of age Buckingham obtained possession of his estates, and lived in retirement within the walls of Brecon Castle, the greatest part of the reign of Edward IV. At the death of the king Bohun's succession, and became a conspicuous supporter of the Duke of Lancaster, until he was seated on the throne. In reward for these services, Richard made him governor of all his territories in Wales, 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, he had Buckingham under arrest for twenty years, and at last, after many divisions, the project was abandoned, he evaded his engagements, and treated his former friend with negligence and contempt. The duke, incensed at this ingratitude, turned his thoughts to vengeance, and now began to think of the amanuensis who had formerly been anxious to extort him. He retired to Brecon, 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 inscription at home. Richard was too vigilant to allow this plan to succeed, but, as the hour of the confederacy was approaching, he sent 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. Mortin escaped into Flanders. The Duke of Richmond, who afterwards landed at Milford, in his road to Shrewsbury, passed 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 1504 made him high constable of England, the irantant, and in ever held that office. He was afterwards accused of treason, and executed in 1521. The dukedom of Buckingham was now extinct, and the lordship of Brecknock with its dependencies merged in the crown. (Jones's Hist. of Brecknockshire.)

HISTORY OF BRECKNOCKSHIRE. The Union of England and Wales, which took place in 1334, the twenty-sixth year of the reign of Henry VIII. Brecknockshire became subject to English laws and authorities, and its history from this time must be considered in conjunction with the general history of the kingdom.

Brecknockshire abounds in antiquities. The principal castles have been at Brecknock, Builth, Crickhowell, and Hay; at which last place, after the destruction of its first castle, of which nothing but an archway remains, a second was built in the reign of Elizabeth or James I., which is at this time in a ruin. In various parts of the county are mounds or traces of castles at Tretower, near Crickhowell, at Biffliny and Dynas, in the par. of Talgarth, at Troscolle, and Penkelly, at Bonylls, where a well-preserved round tower is standing, and at Caeberis, in the par. of Llangattock, which is in the possession of the Crown, and is near Brecon. At Cwmdon, in the N. of the Usk, near Brecknock, and of British stations at Llincwm and Pen-y-crag near Brecon, at Altarnog, also near Pellwerrw in Llandeilo, the Black Mountains, at Talgarth, Crickhowell, March, Pen-tr, Llaiw, and Llanypyllid. Clerchs or mounds where the dead have been interred are found in many parts of the co., which has also been intersected by several Roman roads.

The Welsh language, which was formerly spoken throughout the whole of Brecknockshire, is now greatly disused in the S. and W. portions of the co. The increase of schools, as well as the convenience in dealing with the English, who frequent the markets on its borders, have contributed to this change. Since the year 1800, there has been opened 110 additional Sunday-schools, containing 7567 scholars, and 47 daily schools with 1248 scholars. The accompanying table shows the present state of education.

**Brecknockshire.**

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<td>44</td>
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**Maintenance of Daily Schools.**

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**Schools established by Denizens.**

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Landing 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 25th March, 1826, 16,403l.; 1827, 17,019l.; 1828, 16,712l.; 1829, 16,264l. (Communication from Brecknockshire.)

**BREA,** once a lordship belonging to the House of Orange, and a town in N. Brabant situated at the confluence of the Merk and the Aa, in 51° 35' N. lat., and 4° 47' E. long.

Breda is a well-built and strongly fortified town, surrounded with marshes, 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. Breda afterwards came into the possession of the dukedom of Brabant, and in the beginning of the 15th 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 confederates. 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 covering of which nothing was concealed. Admission into the town being thus secured, the soldiers left their place of concealment during the night, and having overpowered the guards, opened the gates to Prince Maurice, who had advanced with his army. In 1625 Breda yielded by capitulation to General Spinola, who commanded the troops of the Infant 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 Durnoulier, took Breda in 1638, and retaken by the States General in 1644.

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 free-stone.

Breda was once a place of considerable trade, and contained extensive manufactures of cloth: this branch of industry is now almost totally extinguished. 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 5267 females.

This town was the residence of Charles II. when he was invited to return to England.

**BREDOW, GABRIEL GODFREY,** born at Berlin in 1773, was professor at Eutin in Holstein at the same time as Voss, afterwards professor at Oder, and lastly in the University of Breslau. He was a labourious, scientific man, especially in matters concerning antient and modern history. He wrote 'Handbuch der alten Geschichte' (Manual of Antient History, translated into English, London, 1827), 'Untersuchungen über Geschichte, die, und Chronologie (Researches on History, Geography, and Chronology), and 'Historische Tabellen,' which are a series of chronological tables, in which the principal events of the history of the various countries of the world are placed in synchrornical order. The means of this last work went through several editions during the lifetime of the author, and consisted of ten tables, which carried the series to 1796. Bredow died in 1814. An edition was made after his death, which contains an additional table, including the events of 1810, 1811, 1812, and 1813. The events of 1814 were translated into English (1830) by Major James Bell, who added a twelfth sheet, carrying the series of events to 1820, besides adding other columns concerning British and Indian affairs. This work of Major Bell has likewise gone through several editions, in the latest of which, 1833, he has added another table, which brings the series down to 1833, and also a table of Oriental chronology. The work contains also the following of literary and scientific chronology, translated from Bredow's text, and arranged likewise in synchrornical order. They are chiefly used by the writer in hand.
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 French.

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 required a name among the pat-
trie-reigners of the day, which it was equally obvious to care.

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 demand for it. Food and shelter to the animals found in
a wild state depend in some degree on the climate and the
products of the country in which they are found. Care and
domiciliation also produce varieties, which are much more useful or profitable than the wild
breeds; and in the selection of them the chief purpose is to give
a useful race, and in the rearing of the young, con-
sists the art of the breeder.

Without entering into particulars, which vary with every
species of animal, and with the different varieties of the same
animal, there is no doubt that the importance of pleasant
experience has 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 a breeder attends to is the frame of the animal 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 to produce the raw materials of manufactures.

Eventually these 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
animal is to be bred, it must be attended to which furthers this view; and except under very
peculiar 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.
In all animals a perfect conformation of the bodily
frame is essential to the due performance of the vital func-
tions. 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. The legs may be 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 or choice that any defect in the bodily frame of an
animal is so great a matter of attention. In the
case 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 for those that have been carefully
selected for some purposes it is, as a rule, no economy
for a very liberal price. In horses bred for racing or for the
shoe experience has fully proved the truth of this rule;
and no one who pretends to breed race-horses would breed
from a mare which has a natural defect. In the 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
small; the joints are strong, and the height to enable it
to keep up with the healthy functions of nature. The legs should be
long and slender, and the bones compact and strong; but
the principal thing to be attended to is the course, and no
quality is so hereditary. A horse or hound of a good breed,
if a well-bred animal, easily makes a success of anything
for which it is adapted. 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
pedigree he is degenerate.

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
more suitable covering. Whether it be to ward off cold or
heat, 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
raised tends greatly to confirm or diminish this. An animal
of which the breed originally came from a warm climate,
will have a peculiarly warm foot, which will enable it to
sustain the 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 proper nourishment, so that the latter may strengthen
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
and to the length of time a selection has been
made. Any breed which is peculiarly profitable and equally
successful in rearing different species of animals.

In the animals selected to breed from there are points, as
they are called, which are peculiar conformation, some of
which are connected with the natural formation of the skele-
ton and others appear to be the result of a selection
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 animal is frequently selected who, so to speak,
by manner of its 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, and the insertion of the tail higher or lower, has an
important influence upon the value of that animal, and the
beauty of it is to some extent dependent on the
arbitrary idea of beauty. A breeder who should not
tend to these circumstances in the animals chosen to
perpetuate the breed would find, to his cost, that it is more
than likely they would be lost. These matters have been
the result of observation and experience that certain breeds are
invariably distinguished by certain peculiarities, and
that those are almost as invariably connected with good
qualities, apparently quite independent of the parts on
which this point of view was based.

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-
position into a breed, or permit the selection of an animal,
where the good qualities the animal might possess, and introduce a
greater hereditary fault than any imperfection of form.

But nothing is so deceitful as the prejudices which exist
with respect to peculiarities and colours. In some countries
or for the sake of their length of leg some breeders, and not
red or brown without spots; in others a certain portion of
white is essential. In Suffolk no cart-horse is prized which is
not chestnut; in Northamptonshire he must be black; in
Yorkshire brown or bay. This is owing to the common
pectin, which is held in the United Kingdom, that
in Belgium, whence the Suffolk breed originally came, but
which has degenerated in its native country, a chestnut horse,
with a white mane and tail, as well as a red cow, are
deprised. Here the reason of the prejudice is the association
of certain defects to the animal. The sensation of economy
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 know by experience what are
the peculiar qualities of the different breeds, distinguished
by any particular feature, and whether those qualities have
an apparent connexion with the peculiarity in make or colour.
We may then be guided by the knowledge thus acquired
in our selection of the breed, and whether a defect, which
may be said to give rise to the prejudice, would
the 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
continued, innumerable deformities and defects are certain
to follow. The safe way is to be cautious in the nearly
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-
medied by means of another of an 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 individuals which give milk, and by breeding the breed with these; but we must be careful not to choose individuals which differ much in shape from the breed to be improved. A cross between a Herefordshire cow and an Alderney bull might possibly produce a good cow, but the breed of this progeny would be greatly inferior in every respect to the breed of the parents. There would be lack of fat, 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 bad results. If a breed has too great an aptitude to fattening, which is the case in the offspring of the mother or the 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 peculiar good breed to keep, such as the Alderney cows and other small breeds, the loss of the one or half of the breed will have been amply repaid by the milk she has given; and the bull-calves which are not wanted to roar for bulls, if they are not profitable to fatten as oxen, must be fattened off young and sold for meat, as it is not a painful, or even an inconvenient, consequence of an abundant produce of milk, that the cows will not readily fatten; 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 much more adapted to fattening than the cows.

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 debate the ideal and qualities of the animal have become the subject of a more distant relationship, provided individuals equally perfect can be found of the same breed more distantly related. Every individual has some peculiar defect, and his descendants have a tendency to this defect. If two immediate descendants of breeds with very distinct qualities are united by crossing, whereas by uniting the descendants of different individuals the defect of either of the parents may never break 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 be on the one hand what is called crossing 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. The qualities which distinguish animals in which the muscles are of the common type, as in bull-dogs, horses, and working oxen, are very different from those of animals destined to accumulate mere tender flesh and fat for human food. In the former there must be spirit, activity, and quick digestion; in the latter, indolence and prolonged digestion. The one, the horse, 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 digestive ferments. 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 hones and horns are growing, prove that it is a question of the development of the 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 which have small bones and no horns. This is an important principle. It is not a question of 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 one of 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 flesh and fleece, which must be of the right quality and in such abundance as to make the wool 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. It is a matter of breed is not that the breed is 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 advantage of the best service of the flock on the estate, and the lowest prices can be made. Hence it is of great importance to consider what 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 you are not experienced, the risk is to keep careful account of your sheep, and to use the sheep with a careful eye to the kind of improvement you propose. 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 value of the Leicester, and possibly half of the Merino, a 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 are much better than the separate breeds used.

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 you will produce of very aged parents, at least on the female side.

Horns and humped cattle many breeders prefer a male rather less in size than the female, and pretend that the fetus has more room to develop himself in a small roomy female.* There may be some truth in this, but, quality 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, and in general it ends in disappointment, especially if 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 intelligent animal. But in the other case, 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 detail all 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 in which they are not as perfect at least as the parent stock. This will not only ensure that the natural 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 can be propagated. 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 the quality of the offspring must be expected. If the improved 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 loses its excellence.

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 animal, these general principles are applied and more particularly explained.

BREGENZ. CIRCLE OF (also called the circle of Vorarlberg), forms part of the Austrian cardinal 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 is 1560 sq. m., within which there are 3 towns, 7 m. l., and 412 vil. Being traversed by the lofty range of the Adler (or Eagle mountains), an offset of the Rhine Alps, which separates the circle of the Tyrol, it is a mountainous country, covered with a full of forests. It possesses also a fine tract of pasturage land, the grazing of which forms the principal occupation of the inhabitants, and it produces abundance of wine, fruit, and potatoes, but not grain enough for domestic consumption. The lake situated in the middle of the district is about 20 m. from Bangle to the spot where the Rhine falls into the lake of Constance. Bregenz is watered by the Ach or Achte, which runs into that lake, the lesser Tussach, which has the same outlet, and the Ill, a stream tributary to the Rhine. Cotton vines are grown in most parts; and mining, ship-building, the manufacture of articles of wood, feeding and preparing timber, &c. constitute other branches of industry. The three towns of this circle are Bregenz, Feldkirch (1590 inh.), and Pfendern or Rhinehalle (1270 inh.).

BREGENZ, the capital, is an open, busy town, beautifully situated on an eminence at the entrance of the Ach 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 occupies the site of the ancient city of Vorhalle or Vorhalle, and the lower 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 military school of education, about 360 houses, and 4360 inh. In the course of the year, wine, fruit, wine, butter, and cattle; the townsmen spin flax and cotton yarn, weave cottons, bleach wax, sell considerable numbers of articles of wood, frameworks, and complete fittings for the houses of the inhabitants, and export Alpine bees ready for erection to the adjoining Swiss towns, the amount of the commercial transactions of the town has been estimated at nearly 200,000l. sterling. The old castle exhibits vestiges of Roman construction, and appears to have formerly been a place of considerable strength.

The Gorzelsberg, a high mountain, on which stand the ruins of the once spacious stronghold of the counts of Montfort, is in the neighbourhood. 40° 30' N. lat., 9° 42' E. long.

BRENN LAWS. The ancient laws of the Irish, so called because they are written in the language Brethiachauin, or Brethia. Feincasch was also Breitha-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 Brethon law; and, notwithstanding the statements of Spenser, Davies, Cox, and others, that this was an unwritten and barbarous code, there is abundant evidence to prove that some of the collections of the Breitha-neimeath 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 authentic, but the labour of translating, methodizing, and illustrating them must be that of years; so that nothing can be done in the way of giving a complete view of the social system of the old Irish under these laws as their available fragments, compared with the general history of the country, would point out to the reader of the various accessible authorities on the subject.

Ireland is divided into provinces, counties, baronies, and townlands, which would appear to correspond very nearly with the old territorial distinctions of minor kingships, lordships of countries, chiefships of clans, and presidencies (if we may use the term) of villages; all subject to the dominion of the 3rd Rigne, the prince, king, and tributary, one to another, among themselves.

The law governing this community is distinguishable into the common and, so to speak, the statute law. And, first, as to the common law, or immemorial custom of the country, I will inform the reader of a necessity, by indicating 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 constitution of the society of that people was partly civil or public, and partly pastoral.

By the common law of the tribes, the ground belonging to each seems to have been divided into common pasturage lands, common tillage lands, private demesne lands, and lands belonging to the freeholders. The sons of the freeholders were to have the right to graze pasture as many cattle as they 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 occasion of the distribution of the lands by the lord of the soil. The income lands were the distinct property of individuals who were entitled to acquire and transmit such possessions by certain qualifications not very clearly explained. The de-
meant lands of the tribe were set apart for the maintenance of the chief, the chief elect, the bard, doctor, and brehon.

With regard to the nature of the property enjoyed in these several estates, the tribe at large possessed what is called the tribal or commune, or chief's, or common, homestead lands, and could not be ejected out of them in consequence of any arrears of tribute, inasmuch as the superior lord lifted only a proportion of the increase of stock upon the pastures, and was bound to take the same away at certain seasons: this rent was precisely a lay tithe, being one-tenth of the increase. As to the common tillage lands, every member of the tribe possessed a life interest in them, proportioned to his stock in cattle. In the private demesne lands individuals had a permanent inheritable interest, viz., in the homestead lands of the tribe, the chief had a life interest, of which the reversion lay with the tanist, i.e., the second man, or chief elect, and in like manner the tanist, bard, &c. possessed life interests in their several portions.

The personal possessions of the tribe, corresponding to the above territorial divisions, were, so far as can be gathered from the very confused authorities on this head, the In-finn, holders in common; and the Dathaig-finn, those individuals alike to whom were entitled to separate inheritable possessions. The In-finn, or commonalty of this pastoral corporation, appear to have been of one rank; but the Dathaig-finn were divided into several classes, of which the three most intelligible were the Deirbh fhinn or class, as the commentators explain it, nearest the succession, who had a fixed estate of stock and range called their homestead, without deduction; the Gall-finn, who inherited three-fourths of their patrimonial estates; and the iar-finn, whose right of inheritance extended only to one-fourth of the property left by their relations. These privileged classes were always distinct from the mass of the tribe, who appear to have had only the qualification of admission, or the rule of exclusion, or whether the Deirbh fhinn, for instance, became disqualified on the election of a tanist less nearly related to them than to others, although it is evident that a man of any rank might, if he chose, by purchase of the tillage to that of a freeholder, or vice versa, descend from the higher class to the lower. As to the chief himself, he was usually elected before the death of his predecessor, and the rule has never been invariably, that the oldest of the candidates, if not incapacitated by age or infirmity, should have the preference, the brother being commonly chosen instead of the son, and the son rather than the nephew. His revenue arose, as has been said, from the tenth of the increase of cattle and from the revenues of his demesne lands. In addition he received a certain number of annual payments from himself and household at stated times in the houses of his tenants, in the same manner as his superiors, at certain seasons, quartered themselves or their soldiers upon him. These exactions were common to both by an equivalent in tribute; but as a condition, more than a less way of homage, was generally reserved, and as the reservation, according to its extent, would seem to have had a special denomination, we have an explanation of the perplexing multiplicity of exactions which has so frequently called down the censure of our early writers, who seem to consider cognate, living, bondage, soharan, cuddy, &c., &c., as so many separate taxes, leviable on one and the same holding—an extortion apparently monstrous, and really impracticable, since numerous were liable to the payment of a land holding to its reserved extent, as, if added together, would amount to perhaps three times the value of the whole land.

So far of the Finn, or original members of the kindred, who constituted the great majority of the tribe. But in every tribe there were a numerous portion of the inhabitants who were entitled to personal property, though not of the same description and held in no inconsiderable degree, being entitled to personal and hereditary property among their particular kindreds, and have thus no proper Finn 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 commonalty of these 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 tenements were allotted to the chief, who could thus afford to exact a lighter tribute from the Finn 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 the purpose of the holder 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 with a certain scope of ground annexed. The homestead was denominated a Rath; to constitute a legitimate rath five things were requisite, viz., a dwelling-house, an ox-stall, a hog-stye, a sheep- pen, and a calf house; these buildings were generally surrounded by a rampart for a single rath and a moat for a large inclosure as well as of residence. There is one very prevalent error with regard to raths in Ireland; viz., that they were Danish erections, and designed solely for military occupation. The term 'Danish rath' is altogether a misnomer, as they were in reality of a very ancient origin. In the brehon law, were drawn solely from the circumstance of their erection and occupation by the natives themselves; as for example, among many others, the Finn-rath, a homestead occupied by the original kindred; a Mur-rath, one occupied by striplings of the chief's tribe; a Sli-rath, one occupied by stranger serfs on the chief's demesne lands; a Saer-rath, one of which the stranger tenant enjoyed the perpetuity; a Forgu-rath, a secondary tenement appurtenant to the Sli-rath; a Tli-rath, the seat of the chief, who possessed in fine of such a tenement was denominated fal, and for the legitimate rath amounted to fifty head of cattle. But the most important term in this vocabulary is that applied to the stranger tenant as distinguished from the finn, or original class. The stranger tenant was called a bondman, and his tenure a Rauth. Now these terms are pronounced respectively Cartha and Feth, 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 denominations, such as the fee, &c. &c. In short, we are come to consider more closely the relative situation of the Irish tee-feu, 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, by that he is in fact the holder of the chief might be considered in capite, with a power in many cases of granting mesne tenures to others. Secondly, at the death of the chief a stated fine was paid to his successor. Thirdly, females could not inherit. Fourthly, raths were of two kinds, the first, or Mur-rath, was allotted 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 feu as introduced by the Normans into England, such as escuage, wardship, ransom, &c. &c., there are so far few comparable traces, but we may perhaps account for the difference in giving good ground for considering the Irish law of feuing 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 under which they held their tenure, but were usually 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 forming regular bands of armed men, and could claim only 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-feuars 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 appurtenances, under the name of Betagh.

Thus then it would appear that the country was occupied by kindreds called Finnis, holding for the most part in common, and by Picts, who possessed, under the authority and control of their respective chiefs. The tributes of chief to superior chief, up to the supreme king of the whole island, were regulated by established precedents. The collection of these rules for the kingdom of Munster is entitled ‘The Beo Beuthan’.

So far as the common law; next to as the statute law of the Irish. Whether these particular enactments were decried by a general assembly, as asserted by some, or by local chiefs, as affirmed by others, is a question not properly to be determined from the history contained in the Annals. The containing of them, whatever age, profess to be but transcripts 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 frequent glosses, themselves very difficult to be deciphered, and even when translated not by any means easily understood. The collections are interspersed with numerous moral sentences, occasionally also with superstitious dogmas: as an instance of the first, ‘Heaven is an insignificent island, the earth is a fish again 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, an army of pirates, famine, and a height of seed sown 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 as the mystic number three. There are, in the first place, seven classes of people whose ages are not to be presented; viz. bards, commanders, women, prisoners, drunken persons, druids, and kings in their own dominions. There are again three deaths not to be mourned; the death of a fat hog, the death of a thief, and the death of the son of a publican. This last is a law which advances the subject; to be tender to 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 triad. What virtue can have been supposed 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 such extreme, as has been in Wales; trials, in fact, for the breach of Howell Dhu’s laws, and those of the most arbitrary and absurd description.

But to proceed with the more practical and intelligible portions of these collections, the laws defining specific crimes and fixing the punishment for them. It is said in this section of Felimly Reachtair, or the Lawgiver, the lex talionis prevailed in Ireland, and that he altered that code for a system of retribution by mulct about A.D. 164. Paricide, rape, 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 offenses were thenceforward provided against in the brehon law by definite fines. The retribution thus exacted was denominated Eicted or Erich, terms applicable also to reprisals among commoners. This system in Ireland has been justly censured by all English writers on the history of Ireland. But in this, as in most other instances, the censurers of the Irish have exaggerated the evil by considering it as peculiar to that people. So far however from being barbarous, this notion has been practised at one time or other by almost all the nations of Europe. The Greeks, the Romans, the Germaniks, the Franks, the Saxons, the Welsh, all punished our present capital offenses by a fine. The only difference lies in the word to express it, and in the proportions. mulcta, wergeld, manbote, Sarhard, and Erich being synonymous terms in their respective languages. In England, at the time of the Conquest, every man had his value; in cases of theft, for instance, he only had every man his own value in gross, but the particular value of all his members severally laid down by law; as six ozen and ten shillings for the two hands, a like sum for the two eyes, half that sum for one of either pair, so too for the nose, the ears, eyes, and teeth; this by the hands of any of his people. The amount of these fines, the different persons liable for their payment and entitled to their receipt, the proportions of these claims and liabilities, the adjustment of value and the living money by assessments, are, however, subjects of innumerable precedents and the further punishment of the offender in each case required a very minute and complicated system of enactments. That the old Irish were acquainted with coined money is asserted by numerous authorities; that they used large quantities of the precious metals as a medium of value is unquestionable; but as none save chiefs and lords of territories were required to pay tribute in metal, the dealings of the mass of the people were calculated for the standard of living money as closely as the nature of the commodity itself permitted. This also contributed to a certain equality, and doubt it would raise a smile on the countenance of a modern merchant to be told of calves, yearlings, heifers, strippers, in-calf cows, &c. representing the fractional parts of the standard of currency, but such has been the original simplicity of the system that it had long been almost forgotten. In the learned Selden declaring that ‘pounds and shillings were not abundant in England in 1004, but paid in truck and cattle,’ we can consider the practice in a less intolerable spirit than those who, writing a few centuries after the invention of printing, have attributed to the sixteenth century the learned Selden declaring that ‘pounds and shillings were not abundant in England in 1004, but paid in truck and cattle,’ we can consider the practice in a less intolerable spirit than those who, writing a few centuries after the invention of printing, have attributed to the sixteenth century the愚蠢 of speaking of the Irish as ‘the desert people of the world’.

follows so many cows." Hence, in all likelihood, the term Bally-boe, i.e., cow-land, a term which has perplexed many writers, in consequence of the varying extent represented by it at different times and in different districts. It appears therefore that by leaving all mutts for infringe-ments, it was the object of the law, but then the most effectual mode of making their punishments tell on the whole condition and standing of the offender in his tribe, for punishments so inflected showed themselves, more or less, in every circumstance of his life and fortunes, and affected his 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 cumhal, a general expression of fixed value, was made to consist of three parts, that being the quantity in which the smallest species of property so hard to fix as that in a swarm of wasps, or the number of branches its tree 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 these tribes, else the following species of property could not have been calculated and laid down with such scrupulous nicety. In the first place, the bees themselves are protected by severe enactments against injury of what- ever kind. Next, they are to be 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 the culprit might be expelled 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 re-

* Leges Iii., Lombard, No. 43.

No. 320. [THE PENNY CYCLOPEDIA.]
and his male children to foster with some family of the
Jainnian or commonality; for it was provided that none but
fosterers could claim full erio. The Begar or foster-fee
was a stated sum payable by installments during the child's
minority, and the amount so paid was to be sufficient to
ward off any who desired the care of the child. But when
the father was bound to pay one-half of his fines, in return
for which the young noble or idli-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,
which the law disallowed. As the first fall upon her father and brothers, if
alive and solvent.

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 primate and the law; and, lastly, instruction in letters
being an indispensable branch of each. These attain-
ments were acquired under tutors hired for the purpose, and
paid by the father or foster-father, according to the arrange-
ment of the Begar, the foster-father himself being always
the youth's instructor in all military and athletic exercises.
The tutors alluded to were the ollamh or masters, who also
acted as clergics and notaries under the brehon. The offices
of these functionaries, as well as of the physician, were heredi-
tary, but not, as is generally supposed, subject to the law
of primogeniture; the junior poet, or doctor, being 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
wrote the patient to pay a fixed price; if there were no
treatment proved successful the recompense was very liberal, as
fourteen cumhails or forty-two cows for the cure of a bishop
or provincial king; seven and a half cumhails for that of a
lord of a country, three for that of a bavaré, and two for a
mercy or meryagh.

It is disputed whether the new series of enactments were
sumptuary or merely volant. 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
enacted on the occasion of the Conquest, and of the Jutes
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 hard 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 bavaré was in like manner priced at three
heifers; that of a bavaré at five; that of a Flith or physician, at
thirty-two. 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.

And in the Ulster Law 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 inhe-
ritance of lands were to be judged by twelve voices, one dis-
senting voice invalidating the verdict. This was the ancient
law, and the commentator observes that the hardship of its
extreme strictness occasioned its practical repeal.

Such, so far as can be collected from the present ill-
arraged and defective materials, would appear to have been the
old system of rule jurisprudence under which the Irish
people lived from the time of Eogain of the 3rd and 4th
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 primi-
tive originator and rival was necessarily very slow. The hirebon
law offered many attractions to ambitious individuals des-
hire of establishing a self-contained despoticism 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 de-
graded. The Angloroman law, with all its defects, 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 hirebon law upon their subjects, not for the sole
interest of the lord, but 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
more Irishism, by which he acknowledged the hirebon code alone,
was anxiously encouraged by his dependants; and such
were the inducements of the system itself for turbulent
and ambitious spirits, that few of the adventurous nobles who
had come over under the new system, retained any such
regard for the ancient law. To guard against defection so ruinous to
the whole policy of the conquest, many statutes were enacted in the
parliaments of both countries. These at first were for the
encouragement of the Anglois law only, but afterwards it is
seen that some measures were taken to check the increase of
discouragement. The first positive act against the prac-
tice of the hirebon law within the pale was passed by the
parliament held at Kilkenry by Lionel Duke of Clarence,
anno 1363; by which the offence is declared high treason.

But this was not all. In the year 1405, in the 36th do., i., with similar prohibitions and penalties. The
prohibition, however, had little effect. The open defec-
tion of the great families of De Burgh, 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 suc-
sessive 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-
vided to be the most indispensable to them. The yield-
ing 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-
respondents to the Parliament, in the year 1357, of Henry the Eighth to inquire into the abuses of the Irish
nobility anno 1337. The following is an abstract of some of
the most remarkable complaints. 'All the hirebonists, and spiritual, charged their tenants with cowne and livery,
and with money, and with a heifer and a cow, and with a
meryagh. When Osagy or Osagy Peri, their daughter, the
former demanded a sheep from every husbandman, and a
cow and every village; and when their sons were sent to
England, a tribute was levied on every village or plough-
hour. Lord Kildare, the most powerful, kept five hundred
horses or cattle stolen, 5 marks for his want of vigilance.' Sir
William Butler exacted 10 marks at Easter, if his subjects had
passed the year without gallenglass or spearman. William
Bermyngham required 16 quarts to the gallon, in payments
of wine, which was an expensive liquor. Some less
indeed, the tenants were accused of passing their grain at
prices fixed by themselves, and therefore forced to
forestall the markets. The hirebon, who was kept by
Lady Catherine Poer, took for his judgment, called
'syllog,' 1bd. of every mark sterling, both of the plaintiff
and defendant, &c. &c. By these tyrannical practices, re-
sulting from the union of the two parts of both systems,
the hirebon law fell into extreme odium, but they are chiefly
the exorbitancies and malpractices of this class which have
been quoted by English writers who converse it; so
that if the views here taken be correct, that odium was
oftener due to the overweening power and pride of the
pale, than of the hirebon law itself. The Irish hirebon
would seem to have established a separate code of laws for
their own government, known as the Statutes of Kilkeny;
and we find them, in the reign of Henry the Eighth, inflict-
ing a penalty of five marks on the individual who would sue
by any other law. If these statutes be the index to such
practices as those quoted above, it is little to be wondered at
that the hirebon law, which bore the blame of all, should have
been denounced as it was. Great efforts were accordingly
made, both in this reign and in Elizabeth's, to supplant
the hirebon law by an English system. In 1550, a provi-
sion was also directed against some of its effects; but it was not
until the 3rd of James that the final extirpation of the old
law was effected. The whole kingdom being then divided
into counties, with their several sheriffs and circuits of
justice, the hirebon law became a mere subject of inquiry
as to the antiquary, and as such, at the present day, pos-
sesses perhaps greater interest than any other branch of
Irish or Celtic archæology. The sketch here attempted cannot be free from numerous defects, and perhaps from some actual errors in the compilation; but these are sometimes inevitable. The original MSS. are written in a dialect so antiquated as to make almost all Irish scholars, and the accuracy of some of the existing translations, as well as they are, has been seriously called in question. It required considerable research and critical study 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 profession which requires not only a knowledge of the language, but of the ancient laws of Ireland, the only society that exists in Europe, that can be said to rival 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 attaching to that institution. (MSS. in the library of the Royal Dublin Society.)

Breisach, Old Breisach or Breisach, an antient 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 line of the Upper Rhine, and was termed the 'pillow' (Westfalen) of Austria. To it is ascribed the history of the strongest fortresses in Germany. The castle was built by Berthold, duke of Zähringen. Its vicinity was the theatre of obstinate conflicts during the Thirty-years' war, and the scene of two victories gained by the Swedes over the imperial forces, of which 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 King's heights. Traugott is about to inscribe the place with the date of 1744 threw it once more into the power of the French; but they evacuated it and recrossed the Rhine, after destroying the town and its fortifications, as well as the antient 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 Hönningen in his retreat out of Swabia, left a garrison in Breisach; and the French reverse at Veldes, on the 21st of November, 1793, was attended with a formidable disaster. In 1806 the French government transferred it, together with the Brisgov, to the house of Baden. Breisach is situated on a circular hill on the E. bank of the Rhine, between Basal and Strasburg; and in conjunction with the par. of Hochstetten, which has been incorporated with it, contains about 400 houses and 3200 in, who are engaged in mechanical pursuits, trade, and navigation. There is likewise a considerable tobacco manufactury in the town. The Minster of St. Stephen, which has survived every calamity that has befallen the town, and which, with its large churchyard, architecture, contains the monuments of several old warriors, as well as of other individuals of note. 48° 1' N. lat., 7° 34' E. long.

Breislak, Scipione, was born at Rome in 1746, but originally from Germany. Cardinal Seipioni Borghese stood godfather to him, and gave him his own Christian name. Breislak early distinguished himself for his application to the physical sciences, by which he attracted the attention of the learned Syay of Ruggia, who offered him an appointment at the University of Freiburg in the college newly established at Ruggia. In that city Breislak 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 Freiburg, Breislak was appointed professor in the College Nazareno. 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 observations, "Saggio d'Osservazioni sulla Toffa, Oriolo e Laticera," in 1786. Afterwards, on his going to Naples, he was employed by the government of that city for the purpose of establishing an observatory, 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 appointed director to the newly-constituted college of the Milanese. He died at Naples in 1801. His hagiography, "Breislaikan Leben," has been published at Paris in 1821, and at Vienna in 1822. In 1799 he was appointed inspector of the national manufactury 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 manufactury of saltpetre. "Del Saltpetre e dell'Arte del Salp headsetro," "Mefoiedi Fabbricazione e Raffinazione dei Nitri," "Istruzione Pratica per le piccole Fabbricazione di Nitro, da farsi dalle persone di campagna. Breislak continued in his office of inspector through the various changes of government, and also under the French, with success and with the most chivalrous attachment to the study of geology, which was then still in its infancy in Italy, Breislak published in 1811 his "Introduzione alla Geologia," which he afterwards enlarged and published in French under the title of "Institutions Geologiques," M. Berthollet, Paris, 1814. This work was immediately translated into German. Breislak was elected a member of most scientific societies in Europe. In 1816, together with Monti, Giordani, and Acerbi, he formed the plan of a new scientific and literary journal for Italian scholars called "Istituto degli Italiani," which still holds its place among the periodicals of that country. Breislak 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, in 8 parts, containing a map of the territory of Milan, on the scale of 15, 1826, universally regretted both for its 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.W. 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 hundred 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 kingdom of Saxony. The duchy is about 2020 sq. m. It was merged into the bailiff (Landratoat) of Stade in 1823, and contains two municipal towns, viz., Stade, the seat of administration, and Verden, 30 royal justiciables (Aenters and Königliche Gebrichts), and 21 seignorial justiciables; and a pop. of about 19,000 souls (in 1827, according to Ubbelohde, 187,600). The soil, which borders upon the sea and the river, is a rich and fertile marsh-land, on the banks of the Elbe, from 14 to 7 R. deep. The interior of the duchy is full of heaths and marsh-land, some of which, on the sea-coast and in the dreary region available to cultivation: in 1820, for instance, 64,000 Hanoverian or 41,000 English acres were brought under cultivation, and 87 vils. were laid out upon them. Dykes are maintained at much expense to preserve the marsh-land and to secure the navigation of the river. The cley duchy are the Este, Bremer, Lübe, and Schwinge, which flow through it into the Elbe; and the Alber, Wumme (called the Luesum or Luesum near its mouth), and the Gerte, which fall into the Weser: all these rivers, become navigable as they flow through the duchy, and are navigable by the Elbe, which rises at the Wintermoor near Tostede, travels the country from S. to N., and is navigable along one half of its line; and the lesser Medem, which, as well as the Öste, enters the sea at the mouth of the Elbe. The largest can is that which unites Hamme and Öste, and thus establishes a

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communication between the Elbe and Weser. There are several pieces of water, but none deserving the name of lakes; nor has the duchy any mountains. The climate is temperate but variable, and the districts along the coast subject to storms. The quantity of land under the plough and spade is estimated at 460,000 Hanoverian or 294,680 English acres, and the extent of pasture and meadow land at 240,000 Hanoverian or 153,400 English 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; pasturage supplies the want of wood for fuel. Considerable numbers of horses (about 35,000) and cattle (about 113,000) are raised. The growth of small quantities of hemp and flax is considerable; 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; peat also is dug. There are no large manufactories, though the spinning of linen yarn and the weaving of hempen linens and saileth, the making of Potter's ware and tiles, as well as the manufacture of brandy and the extracting of oil from rapeseed, afford employment to many. The chief manufactures include the preparation of immediate produce and wants of the country: the exports consist of grain, beans, rapeseed, peat, and fattened cattle for the Hamburg and Bremen markets, wool, rags, fruit, oil, tares, and coarse linen. The want of a harbor on the coast had long before this occasion prevented the export of cattle from the Duchy but the establishment of the 'Bremere-haven,' on the right bank of the Lower Weser and left bank of the Gerde, bids fair to remove it. Many vessels are built and navigated by the inhabitants of the said duchy; some few are engaged in intercolonial trade. The inns are all of Low-German (Platt-Deutsch) extraction and speak the Low-German dialect. They are exclusively Protesants; and the majority profess the Lutheranism form of faith. There are 125 Lutheran and 7 Reformed places of worship, 50 parishes, 50 churches and chapels 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 1719, and sold, with the consent of both parties, to Hanover, or rather the Electorate of Brunswick in those days; namely, by Denmark in 1719 for 600,000 ducats, and by Sweden in 1719 for 930,000 ducats. One part of it formed the earldom of Holstein, and the other, with the title of the bishopric of Lübeck, the archbishopric in the middle of the 12th century; an incorporation which subsequently gave occasion to violent disputes between the prelates in possession and the dukes of Brunswick.

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 the Weser, in the N. and E., to the Weser, in the W. and S., is bounded by the duchy of Bremen, and on the S. and W. by the Hanoverian earldom of Hoya and the duchy of Oldenburg. The surface lies low, is almost level, and consists chiefly of marsh-land. It contains the Weser, the Weser, the Weser, and Worpee, which, after their junction with the Hamme, bear the common name of the Leusum or Loesen, and from its union with the Weser on its right bank, and the Ochum, Ochenu, or Uelho, which flows into it on its left bank. In addition to these 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 Bremer-haven, and 58 vills and hamlets, and is divided into 14 parishes. The number of inhabitants is estimated at 83,500; and the present population of about 57,000, is 2,415,300, in 1828, it was officially stated to be 55,452; and of this pop. about 41,500 inhabit the town, and 15,900 the adjacent dependencies. The inns are of the Protestant faith, with the exception of about 1500 Roman Catholic houses, and a few are in the town of Hanover. The legislative power is vested in the 'senvate,' which consists of 122 members, of whom 2 senators, and 24 members, and in the convention of burgesses (Bürger-convinent), which is composed of all resident citizens who pay any considerable amount of taxes; it is divided into 44 members, and in the council of 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 civil deputies take part in every branch of 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 may be granted or withheld, and if granted, may be revoked. The ministers are empowered to grant pardons, administering justice, regulating the police and civil affairs, controlling public instruction, exercising seigniorial rights over the territorial possessions of the commonwealth, and conducting foreign affairs. But the convenion of burgesses, by special act of the senate, has the power of 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 the part of the senate concerning the administration of the police, until a vote of the senate and convention, passed in January, 1831, decreed that the accounts should be annually brought before it. It appears from those which since have been presented that the ordinary receipts for 1833 amounted to 103,056 dollars, and the extraordinary expenditure to about 170,000, which is a total of 684,529 dollars, or about 119,790/.: and that the ordinary expenditure amounted to 519,512, and the extraordinary to 187,478; making a total of 706,990 dollars, or about 125,785 /.: from which data the excess of expenditure over income was computed at about 3932. At the close of the next year, however, the deficit disappeared, and a surplus revenue of 35,000 dollars (about 6120/) was passed to the credit of the ensuing year. The capital of the public debt was in 1833 stated to be 3,060,000 dollars (about 495,000), and the sale of 132,000 dollars, or about 24,676/. After deducting this interest, and the amount of the vote proposed for the annual reduction of the debt, the remaining expenses of the state were calculated at a future average of about 375,000 dollars, or about 65,000/. yearly. The debt consists of gold obligations, in the form of 45 m., the state is bound to furnish to the army of the German confederation; besides these, there is a militia composed of all males, excepting government servants, ecclesiastics, surgeons, physicians, &c., between the ages of 30 and 35, and 35 and 50, and 2800 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, namely, on the 18th of October, the anniversary of the battle of Jena.

Bremen carries on a very extensive trade, both with foreign parts and the interior of Germany. In 1832 its imports by sea amounted to 31,584,228 pounds of tobacco, 3,450,960 tons of South Sea whale oil, 14,000,000 pounds of coffee, about 2,000,000 pounds of coffee, about 1,000,000 hogheads and pipes of wine, besides other articles; the whole value of these imports was estimated at 13,319,729 dollars, about 2,329,790/. 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, pottash, drugs, hemp and flax, wool, rags, paper, tobacco pipes, and other manufactured goods, &c. The number of vessels which arrived in 1822 was 1116, of
which 120 were from Great Britain, and 123 from the United States; and in 1835, 1085, of which 120 were also from Great Britain. The immediate superintendence over such matters is now in the hands of the high rights of the bishop. The jurisdiction is vested in the *college of elders,* who are the representatives 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 one or the other. Bremen, as one of the *colleges,* is 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 importance in the year 787 or 788. The bishops of Chur, at that time, 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 1225, that Bremen should be the seat of the archbishopric, and Halberstadt that of the prince-bishops, 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 Otto.

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 1713, when the town was granted a constitution. 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 federal league, as one of the three Hanse Towns, 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 Neustadt or new town, on the left bank. The old town has large suburbs, but the new town alone; the latter was begun in the year 1625, is built with much regularity, and the streets are broad and straight. The old town, though not without some handsome streets and dwellings, is somewhat shabby in appearance, and is still more gloomy by the height of the houses. These two quarters are also separated by an isl. 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 isl. and unites the two towns. The ram-paris 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 riv. afford a fine view of the town in all its lights and shades, and at certain times of day, with a few sloops, are decked 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 in the pop. amount to about 30,000, of whom about 11,000 are of the reformed religion, 1500 Roman Catholics, and 1000 Jews: the remainder are Luthers. There are no open spaces of any magnitude in the town excepting the cathedral-yard (domhof), which as well as the market-place and forum, is laid out with broad walks. Several deserted churchyards have been left unoccupied in both towns for the purpose of affording free circulation to the air, and instead of them three cemeteries have been made outside of the city. Among the more remarkable buildings in Bremen are its large churches, of which 5 Protestant and 1 Roman Catholic are in the old town; the cathedral, a venerable structure in the Gothic style, was built in 1160; its length is 266 ft., breadth 124, and height 105. Underneath it is the celebrated bleikeller (lead cellar), a vaulted passage where the lead for the roof was melted and prepared; in this cellar 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. Augustus has a steeple of handsome appearance, and the old archiepiscopal palace, which has undergone complete renovation, and the piazzas round it have been thrown open for public accommodation. Here is the former town-hall, built in 1405, and below it the far-famed *Habstweinkeller* (council's wine vault), one section of which, the *Roes*

is said to contain old hock of as remote a vintage as the year 1624; while another, the *Apostles' Cellar,* contains, we are told, Hochmeyer and Rüdesheimer, made in the early part of the 16th to wrap and preserve the wines, called the Twelve Apostles. Along one side of this vault are a number of small apartments, for the convenience of visitors who wish to regale themselves; at the extremity of these apartments is the acoustic-room, a sort of whispering gallery. Bremen possesses also the celebrated *Timmer-aan-Exchange,* with its noble concert and ball-rooms; the *Schütting,* in which the elders of the mercantile body hold their sittings; the Waterworks next the bridge, the great *steel wheel* of which performs 51 revolutions in an hour, and throws up 120 thousand, two and a half times the weight of 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 and reading-rooms; the two Gymnasia, and High School, completed in 1807; and the *Herkules* or public library.

Bremen is a place of great resort for the warehousing and transit of foreign and German commodities; it possesses a bank, a discount office, and five Insurance Companies; besides an hospital, two sewers, a large reservoir, 7000 vats, and many other charitable establishments. 55° 47' N., lat. 8° 47' E. long.


BRENNUUS, the latinized form of the Celtic *brenius,* '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 Breus or Breveni to their march to Clusium and Rome. In the account given by Dio (xiv. 113, &c.) of this singular invasion, the name of Brennus is not mentioned; in the narrative of *Livy* (c. 33, &c.), he figures as the 'regulus Gallorum,' or leader of the Gauls, in the battle of Clusium. After the battle of Clusium, 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, (Virg. *En. vii. 717.* The whole city was afterwards plundered and burnt; and the spoils would have been distributed but for the bravery of Manlius. 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 then carried off his spoil, and left Italy a poor country. A famous tale of the tale of the Brennian, told by an ancient historian, *Carthage* (p. 327) made an irruption into Macedonia with a force of 150,000 and 10,000 horse. Proceeding to Greece, he attempted to plunder the temple at Delphi. He engaged in many battles, and in a contest of strength, he was slain by the Thessalians. He 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 Cichorius (or Aelechiorus—see *Pausanias*) king. Soon, however, in a fit of intoxication,
tion, ne killed himself. (Diodorus Siculus, xxiii.; Fragn. p. 300, Bipont. edit.; Pasquinii, x. 19-23.)

BRENT GOOSE (zoology). [Goosx.]

BRENTA, called by the Romans Medesium Major, a riv. of North Italy, derives its source from two small lakes near Pergine, and runs about 86 miles to the Adriatic Sea. E. of Trento, flows E. through a long and narrow valley between high mountains, then turns towards the S. at Primolano, where it enters the Venetian territory. At Bassano the Brenta issues from the mountains into the great Padan plain. At Littorio there's a passage from it a canal called La Brentella, which joins the Boscobigione. The Brenta continues its course in a S.E. direction, passing near Padua to the N. of it; it then assumes a course nearly due E. towards the lagoons of Venice. Near Strà, it receives a channel from the S. through the waters of Padua. At Dolo, below Strà, a cut was made by the princes of Carrara, lords of Padua, which carries part of the waters of the Brenta in a S. direction for nearly 20 m. to Bréndolo, at the S. extremity of the Venetian lagoons. This cut is called Brenta Nuova. The main stream of the Brenta, however, continuing its course to Fusina, where it entered the lagoons opposite to Venice, occasioned considerable mischief by the violence of its current and its frequent overflowing, to prevent which the Venetians made a second cut at La Mira, a little below Dolo, which cut runs nearly parallel to the other, and E. of it, until both streams join near Bréndolo, where they enter the sea. This second cut is called Brenta Nuovissima. The original bed of the Brenta, from La Mira to Fusina, was at the same time embanked in a canal, and was called the name of Brenta Morta, 'the Dead Brenta.' Some call it also Brenta Magra, 'the Shrunken Brenta.' The communication between Padua and Venice is carried on by means of this canal, by which the boats from the interior supply them with grain and manufactures. (Canal de l'Autanne Venet.)

The banks of the Brenta below Padua have been long celebrated for the number of fine mansions and villas of the Venetian patricians, which follow each other for several miles. In the time of Venetian wealth and greatness, the bustle of the town was like a sparrow. The most remarkable palaces are those of Giovannelli at Noventa; Imperiali, formerly Pisanl, at Strà; and near it, the palace Tiepoldo; the palace Tron, at Dolo; the palace Bembo, at La Mira; that of Foscari, near Morandano; the palace Foscarini, adorned with paintings by Titian and Paul Veronese, &c. The country, however, being flat and low, is unfavourable to landscape effect. A recent traveller (Valéry, Voyages en Italie) thinks the banks of the Brenta have been overpraised; he considers the arrangement of the pleasure-gardens is on a grand scale, being the result of careful mental gardening, the trees cut into artificial shapes. Several of the handsomest palaces have been pulled down since the fall of the Venetian republic, and there is an air of decay about most of those that remain. The whole course of the river is a straggling one, the most confusion of the banks, and the wind, and sometimes on the banks, are attended with occasional squalls. The climate is nearly always mild, and the nights are long. The genii Brentus is chiefly distinguished by having the abdomen entirely blackish, the antennæ light-brown, and being on many occasions slightly enlarged towards the apex, and the body linear. Brentus Temminckii (Klüg), 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.

In the genus Arrhenodes the rostrum is short and terminated by two distinct mandibles, which are straight and project considerably in the males. The species inhabits North America, and one is found in Europe, A. italica.
Ulcerous has the antenna nine-jointed, the last of which forms a club.

Cycloae has the antenna 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 Lombard-Venetian kingdom. It is bounded by the river Oglio, 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 on the N. it is bounded by the city of Bergamo, from which it is divided by the river Durance. The range of the Alps forms the boundary between the Oglio and the Chiese, by the lake of Garda, which divides it from the Venetian, S. E. by the prov. of Mantua, S. 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 between Cremona and Brescia. The length of the prov. is 54 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. 2,022,000. (Bollettino Stistico di Milano, 1853.)

The territory with regard to its surface and the nature of the soil may be divided into three tracts: 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, fertile soil, and a fine view. 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 N. and S., and the river Iseo, which comes from N. to S., and drains the two principal valleys of its 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 the town of Brescia and W. of it, and after a course of about 55 m. enters the Oglio near Cremona. The Chiese 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 Val Sabbio, N. E. of Brescia; then enters the plains, passes near Montecchio, marks the boundary between the provinces of Brescia and Mantua for about 10 m., and afterwards leaving the territory of Brescia divides the provinces of Mantua and Cremona until it enters the Oglio below Canno. The Oglio, S. of Brescia, has for navigators a good bank in Lombardy, issued from the Chiese at Gardone, passes close to the town of Brescia, then runs S. nearly parallel to the course of the Chiese and W. of it, and enters the Oglio above Canno, whence the boats proceed by the Oglio into the Po. There are many other minor canals in the prov., of which the most important is that of the river Isonzo, 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 other roads 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 Vellelina by Edolo in the Val Camonica. A steam boat plies between Riva and Desenzano, at the two opposite extremities of the prov.

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 manufactory, especially of blankets which are made in the district of Iseo. The iron mines of Collio Bovegno and Pezzane 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 silk is the chief industry of the prov. of Brescia, which has been long celebrated, employs also several hundred workmen. In the Riviera di Salò they spin a great quantity of flax, and have also many paper-mills. In the plains of S. Brescia silk is the great branch of industry. The manufacture of cotton is of recent growth, the rise of silk-stuffs, but the greater quantity of the silk is spun before it is exported, and is valued at nine millions of Austrian livres yearly, about 300,000l. sterling. There are also manufactories of cotton and leather. Marble quarries are worked at Rosatto, Viola, and Botticello, near Brescia; the white marble of Botticello is much valued.

The prov. of Brescia is divided into 17 districts, which contain 235 communes. (Serristori, Saggio Stistico, Vienna, 1833.) The towns, besides Brescia are: Chieri, 3800 inh.; Montecchio, 5500; Lonato, 6000; Desenzano, 3600; Salò, 4000; Ponte di Legno, 3000. The smaller towns of between 2000 and 3000 each, such as Manerbio, Ghedi, Leno, Carpenedolo, Calvisiano, Verona, Orzinovo, Quinzano, Rotave, Palazzolo, Isern, Gardone, Gavardo, Tassolano, &c., and about 200 villages. On the E. coast of the lake of Iseo the fortress of Rocca di 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 camissary, and each commune by a municipal officer called Podestà. For the military there is a commandant at Brescia. For personal 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, from which schools 1550 girls, 1260 boys, being more than one of each for every commune. The number of pupils was in 1833 17,081 boys, and 11,797 girls, being the highest number in proportion to the pop. among all the Lombard provs., but of Bergamo quality.

The charitable institutions in the prov. are: 1. 14 hospitals for the sick, the insane, foundlings, &c., with a revenue altogether of about 15,300. 2. Orphan asylums, refuge for the destitute, for invalids, and old people; revenue 8001. 3. Reformed (late Friends) schools for boys and 249 for girls, being more than one of each for every commune. The number of pupils was in 1833 17,081 boys, and 11,797 girls, being the highest number in proportion to the pop. among all the Lombard provs., but of Bergamo quality.

The people of the prov. of Brescia are a fine healthy race, especially in the N. district; 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 Venetian government, the town of Brescia was one of the most popular; but the murders were committed. It must be observed however that the provinces called d'Oltra Minio, i.e., Bergamo, Brescia, and Crema, being later acquisitions of Venice, were the worst administered, especially with regard to the judici-ary system. The feudal jurisdiction has been replaced by 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 9634.

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BRE/SCIA, (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° 52' N. lat. and 16° 13' E. long. The hills from the N. to the S. are the Oder, the Adige, and the Po. They were conquered by the Romans under Cornelius Cethegus, about 200 years B.C., and Brixia became a Roman colony and afterwards a municipium. After the fall of the empire 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 Gio. Galli, and his second son, Perino, a still better Ansperga was the first Abbes. A cross, 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 Carolingians; it afterwards submitted to Otto of Saxony, who gave it the privilege of free cities 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 Filippo Comasch. Being distracted by the faction of Gregorius and Guilhelmus, the town was taken by the forces of Eccoardo, a tyrant of Padua, by the Pallavicini of Piacenza, the Torriani of Milan, the Scaligers of Verona, and other feudal lords, until it submitted to the Visconti, of whose yoke the citizens gained tired gule themselves up to the Venetians in 1426. The league 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 Brescia was severely wounded. Soon after, by the return of the French, Venetia gave up 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, and encouraged and assisted by the French and the Milanese, and in 1799 by the French and Sardinians, rose in arms against the republic, and 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 Nuova Guida per la Città di Brescia, by F. Brognoli, Brescia, 1829.)

BRESLAU, one of the 25 government circles (reigierungs-bezirke) of the kingdom of Prussia, includes the central districts of the prov. of Silesia, among which was the former principality of Breslaw, which has an area of about 5,500 sq. m., with 718,970 inhabitants, of whom 73,909 are Jews, and 70,100 others; the third resides in the 55 towns in the circle: about five-eighths are Protestants; and the remainder, with the exception of about 800 Jews, are Roman Catholics. In 1865, the inhabitants consisting of the circle amounted to 478,560. It is the principal market of the Silesian manufactures. Owing to the lofty ranges which separate it from Bohemia and Moravia, it is very mountainous in the S., but the rest of the circle is an almost uninterrupted level. Those parts of the census of the left bank of the Oder are naturally productive; but the country on the right bank is sandy or woody, and is much less adapted to cultivation. The spinning both of flax and cotton yarn, and weaving and bleaching of linen, are carried on to a considerable extent. The manufacture of glass, paper, wax, porcelain, tin, potash, saltpetre, copper, iron, tin, copper, and coals. The agricultural part of the pop. are engaged in breeding horses and cattle, and growing flax, tobacco, hops, grain, fruit, and vegetables. Mining, filling timber, and working stone and wood, give employment likewise to thousands. Besides the 55 towns of which the largest are Breslau, the capital, and next to this, Brieg (about 10,500 inh.), Schwidnitz (9000), Glazt (7600), Oels (5400), and Frankenstein (5500); the circle contains 8 m. t. and 2245 a. of forest, of which 275 a. have been cut, remaining 52,040 hectares; but in 1831, 118,946. The circle is divided into 28 minor circles, one of which, also called Breslau, has an area of about 302 sq. m., and contains about 130,000 inh.

BRESLAV, a large city and university at the confluence of the Oihau and Oder, or, in spacious plain, at an elevation of 458 ft. above the level of the sea, is not only the capital of the circle of this name, but of the prov. of Silesia, and ranks as the third of the royal residence towns. The plain in which it is situated is skirted at a distance of about 9 m. from the N. and 10 from the S. by the Owen mountains, and about 23 m. to the S. by the Zobten mountain chain. Schwidnitz, Schneidwald, and Giant mountains may be seen from Breslau in clear weather. Its present form, an oblong quadrangle, was given to it by the Emperor Charles IV., after the great fire in 1342. In the centre of the town stands the great market, from which the four main streets branch off to the four principal gates: the suburbs, separated by the Oihau, but connected with the city by six large and several smaller
bridges, are a continuation of the same plan, completing the whole, though denominated the ‘Outer Town,’ in contradistinction to the first-mentioned, which is called the ‘New Town’ to distinguish it from their combinations. 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 streets, agreeable to urban decorations of town's first time 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 Old as the New Town, namely, the Nicoliai to the W., the School to the E. to the S., and the Oriental to the S.; 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 ‘Sandislez’ and ‘Dom,’ or cathedral suburb, outside of the Sand Gate, and the ‘Oder’ and ‘Bürgerwerde;’ 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 Nicoliai suburb, is traversed by the ‘King’s Bridge,’ which is made of cast iron, in weight about 143 tons, and was opened on the 18th of October, 1822: at each end of it is a square, that on the Nicoliai side opening upon a handsome staple of white marble and St. Stephen. The bridges leading to the Sand and Schwedt suburb have 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, and the near vicinity, as well as by artificial 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 Säuling, which is now become one of the most agreeable resorts in the town, and has changed its name into that of ‘Blücher Square.’ The Church of St. Bartholomew, in honor of the 26th of August, 1827, in commemoration of Blücher’s victory on the Katzbach and of the Prussian army which supported him. The statue of Blücher is raised upon a pedestal of granite, bearing on its front the device of the eagle. With God’s aid, for our King and Country.” On one of the sides of the superstructure on which the pedestal rests is also inscribed ‘The people of Silesia to Field-Marshal Blücher and the Army.’ The statue and its superstructure are 26 ft. in height, and the statue without the plinth 10 ft. 3 inches. Breslau, the capital of the kingdom of Silesia, is 222 miles from Berlin. 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 Henry IV., duke of Silesia, in 1298, is in the shape of a cross of St. John, with three aisles, and divided into three and the same 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 1320; St. Dorothea’s, the least 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 delivered on the 25th of April, 1535. The present steeple of the Protestant church was erected in 1534, and is about 350 ft. in height. The royal or public buildings of the town are about 240 in number. The ‘goulubb’ was probably erected in the early part of the fourteenth century, and is noted for its apartment rooms, known as the princes’ hall, where the diet or royal diets formerly held their sittings. It is situated on the Prade, 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 1571. Among the other public buildings are the university, the botanical garden, the university’s museum of natural history, the university’s botanical gardens, and the university’s library. 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 Frankfurt on the Oder was incorporated with it. The library contains about 70,000 volumes, besides 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 200 to 3000. The city has two principal gynasias, besides a superior kind of civic school; and a seminary for teachers; the Catholics, a royal gynasium, a school for teachers, the ‘Alumnat,’ which is an establishment for maintaining and educating candidates for the church, an academy for schools, &c. The Jews have a good school, founded here in 1750, 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 orphaned daughters; a school for the working class (Gewerbeschule); a refuge and asylum 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, (siedlender Cultur), founded in 1802, 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; 6 museums; 5 public collections of works of art; several hospitals and infirmaries, and innumerable for faithful servants, opened in 1820; and a number of other charitable institutions. The value of the property held for bestowing purposes is little less than 300,000l., and the value of the endowments as well as voluntary donations is upwards of 16,000l. a year, 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 wards of the city have a separate area, and besides a direct and agent-in-chief, in respect of all matters connected with the poor. The town is the seat of a royal mint and bank, and has a royal office for mining productions, a hand-department of mines, 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 table. In 1816, the pop. was 66,738; in 1822, 74,922; in 1826, 84,904; and in 1837, 101,977; making an increase of 4012 as compared with the year 1825. Of these 91,615, the number of Protestants was 61,330; Catholics, 25,192; Jews, 5088; and Greeks, 5. In the same year (1834) the births amounted to 2944; the deaths, which were 1116; and the number of deaths from small-pox, 901. At that date also Breslau had 37 places for public worship; 275 public buildings; 3903 private houses; 279 mills, warehouses, and manufacturies; and 1771 stables, barns, and distinct shops. There are manufactories of all kinds at Breslau, particularly of gloves, plate and jewellery, silks, woolens, cottons, linens, and stockings; and a very extensive trade is carried on in Silesian products and fabrics, as well as foreign articles, with the interior no less than with other parts of Germany. Breslau, in particular, is celebrated for its wines and its coal, which are exported. The annual value of this trade is estimated at between 4,000,000l. and 5,000,000l. sterling. The fairs, of which there are six in the course of the year, are the largest, with respect to the sale of wool, in the Prussian dominions. The annual number of vessels belonging to the others, and kept in the early part of June and October. In the first-mentioned month of the year 1827, the quantity weighed was 53,371 cwt. There is a regular communication by water between Breslau and Hamburg, conducted by the Prussian government, and a number of vessels, the passage is never more than 32 days. By the treaty of Breslau, concluded on the 11th of June 1814, the town, together with the whole of Silesia, was ceded by Austria to Prussia. Its fortifications, which drew down the 11th of March 1814, it the wall to a height of 20 feet, 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. 51° 27' N. lat., 17° 4' E. long. No. 321. [THE PENNY CYCLOPEDIA.]
BRESSE, a considerable district included in the former government of Bourgogne in France, from the main part of which it is separated by the river Ain and by the Mont, on 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 inclosed on three sides by Bresse. Bresse presents vast naked plains, in which there are no trees, and in which there are also pools abounding in fish, and much poultry is reared.

Bour, the chief town, was sometimes distinguished from other places of the same name by the designation of Bour en Brézé. Pop. in 1832, 7268 for the town, 8996 for the commune. (Bourbonnais.) Bresse is now considered as the dep. of Ain. The chief rivers are the Ain, Saône, and Rhône.

Under the Romans Bresse was inhabited by the Ambagiari, who were kinsmen of the Aedui, the predominant people of this part of Gaul. In the division of the province of Gaul under the later Roman emperors, Bresse was included in the civitates of the 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 exercised in this extreme point of their dominion enabled the nobles of the district to acquire considerable power: the chief of these nobles were the lords of Bâgé, Coligny, Thoire, Villars, &c. Bresse had subsequently its states or local lords, and was at length ceded by France to 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, 2927 for the town, 3219 for the whole commune; Pont de Vaux, 2259 for the town, 3189 for the whole commune; Châtillon (according to the Diction. Univ. de France), 1804, 2179; Pont de Vesle, or Pont de Veyle (according to the same authority), 1826; and Bâgé, or Bâgé (according to the same authority), 810.

The designation Bresse was given also to a 'lieutenance-générale' of the government of Bourgogne, which seems to have included not only Bresse proper, but also Bugey, Valhey, and other parts of the south of France, set apart for the Diffusion of Useful Knowledge, the principality of Dombes, which other maps assign to the Lyonnais. The country was in the arch-diocese of Lyon.

The name Bresse comes from the name of a forest (Sallus Brestae in 1142), which seems to have been about the greater part of this country. (Encyc. Method.)

BRESSUIRE, a small town in the dept. of Deux-Sèvres in France, deserving notice only from its rank of chief place of an arrondissement, or sub-prefecture. It is on a small stream called La Martinette, which flows into the Sèvre, and is 46° 50' lat., and 2° 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: serges and cotton goods were made, and the population rose to 1947. (Dict. Univ. de France, Paris, 1804.) Woolen and linen are made there at present.

The church of St. Martin contains remains of a Romanesque church.

BREST, a town in the dept. 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 an arm of the sea called le Goulet. It is about 310 m. in a straight line W. by S. of Paris, according to Brun'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 by the route of Alençon it may be saved. Brest is in 48° 24' N. lat. and 2° 39' W. long.

D'Anville would identify Brest with the Brivates Portus (Braviae portus) of the geographer Ptolemy, who has however, if D'Anville's hypothesis be correct, very much more to say in favour of his theory that it is the same place as the town of the Liger, Aulno (Loire), and the Heriu, Breis (Vilaine).

D'Anville also considers that this place is mentioned in the Theodosian Table under the name of Gessoritae, or, as he would correct it, Gessobritae or briatice; a name which in its Celtic signification, 'great harbour or roadstead,' is sufficiently appropriate to Brest. However this may be, there is in the chronicles a record of a town called Breiz in 1832, that there was a place of any great importance the Roman times; 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 French army under Duke of Bresse, having engaged 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 under Duke of Bresse, and 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 Bresse, besieged Brest, held by his former allies the English (who were but now 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 Sourdeac, in the interest of Henry IV., against an attack of the troops of the League; and in July 1588 it was opened to the English by a surprising attack 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 naval station, caused it in 1638 for a number of reasons 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 Tollemache, who commanded the English land forces, was mortally wounded in the engagement.

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, is divided into an upper and a lower roadstead, or bay. It was introduced 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 sulphur or quarter of Recouvrance. In Brest, just at the point where the roadstead is divided, is a large tower, known as to command 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 this place is very uneven; and hence it 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; thus, at the point where the roadstead is divided, there are 286 steps, which may be looked upon as 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 superceding the Gothic edifices of a former day. Brest had before the revolution, two armaments: S. Louis, and St. Sauveur in Recouvrance. In the most antient time Brest seems to have been included in the neighbouring par. of Lamberselles, which is just to the N. of the town, but its ecclesiastical state and division have undergone many changes. The town was at one time a great seaport and fishery, and is still a considerable one. The trade consists of the exportation of the reformed leather, barefooted Carmelites 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 Bagne. 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 bay of the port; and the importance 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 maritime harbour between Nantes and Le Hâvre. 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 29,860.

The bay or road of Brest is perhaps one of the finest natural harbours in the world. The passage, Le Goulou, 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 indentations.

Brest is the chief town of an arrond., containing in 1832 156,816 inh.

BRETAGNE, or according to the English manner of writing it, BRETTANY, 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 Ille 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 Machecoul S. of the Loire is about 125 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, the Basse or Lower Bretagne. It is traversed from E. to W. by the chain of the Monts mene, which enters 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 Arré 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 Monts mene is not more than 1300 ft. The coast of Bretagne is of great length, first extending westward from the mouth of the little riv. Coufannon (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 Bouli 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. Briac, &c., between which the land juts out into headlands. This coast is skirted by a number of small islands and rocks, as the Chausey Isle and Les Minquiers, which are some distance from the coast towards the Isle of Jersey; the Isles of Brehat, les Sept Isles (the Seven Isles), les Meloines, and the Isle of Bass. 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, Beniguet, 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, Pennanarch, and Treboung, 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 isles, among this group, consisting in the immediate vicinity, among them are included Groix and Belle-Ile, with the several smaller isles of Glenan, Houtz, Hédik, and Dumet.

The rivers of Bretagne rise for the most part in the Monts mene. From the proximity of the mountains to the northern shore the streams 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 Coufannon, which rises near Fougeres, and after separating Bretegagne from Normandie, flows into the sea below Pontorson; 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 Arré 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 Coëtbas, 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 Pontrivy, 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.W. passes Redon and Rochef 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
Breton.

The soil varies much. In some parts, especially on the coast, it is very fertile, but there are some vast lands or heaths in the interior. The produce of corn, hemp, and flax is abundant. [Note: This is a reference to the produce of specific crops and their abundance.]

The mineral riches of this province consist of an abundance of lead, also of iron, tin, antimony, and some silver; marble and coal. In particular, the province is distinguished by its mines, which are worked by a considerable quantity of imported workers.

The pop. of the five dept's. into which Brittany is divided was, in 1832, 2,573,835. Expilly, in his Dictionnaire (Paris, 1762), gives the pop. at 1,453,600, or 1,346,800, which is probably the most correct estimate of the population.

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.

Breton.

The Bretons do not resemble in countenance either the Normans or French, nor have they much of the Welsh character. They are a rude, uncivilized, simple people, dirty and idle in their habits. The women are invariably dressed with great simplicity, and have already described. It differs here and there, but not importantly.
one of his lieutenants, P. Crassus, with one legion to subdue the Armorican petty Chieftains, and so great were the arms that they submitted without striking a blow. But they revolted the next year, having seized the envoys whom P. Crassus had sent to procure corn; the Veneti taking the lead in the revolt and instigating the others. The influence of this state, according to Caesar, far exceeded that of any other of the tribes of G. and B., nor had the Romans so far 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 wide and temperate region enclosed by the exact tribunals with which they were invested, 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 provisions, and to the ignorance of the Roman coast, fortified their towns, collected into them the corn which was out 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. Caesar describes their vessels being flattest bottoms than those of the Roman, and the arms of the ships, both against the waves and also abundance of 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 enabled them to withstand the force of the Roman, and the rocks of the coasts. Their strength were of bield of bield which they used either of their knitting or because they knew not the art of manufacturing linen cloths. Their fleet consisted of 220 vessels. Caesar stormed their towns, defeated their navy in a great battle, and forced them to submit. To the rest of the people into slavery.

In the general raising of the Gauls, towards the close of Caesar's command, when the discontented coasts, the force destined to raise the siege of Alesia, the whole of the Armorican states contributed but 6000 men; and this appears to have been the last effort they made for independence while Caesar was in Gaul. During the conquest of the Romans, the Veneti, or little of them. One or two revolts served to show either their unsubdued love of freedom, or the intolerable yoke to which they had been forced to succumb: but these revolts were unsuccessful, and only riveted faster the chains they were intended to break. In the year 36, the towns the Bretons, known to the Romans by the name of Poitou, were in the open column of the prov. Lugdunensis Tertia.

It was towards the close of the Roman dominion that those emigrations from the is. of Britain are said to have commenced to which this prov. owes many of its peculiarities. In 284 some Britons, in漫nent times, forsook their native land and settled in Armorica, 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 the character and influence, unless we suppose that from them the prov. or some portion of it received the name of Britannia, which is given to it by Sulpicius Severus before any subsequent invasion had taken place. (Carte, Hist. England, vol. i. p. 65.) The next settlement, that of the Antonini, is known by the name of Exiles, and these Bretons form 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 the decision of the point. They have been the subject of much discussion.

The account which has been received by Daru (Histoire de Bretagne, 3 tom. 8vo, Paris, 1828), though contested by many, and amended by others, is adopted by Sulpicius Severus (J. VII. x. 367), Turner (Hist. Anglo-Sax., c. viii. note 367), and Vertot (Histoire Critique de l'Etablissemement 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 dole them 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 which is disputed. The commander of these auxiliaries was Conan, a British prince. Maximus landed with his forces near the town of the Bretons, defied with great slaughter the army of Gratian at Aleath, now Quelivet, 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 from Paris, to which city he had returned, to take the conduct of his remains. 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 further possibility of the emperor's return, and the independence, the Armoricans 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 have ruled his states in peace and with considerable ability till the year 421, when he died. He is usually designated Conan Meriadeck, 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 Romans, or with the barbarous nations of Franks, Alains, 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 Brittany.

In the history of Brittany there are writers who deny that any immigration 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 Britain, others to the peninsula of Wales; but they did not enter into Armorica. These writers also assert the conquest of Armorica by Clovis; and they cite triumphantly a passage of Gregory of Tours, the earliest of the French historians, who says,—"Semper Britanni sub Francorum potestate post ulterius vulgare omnes reges, regularum et regi- lat sunt." '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 Verot and Daru.) But this passage of Gregory when carefully examined will rather countenance the supposition 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, who were conquerors only if they had been for a few 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 is not fully consistent with the assertion of the Breton writers, is by no means consistent with the representations of Verot and other historians in what may be called the French interest.

If amidst these conflicting statements we may venture to give our own opinion, we should say that the statement 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 permission of Theodosius, to retain their land 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 influence of a military occupation 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 conquerors or of their Briton-born king. The history 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 Britons of Armorica, or rather Armorice, the ancient name of Brittany, were 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 marked the continuance of the Merovingian dynasty, the Britons of Armorica retained their independence, and their princes re-assumed the title of kings, though their dominions and authority were contracted by the usurpation of the nobles.* This has probably led to the supposition that the regal dignity was never revived. And in 850, if not before, the title ceased; and Bretagne was divided into a number of principalities, became again subject to the Franks, about A.D. 800, during the reign of Charles the Child, whose predecessors had probably made many encroachments. In the troubles of the following period, Brittany was often in possession of it by Nomenon (A.D. 824-851), who had been nominated governor of Vannes, by Louis le Debonnaire, son and successor of Charles of Bretagne, and had revolted from Charles le Chauve. Erispo, the son of Nomenon, A.D. 851-857, acknowledged the supremacy of Charles, but maintained his kingdom. Civil disensions 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 bishops and other nobility states that Brittany was not in any way united over the whole of Breteagne 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, or later Duke the Conqueror, asserted the right as the dukes 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 violence perpetuated by the inhabitants, who had great difficulty in finding a title to divide, aided by the neighbouring chiefs, the counts of Anjou and the dukes of Normandie. In 992, Geoffroi, count of Rennes, assumed the title of duke of Bretagne. Alain, his son, second Duke of Bretagne, was, from the year 1007, to 1044, the first to dispute the title of Duke of Bretagne, and himself retained it. William the Bastard (afterwards the Conqueror), Duke of Normandie. Several Breton lords accompanied William into England, A.D. 1066: one of these, Alain, count of Penthièvre, built the castle and town of Richmond on the Swale, in Yorkshire, on the lands granted him by the Conqueror, as a grant to administer the crown lands 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, found an asylum with the then reigning duke of Bretagne, at St. Berne, whom he named William the Conqueror, as duke of Bretagne naturally formed a link in their mutual support. Alain Fergent, duke of Bretagne, obtained some advantage in

* Possibly their independence was never recognized by the Franks; the words of Eginoth, son-in-law and chancellor of Charles the Child, are—'I po- sibly was a province of the Empire; we cannot assert that the Britons never revolted.'—Ann. Eginoth, ed. 1796. quoted by Verot, Hist. de la Bretagne, vol. i. p. 630. Perhaps this conclusion is based on the mistaken supposition that the people, to whom the aid of Eginoth was sent, were under the protection of the Frankish king, and that his commission was a sign of possession. He was, in fact, sent to his account, settled in Gaul on the invasion of Britain by the Saxons. Verot says—'The Bretons who appear to have assisted Charles the Child against the Franks, and rendered tributary, paid, though unwillingly, the tribute imposed on them.'—Hist. de la Bretagne, vol. i. p. 650. They are not here served; that the terms 'etruscius' and 'tributarius factus imply the previous independence of these Britons, and that their settlement for the first time in the reign of the death of Clovis, and their subsequent subjection to the Normans, is a mark of their previous liberty also implies a disposition, and indeed a pretext, to recover their independence. In the last chapter we find them engaged in a yoke. All the evidence leads us to believe that the Bretons, whether under British government or not, paid tribute to a strong Frankish government obliged them to it, but refused it when the Franks were weakened by divisions, civil discord, or other causes.
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, or one of the company of the third sort. His youngest son, in his war with his eldest brother, Robert, duke of Normandie; and the Breton forces signalized themselves at the battle of Tincebrai, which concluded the contest by the captivity of Robert. Alain Fergent abadii of Montfort, of the house of Rennes, was signally meritori-
ized 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 Fontenault, and Pierre Abelard. Conon, the successor of Alain, gave, 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-
l(Henry II.) and France (Louis VII. le Jeune) took part, followed the death of Conon. The marriage of Con-
stance, 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. 1159; 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, and by the cause of France, some years after 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 consecrated, and the defeat of the English by the famous battle of Bouvines, was the consequence of this stridency; and Bretagne thus became immediately a link 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 Brezé, brother-in-law of the royal family of France, to whom she was married A.D. 1215.

Pierre de Brezé, 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. He was embroiled to manage embroil himself with the clergy, 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 church, and to shut up the clergy of his family, led to a civil war; and though Pierre gave 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 expeditions, and the church of his own dehnce, in the lifetime of his wife, Jeanne 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 abd-
cicated his power as guardian of his son, and was intrusted by the pope with the conduct of his 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 Mansoura. He died on his passage back to Europe in 1248.

The wars of the English at Tours (1237-1236), Jean II. (1236-1260), Artur II. (1235-1232), and Jean III. (1232-1241), 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 Penthievre, who died before him, and the other, Jean de Montfort, 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
A second attack upon Hennebon marked the year 1342. Before the end of the year the countess of Montfort crossed the Seine in her own person, and pursuing her further, arrived with a fleet of 46 vessels, when near Guernsey 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 fought on the 28th of July, in which three and four English ships were taken. The countess landed with her reinforcements, and the kings of England and France arrived in Bretagne with hostile forces; but early in the year 1343 a suspension of arms between the two potentates was signed, and the Breton arm, consisting of some merinais, was left to carry on the war. In 1344 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 the English. The news of Clisson’s execution caused some Bretons to gather 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 1345 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 1347 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 valour equal to that of her husband, and in 1350 she obtained for the English induced many of them to embrace her party. In 1356 Charles recovered his liberty by ransom, and renewed the war, which was carried on for seven years longer, during which no decisive action took place. In 1356 Jean de Montfort signed a treaty by which Bretagne was to be divided into two parts, having Rennes and Nantes for a boundary; but the treaty was repudiated by 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 Auron, 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 1365 secured the duchy of Bretagne to the house of Montfort.

In 1367 Charles de Blois died. But the Montforts were no competitors 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 neutrality; but the duke went beyond this: he formed an alliance with the English, which necessarily drew down upon him the hostility of France, while his liberality to the English individually disgusted the barons, and the admission of English garrisons alienated the towns. While the English were thus engrossing his power, he left his support for that of the French king. A French army under Duguesclin, now constable of France, himself a Breton, entered Bretagne (A.D. 1370), and the duke, abandoned by his subjects, was obliged to take refuge in England. In 1372 he returned to France, but not finding an opportunity, 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. 1378) by a sentence of the court of peers, and voided all the forms of such proceedings. By his death further seized upon the duchy himself instead of transferring it to the next heirs, and attempted to establish the Gabelle or salt tax. This violation of their independence by the Bretons: the duke, lately the object of general dislike, was now courted, and Charles V. was at one 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 the English proceeded at once; and Charles V., as the head of the house, was deprived of the sovereignty (A.D. 1381). The next trouble in which Jean involved himself was a dispute with the priesthood. He then renewed his quarrel with Clisson, now constable of France, whom he trepanned basely under the pretence of friendship, and who, when he had taken the fleet, was suspected of having instigated Pierre de Croes to attempt the assassination of the constable in the streets of Paris (A.D. 1392). The influence of Clisson, who was wounded, though not mortally in the attempt, would probably have saved the young King of Bordeaux: that man on the duchy, had not the insanity of the king interrupted the design. Clisson himself waged war against the duke: the contest was furious, and lasted till A.D. 1395, when peace was concluded. Jean de Montfort died A.D. 1399.

Jean V. of Montfort was a man of parts, and of ducal mina. 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 man. 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 1425-26, when it was partly ravaged by the duke of Bedford, and the English fleet under the command of Edward the Black Prince, was brought by some Norman emigrants. Two other incidents mark the reign of this duke. In 1420 he was enarried and taken prisoner by the count of Penthièvre and his brothers, princes of the house of Blois, grandsons of Charles V. of Montfort. A more pressing occasion for the marriage was brought about by a Norman emigration. In 1399 his marriage with the young English princess, who was brought in a way to become queen of England, was declared null and void by the Pope, and 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, Marchéchal de Retz, a principal Breton lord, was condemned for sorcery and heresy by a council of bishops. Jean, moved by the sorrow and entreaty of his wife, consented to let him go to ruin he had sought to recover wealth by alchemy and sorcery. He was reproached with the murder of many women 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 1449 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 his brother, who with a large body of Bretons and English had entered Bordeaux. 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. 1450. When the death of Gilles became known, a cordelier, who had been 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 fulfilment; the duke died on the very day foretold. July, 1452. The king of France had for several years, A.D. 21, III, presents no points of interest, save that Pierre, who was brother of François I. and of Gilles, caused the murderers of the latter to be put to death, except Artur de Montauban, contriver of the murder, who became a monk, and died bishop. This Artur had himself confessed that Artur was, 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 man,' says his historian, ' hated more bitterly all heresies, and at once engaged in the process of discovering them. He 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; Arthur III. from 1457 to 1467. The duchy declined under the house of Montfort; the last ducal reign of François II. (1458-1459) coincided with the reign of the autocrat Louis XI., whose desire of repressing the enormous power of the great feudal nobles led him into frequent disputes and contests. In 1465 François 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 Marchiâly, but they assisted in the blockade of the town of Brehec and Kervignou. The duke received several concessions from the king in the war of Saint 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 the consummate skill with which he directed them. This duke was of a very feeble character, but he seems to have been beloved by his subjects. He was happy to have the archduchess of Mecklenburg, lady of Villerouge; by his favourite the lord of Lesuan; and by his minister Landais, the son of a tailor at Vitré. This last, a man of considerable talent and good sense, might be expected, the hatred of the nobility of Breton, who at last understood; 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. Landais was forthwith tried on many charges, condemned, and hanged.

In 1486 Francois allied himself with Maximilian, king of the Romans, who had been elected the emperor of the Holy Roman Empire (since 1490).

The Bretons were at this time divided into four principal parts: Bretagne, the duchy of Lorraine, the archduchy of Austria, and the duchy of Bar-Le-Duc. The combination of these was to prove fatal to the French monarchy, as it was to the duchy of Bar-Le-Duc, where the archduchess used her influence to prevent the marriage of the young princess to the French crown.

The marriage of the young princess to the French crown was finally arranged in 1492, but it was not until 1493 that she was married. The marriage was a great event in French history, and it was a great blow to the power of the archduchess of Austria, who had been the great rival of the French crown.

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his death-bed, he ordered many of his paintings, which were either satirical or licentious, to be brought before him, and to be destroyed on his death. The dates of his birth and death are unknown.

He painted chiefly comic subjects, after the manner of Jerome Bosch, whom he excelled; and he has been considered by many inferior to Teniers alone in that branch of art. He was especially noted for his use of perspective, and his drawing is correct and spirited, though not very highly finished. It was his frequent custom to disguise himself and mix with the people, in the festivals and games; and the happiness with which he transferred the lives of those around him to the canvas has been aptly compared to Molière's, though in a different kind of satire. Besides comic subjects, he painted landscapes, and a few historical pictures. Two sons survived him, John and Baelen.

BRUGHEL, JOHN, was born at Brussels, about 1569. According to some accounts he lost his father very young, and was brought up by his grandmother, the widow of Peter Kock, from whom he learned to paint in distemper, and afterwards studied oil-painting under an artist named Gowerkin. The most probable account is, that he received the first principles of his art from his father, and the internal evidence of his work tends to confirm the latter opinion. For some time he confined himself to flower painting; but travelling into Italy, he enlarged his style, and painted historical subjects, of which he painted figures, executed with exquisite correctness and beauty. Many painters availed themselves of his liberality, and induced him to enrich their pictures with his beautiful little figures or landscapes; among them are Steenwicck, Van Goyen, and Rotenhamer. His figures, besides the use of his skill in more than one picture, in which Rubens painted the figures, and Breughel the landscapes, flowers, animals, and even insects.

John Breughel was extremely industrious, as the great number of his pictures, and the care with which they are finished, sufficiently attests. Growing rich by his industry, he cultivated a magnificence in his apparel, and was nicknamed Velvet Breughel, from the material of his dress, which was a costly stuff. His touch is light and spirited, his figures graceful, and his landscapes fine. He is admired for his facility in drawing, and a few drawings of his are extant, which are very well done. He was a kind and generous man, and voluntarily granted justice, not only to the poor and necessitous, but to his own servants and apprentices; and he was of a religious frame of mind, as appears by the numbers of his pictures enscribed with the letters B.P.S. (Beatus Pater Salutis), appellation which he frequently bore.

BREVIA, in music, a note double the length of a semibreve, and written thus (\(\text{brev}i\)), or as 

Br.a. (short), which in duration takes twice the time of the longest note now in ordinary use, was a short, brief note, three centuries ago, as the term clearly proves. Musicians have proceeded by degrees till the quarter-demisemiquaver is become our minimum, being six of the breve. Indeed some have gone so far as to introduce the half-quarter-demisemiquaver; and among those who have been guilty of so monstrous an absurdity, we regret to mention the name of Brevetti.

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 particular regiment; without, however, conveying a 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, not 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 brevets, and whose regimental rank is the same as his own.

BREVIA RURIUM 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. (Sueton. Aug. c. 25.) The design of this breviarium was to explain the Roman service: all the officers of the monies levied upon them were applied; not to the emperors' private use, but for public purposes. Tiberiis laid aside the breviarium, but it was resumed by Caligula. (Sueton. Cig. c. 23.)

BREVIA RY, or canonical hours, the name of the daily service-book of the church of Rome, consisting of the offices of matins, prime, third, sixth, none, vespers, and the compline: that is, of seven hours, according with the saying of David, Ps. cxix. 164, 'Seven times a day do I praise thee.'

The origin of the name is variously accounted for: some deriving it from the little books of psalms and lessons read in the choir, collected out of large volumes, which the old monks carried with them in their journeys; others from the abbreviated service which was used in the papal palace at the Lateran, afterwards brought into general use. Grancolas, in his 'Commentarius Historicus in Romanum Breviarium,' 4to. Ven. 1734, says, 'Breviarium dictum est quasi Breve Oratorium, sive Precem Epitome,' an explanation counte-

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The Breviary originally contained only the Lord's Prayers and Psalms, to which were subsequently added lessons from the Scriptures. Various additions were afterwards made by the popes Damasus, Leo, Gelasius, Gregory the Great,
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-attested and improbable facts. This gave occasion to many revisions and reformations of the Roman Breviary, particularly in the councils of Trent and Cologne, by popes Gregory XIII, and Paul IV.; as likewise by some cardinals, and especially by Cardinal Guignon, who carried the reformation of it to the farthest.

An additional reason for reforming the Breviary was found in the circumstance of different churches and orders of religious having their several offices, varying from each other, but still under the same name. Grancolas has separate chapters, de Ecclesiarium Orientalium Breviario—Distributio Officii apud Graecos—de veterum Occidentals Ecclesiariis—de Sancto Hieronymo. The Breviario Ecclesiarii Hispani—Vetus Ecclesiae Anglicanae et Germanicae Breviari—de veteri Galliae Ecclesiarii Breviarii, praecepit vero Parisiensi—de Breviarii Manuscript.

In England we have Breviaries more particularly appròpiated to the cathedrals of York and Salisbury: an edition of the former, printed at York in 1536, is mentioned in Gough's 'British Topography'; editions of the latter, printed at Paris, occur in 1510 and 1536. The Breviary in usum Sarum was used under the Sarum form for centuries in the English churches. But the variety of form, as already shown, was not confined to England; there was a scarcely a church in the communion of Rome, in France, Flanders, Spain, Germany, &c., which had not something particular, however inconsiderable, 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 his rescript dated at Rome 7th July, 1568, which was made by veterinary or monastic, or monastic, Clement VIII., in another rescript dated 10th May, 1609, recognized Pius Vth's abolition of the Breviaries as used in different churches according to their particular forms of service, and confirmed the Breviary as fixed in 1568. Urban VIII. incorporated it under a new name for 26th 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 Rornish church in general use. It was published in 1597, under the direction of Ferdinando de Bergamo, Bishop of Antwerp, intiUed 'Breviarius Rornanus, ex decreto Sacro-sanci Concili Tridentini restitutum, Pt V. Pont. Max. jussu editum et Clementis VIII. pri- mum, nunc uoebani Urbani PP. VIII. autore distinguish.

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, and of being deposed in case of non-observance. In addition to Grancolas's work already quoted, and the rescripts prefixed to the Breviariun of 1697, the reader may consult Koechelber's 'Bibliotheca Theologica Symbolica et Catechetica, itenque Liturgica,' svv. GUelpheh, 1751, p. 747-768, where he will find a critical account of the editions of the Breviariun since 1549.

BREWING consists in the process of extracting a saccharine solution from grain, and in converting that solution into a fermented and sound spirituous beverage called beer or ale. This operation is generally performed in a vessel called a tun, and at 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 operations of brewing; and that within the last few years, and even the last few months, very great accessions 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, at the same time that within 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 beverage from wheat and barley; and the Egyptians made a drink of barley. 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 mum, as it was called, at which places it was manufactured to an enormous extent, the latter town exporting, above all, its sixteenth century, of 16,000 to 20,000 barrels. Heavy duties, however, levied in this country on these imports, amounting at last, in the beginning of the reign of Queen Anne, to the enormous sum of 13s. per barrel. This heavy impost, together with the improvement, and in the brewing of this country, is stated to be the introduction of this article. Within late years the manufacture of beer has increased to an amazing extent, and the following is a statement of the quantity of materials employed in London only, for one year, will enable the reader to judge of the scale on which these operations are now carried on. The returns of malt consumed by the metropolitan brewers, for the year ending October, 1835, was 5,620,264 bushels, or 702,533 quarters, which we may fairly calculate would require on the average at least 62,728 cwt. of hops, and yield about 2,600,000 barrels of beer.

The process usually followed by the brewer of the present day may be divided into eight distinct parts, independent of the malting: namely, first, the grinding of the malt; secondly, the heating of the malt; thirdly, the cooling; forthwith, the fermentation; sixthly, the maturation; seventhly, the racking or vatting; and eighthly, the filtering or clearing. In considering these various subjects, it will be better first to go over the processes in their order, and then to revert to the principles of their several effects. The heat and precautious, the ale, porter, and table-beer, three distinct kinds of malt are employed; the pale and amber malts, the brown or yellow malt, and the roasted or black malt. The character of these named malts is needed for ale, to produce the finer qualities or higher priced, the malt is dried very pale indeed. This first quality of grain gives the saccharine extract; the second, or blown malt, gives the flavour to porters and stouts; and the last variety is used only as a colouring in the manufacture of the lager or brown beers. What is called sweet malt, is 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 MALT, it will suffice for our present purpose to observe that their peculiarities 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 the common or more expensive method of grinding. 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. These beech rollers are found to be the most convenient, and the patent, consider that a greater extract can be obtained from a coarse one. Some parties use the millstone in preference to the rollers; others like the rollers best; others again employ both, using a circular sieve called a separator, through which the whole to escape, and only the grains that may have escaped this operation are carried to the rollers to be crushed.

The grist thus prepared is now ready for the process of mashing. The mash tun or vessel in which this operation is performed is usually of iron, or an iron-lined vessel, according to the quantity of malt to be wetted, and having two or more holes called taps in the bottom. From one to two inches above this bottom is a false bottom or diaphragm pierced full of small holes, on which the ground malt is placed; the hot water is then admitted either above or between the true and false bottom of the mash tun, and the grist is now to be intimately mixed with the water. For this purpose it is either worked by machinery consisting of horizontal rollers, or it is combined around its circumference, and these again having comb-like projections, the whole of which is made to traverse round the tun; or the goode (as the malt is now technically called) is worked up by means of instruments termed mashing ears, so as to pass the water through the whole tun, and the whole tun, and the
infusion or sweet wort is allowed to run off into a vessel called the under-back, from whence it is pumped or otherwise 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 the fermenting tuns are set at the bottom of the 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 constructed called a pan, by which both time and fuel are saved, and the musts or hops projected to the outside of the 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 fluid in the pan is raked by the boiling necessary for the purpose of the boil up by those parts of the vessel which 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, which, while the wort is made to traverse the chains hanging from the vertical 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 turned into the boil back or back, which is a 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 worts drain from the hops, they are allowed to run off into the boil back, and then through the hop box into the copper. These worts, when sufficiently drained, may be again boiled with a second copper of wort, or with the return wort or table-beer. The coolers are large shallow vessels, placed in open as a part of the brewery as possible, so as to command a free current of air, and be in a situation to be most conveniently afterwards of either wood or iron. The latter possesses many advantages 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 iron coolers. Fans and boxes are usually used in the case of each copper as part of the process. The fans are placed in the middle of the cooler and whirl round, producing a considerable movement and current; but where the cooler is large, this whirlwind current only affects the surrounding steam, without 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 worts is continually forcing fresh and cold air over the surface of the material, which consists of iron pipes, which 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 expelled. When sufficiently cool, the worts are allowed to run into the mash tubs. As great a part of the worts remaining long in the coolers, more particularly 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, while another main flows in the opposite direction, either in an inclosed pipe within the liquor main, or around the exterior of the cooling surface. Various apparatus of this kind have been constructed, but those of Wheeler and Gregory, particularly the latter, are to be preferred for all cleansing.

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 the superior cleanliness, the whole support being on the out picture. When the fermentation has arrived at a certain point of attenuation, that is, when a certain quantity 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 round vats, or the yeasty head is skimmed off from the top, and this is repeated at intervals until the 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 stillion to catch the perspiration of the yeast, which runs down the outside of these vessels. Great 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 first cleansed or vatted in the round casks, is then run directly into casks 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 be perfectly mixed, and is also to deposit any further precipitates that may remain. This tank 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 packaging of it in half-barrels or ales. This process, as it is sometimes done by the brewer, is sometimes done by the publican. The fining material consists of isinglass of various qualities, digested and dissolved in acid beer or sour's, and their operation is supposed to be this:—the gelatine or the solid matter of isinglass is more soluble in cold acid beer than in sound beer, 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 may remain; these are thrown off by floating 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 can be brewed. It is this that generally makes the beer 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 source, and will also save the time which is lost in all processes of excuising the vessel not allowed to harden or ocome dry. The grist should be coarse cut, or, if crushed by rollers, should have the cuticle broken without destroying or breaking in pieces the grain; when this is done the taps will spend more freely, and a fine bright wort will be obtained; and if sprouting or sprinkling 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 operations apply only to pale grists; for blown malt very fine grist is generally necessary; and it should be ground as fine as possible, so that it will pass the stones or rollers without caking. The temperatures of the mashing liquors for ale or pale grists may range from 170° Fahr; when this is the case too much malt will be used, the heat increasing as the bulk of material diminishes, so that the tap heat, after the first ten minutes' running, may average about 145°. For porter, where mixed grists are employed, the mashing heat should not range higher than 160°, and should be kept as low as possible, so that the tap may average 140°; if a second mash is made, the heat may be increased from 15 to 20 degrees: the proportion of liquor for the first mash may be from one and a half barrels to two barrels per quarter. The goods after mashing should be allowed to rest for about one and a half hours, and then the taps; but the after mashes not more than half an hour. The length of time for the worts to boil should be about an hour and a half, or until the worts break bright from the hops, when a sample is taken from the copper. The proportion of hops in these is considerable, and should be on the beer in process of brewing, and the number of the boiled worts, that no certain rate can be laid down; but 4 lbs. of new hops per quarter of malt should be ample. A present age for keeping-beers for exportation as such should not be over 10 quarters to a tun, beyond which extreme limit. The next point on which it is necessary to enlarge is the fermentation, which is the most variable operation in the whole process of brewing. Hardy any two counties follow each other in the same routine, some using very low heats, others very high, with boiling or semi-boiling. Others late, some skimming off the head, others continually beating it in; these, with a variety of other operations adopted at various stages of the process, give rise to the great variety of different-flavoured beers which we have in this country.
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 rule is, that 50 units are necessary 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 cask or vatting. 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 a short time after that head begins to fall; but however rises again, becomes yestie, the bladders enlarge in size, the yeastiness increases, and, when ready for cleansing, it has a vigorous, rich, yestie brown and bladdery 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 new yeast must be procured, 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 at once. A good malt is indispensable in all these operations, and good materials are at all times more economical than inferior articles brought a few shillings cheaper; a greater extract is obtained and a fair superior article manufactured, to the credit of the brewer and the trade. With respect 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 peculiarities of the water in different districts produces the difference in the flavour of 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 in 1661, it was not thought necessary to impose duty until 1695, when the brewers paid 3s. 6d. 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 on 'twopenny ale.' In 1697 the rates were increased in England and Scotland to 2s. 6d. on strong beer, and 1s. 6d. on small beer. A further advance in 1719 carried the rates to 5s. and 1s. 4d. In 1761 the duties were fixed at 8s. per barrel on strong, 3s. on table beer, 1s. 4d. on small beer, and 3s. 4d. on twopenny ale. In 1802 the duties on 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 till October, 1830, when the duty on all kinds of small beer was abolished. In July, 1823, the legislature had sanctioned the sale of a quality of beer between the two kinds last mentioned, to which the appropos name of intermediate beer was given, and upon this kind a duty of 6d. per barrel was payable, until 1830.

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>1799</td>
<td>2s. 6d.</td>
<td>6d. per barrel</td>
</tr>
<tr>
<td>1817</td>
<td>4s. 6d.</td>
<td>10d.</td>
</tr>
<tr>
<td>1817</td>
<td>4s. 6d.</td>
<td>10d.</td>
</tr>
<tr>
<td>1817</td>
<td>4s. 6d.</td>
<td>10d.</td>
</tr>
<tr>
<td>1810</td>
<td>2s. 6d.</td>
<td>10d.</td>
</tr>
<tr>
<td>1817</td>
<td>4s. 6d.</td>
<td>10d.</td>
</tr>
<tr>
<td>1817</td>
<td>4s. 6d.</td>
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<tr>
<td>1810</td>
<td>2s. 6d.</td>
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<tr>
<td>1817</td>
<td>4s. 6d.</td>
<td>10d.</td>
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</tbody>
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The foregoing rates were in addition to the duties charged in each division of the kingdom upon the materials of which beer is made. [Hops and Malt.]
loads of iron; from the Clan Rory of Ulster (the present counties of Down and Antrim), 150 cows and 150 hogs; from Oriel (the present counties of Armagh and Monaghan), 160 cows; from the prov. of Leinster, 300 cows, 300 hogs, and 300 loads of iron; from Connacht, 60 cows, 60 hogs, and 60 loads of iron; from the Danes of Dublin, 150 hogsheads of wine; from the Danes of Limerick and Waterford, 365 hogsheads of red wine. On these and other revenues king Brian supported a rude but royal magnificence at his chief residence of Kincora, 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 numerous towns or castles, causing 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, invading a new invasion of Danes to his assistance, advanced on the battle field, but the 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 Murlogh, who fell in the same battle, were buried together in the cathedral of Armagh. The 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 and Waterford, and the blow which he gave their power in that engagement they never recovered. He was the founder of the numerous sep' of O'Brien, O or Óa being a distinctive abode-name not assumed by Irish families till after his time. This national pride of O'Brien is still preserved, and was originally supplied by the more ancient Mac, which means 'son.' (O'Connor, Rem. Hib. Scrip. Vet.; Miss. History of Ireland, lib. R. I. Academy.)

BRIAN ROYALTY, is a small town of great importance and capital of an ancient kingdom, of Hume, 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 Guians with the Durance. It is on the road from Paris by Lyon and Grenoble to Nice and France, by 7° N. lat., 6° 47' 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 the name Brinianum. In the middle ages it was the chief place of a district and in the present day it is a populous and market town. It does not appear to have been of any note till the early part of the last century, when, by the cession of some parts of the Brían bornois to Savoy, it was determined to strengthen it as a frontier town with new fortifications. The town is situated on a plain, 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 inh. (about 2000 for the town, or 3000 for the whole comm.) are engaged busily in trade in hosiery, cotton goods, etc., and in a small trade in iron. 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 between the town and the precipitous sides of the mountains, and there are seven 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 district sends out every winter into the neighbouring dep. a number of emigrants, who exercise the profession of schoolmasters; they speak and write the French tolerably well, understand the four rules of arithmetic, and sometimes Latin. The kitchens of the Catholic priests commonly serve them for school-men. Some coal is dug here, Vay de Serres; Malte and Saint Martin. The area of Brían, anno 1639, a pop. of 29,636. BRIANSK, a t. of Great Russia, in the government of Orel, and the chief place of a circle of the same name. It is an ancient and well-built t. situated at the entrance of the Olova into the Dona, is surrounded by a wall of earth, and contains 16 churches (9 of stone and 7 of wood) attached to it, 2 poor-houses, about 600 houses, and about 5100 inh. On account of the ex贝壳 agent which the neighbouring county produces, there is an admiralty-office here. It likewise possesses a foundery for cannon, several tanneries, and a considerable trade with the Black Sea, Batilo, and other quarters in grain, hemp, rape-oil, honey, wax, linens, timber, cast-iron and iron wares, mats, ropes, bark, tar, lime, alabaster, etc. Some 200 horses, 300 hogs, and 300 loads of iron. The town has little in itself worthy of notice. The church is a large and well-built structure, the nave of a single straight and tolerably handsome street. The inh. by the census of 1833 were taken at 2243 for the town, and 2730 for the whole com.; they are mostly engaged as boatmen on the riv. or canal.

The capital of Briansk deserves notice from its position and importance in the system of inland navigation in Russia, 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 enlightened administration of Sully; but upon the retirement 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 Boutin, to whom the king granted the can., with its works, so far as they were executed, and all the materials they might find on the spot. The can. unites the Loire at Briansk 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 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.
doth offer it." (32 Inst. 147.) In the 24 Edw. III. (1361) 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 accused them and to cause them to be released and restored to all his lands (3 Inst. 146). 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 the administration of justice in early times; and it is probable, many writers, following Blackstone, have supposed. In truth, the corruption of the judges for centuries after Sir Wm. Thorpe's case occurred was notorious and unquestionable. It is noticed by Edward VI. in a discourse of his pulpit employ at the court of the king, 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 of the charges of bribery made against him by the judges, he in the first place, by way of palliation, to the offence of judicial corruption as being vitium temporis. (Howell's State Trials, vol. ii. p. 1194.) Since the Revolution, in 1689, judicial bribery has been altogether unknown in England, and no case is reported by any law book since that date 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 misdemeanor at common law in the person who takes and also in the person who gives the bribe. 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 so licensed by the Court of the Exchequer (1 Rep. 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. 394.)

Bribery with reference to particular classes of public officers 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 of the officers of the customs, or any officer of the army, navy, marines, or other public service, or any person employed by any company or corporation of the commoners 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, or any other person abetting him, is indicted, and may be indicted, in any way to neglect his duty (whether the offer be accepted or not), he incurs a penalty of $500. So also by 6 Geo. IV. c. 106, 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 always a crime, and to have been punished by the severest laws. The traces of any prosecutions for bribery of this kind until particular penalties were imposed upon the offence 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, 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 solicitation procure, 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 or giving, or 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 against a man for promising money to a member of the corporation of Tiverton to induce him to vote for a particular person at the election of a mayor. (Plimpton's case, 2 Lord Raymond's Reports, 1567.)

The 54th clause of the recent act for the regulation of Municipal Corporations in England and Wales (6 and 7 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 take any money or other reward or promise to act for any 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 offer to corrupt or procure, any mayor or any person. The act further provides that if any person shall give his vote in any such election, such person so offending in any of the cases aforesaid shall for every such offence forfeit the sum of 500l., and for ever be disabled to vote in any municipal or parliamentary election whatever in any part of the United Kingdom, and be incapable of holding 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 mixed with sand or fine coal ashes, and used to a great extent by ancient Romans, and are burnt in a clamp; 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 of the ruins on the Tiber, with the Tivoli inscription, 2500 B.C. (Bancroft.) The Egyptians made 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 we have seen, adopted the bricks, who 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 second century before our era, but at a later time at the temple of the god Redditus, still remains, which is said to have been built on the occasion of the retreat of Hannibal. (Rosini's Visite in Roma.) It has been supposed that the Greeks did not employ bricks until after their subjugation by 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 foundation about the temples of Isis and Serapis, at Pompeii, capable of serving his Majesty in any office whatever, whether it be 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. 50, 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.

Vitruvius says the pentadura were used in public works, and the tetradora in private. It is most probable that they were dried bricks, as Vitruvius speaks of bricks requiring two years to dry. We learn also from him, that the bricklayers in Athens used to line the streets with 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
shrink, 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 burnt. These bricks were then, in the days of the ancients, still used at Pisa, and in many parts of Germany. Vitruvius says 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 being wetted with the moisture of air, they contract 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 making them.

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 its length and breadth. The dimensions seem to be more varied; though 1 foot 2 inches long and 8 to 10 narrow, it is commonly laid in the form of a square, 1 inch thick, and 1 foot 10 inches square by 2 inches thick; the colour is red. The bricks of the small temple without the walls of Rome, on the road leading to the grotto of the nymph Egeria, are smaller than any of these dimensions, being in size and colour more like a Dutch clinker. In the villa Doris Pamphili at Rome, among the tombs, are several kinds of bricks not usually found elsewhere. There are beautiful small red bricks in some of the best preserved of the ancient tombs cut in square with a thick edge, and others somewhat thicker than the ordinary brick, though not so long or so wide; and a fourth sort approach to the size of the tetradron.

Persia bricks are both dried in the sun and baked. The sun-burnt bricks are made in wooden moulds. When formed they are 6 inches long, 5 inches wide, and 2 inches deep. The earth is tempered with the feet, and, like the Egyptian brick, is mixed with straw cut fine. While in a mould they are dipped in a vessel of water mixed with chopped straw, and then smoothed by hand; the moulds are then removed, and in about three hours they get sufficient consistence to be handled, when they are placed in rows one over the other to get thoroughly dry. The sun-bred bricks are much like those of Chardin, moulded, much like the English clay-burnt 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 clark or baked in a kiln. These bricks, which are known by the size through the gnomon, are 10 inches long, 5 inches wide, 3 inches thick, as described 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 encalow, as it is termed, containing the topsoil and other matters, are mixed 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 finest ashes which are afterwards added in the proportion of one part of ash to four parts of clay, or 3 pounds and 7½ inches mud, 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 220 cubic yards of clay will make the same quantity. To burn the former, or stiff clay, there is in the form of a kiln, or a box, 4 feet 6 inches by 2 feet 9 inches, the sides of which is built up, or the comish 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 turned in the winter, has a coat of ashes laid over it to the depth of three inches, and this coat of ashes is turned over with the stiff stuff thus mixed together, the digger taking care to mix his ashes equally with the clay. The ashes and clay 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 closely, and the small stones and inclusions, with which the earth is mixed, are then worked into the clay, and the stuff is mixed backwards and forwards. The earth now presents the appearance of a black stekky mass. After this operation it is removed in barrows to the 'pugmill,' near a shed called the 'stool,' where the moulders are at work. The pugmill is the shed in which the clay is prepared for the mould; inside it is divided in three parts, the middle being a little narrower towards the bottom. At the top, a third of the circumference is cut down about six inches to facilitate the barrowing in the earth. The bottom of the mill is fixed to two crossed beams, strapped together in the centre with iron braces. In the centre of the mill is an upright bar of iron, 2¼ inches square, the end of which at the bottom is placed in the centre of the crossed beams, where it works as a pivot. The other end of it is kept fixed, and the iron shoulders fastened to the sides of the barrel. From the top of the iron bar is a horizontal beam, to which the collar of the horse is attached by means of two perpendicular pieces falling from the beam. The bar has in the barrel six iron knives, 1 foot 2 inches long and 4 inches broad, the upper two of iron, the 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 having been cut off in pieces with a concave shovel, called a 'cuckhold,' 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 begins to prepare and to put to pieces of a kind of the size of the brick, which the moulder throws into the mould first sund, 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 placed 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 backs, which are long levelled up with about four inches of top soil, and formed about an inch deep, and 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 kiln is one of the nicest parts of the art, written by a skilful hand they become in better shape. The bricks are placed in two rows on the hops, and are set a little apart to admit the air to dry them. At each end of the hop every other layer of bricks is turned with the edge at right angles to the edge of the bricks carried up in rows, one on the other, to the height of seven to ten inches, 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 thousand in the soft brick, so that they are easily reckoned. To protect them from the weather, 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 hops covered with long sheds, but this has been found very expensive, and a very slow method. After the bricks are partially dried, they are put in a place, called 'skittling,' 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 acquired some firmness. The brick is very ready, are then dug to the kiln. The kiln (or the clark) is the place which should 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 all soft. They should also be carefully and closely packed, so as to make as little air as possible, for the admission of air produces the soft red 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 (N—S), so that the bricks are on this lower surface which is their principal support. The bricks are placed in lots or 'nocks,' 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 others are attached.

Clamp-bricks are burned in the following manner:—On the inclined or segmental bottom a course of bricks, of which one course is placed loosely, with spaces between them. These bricks form the foundation: upon them the bricks are laid three abreast, or filled with their kind, and upon these the over-spranging or flat arching is laid, the arching being fastened on their broad sides. Over the over-spranging the bricks are laid in and crossed every course, but always packed as close as possible together. Occasionally a small quantity of straw or soft clay is laid, which is not put on their wide sides. The kiln or clark is then surrounded by the flue or live holes, which are placed from six to nine feet apart, about the width of a brick, and are carried up two courses high through the clamp: they are then nearly filled with dry barrows or wood, on which is put a covering of
breeze; the fire is then overspanned. The clamp when full is surrounded with old bricks, or the driest 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 provided with sides made by planks, so that the fire 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 clap. The bricks are now separated for sale; the hard sound stocks are the best, and protact a market to the London boiler-makers, cisterns, vaults, stables, and yards. Besides these kinds there is capping or coping brick, for surmounting fence walls, which is made both angular and semicircular to throw off the wet. A larger sort of brick, 14 inches long, 6 bricks, with the short side of 8 inches:\n
The present burnt bricks, called compass-bricks, are used for wells; hollow or draining bricks are flat on one side and hollow on the other; fire bricks, called also Windsor bricks, are universally burnt, and made of a body to last a long time a fire: common paving bricks are of the same size with Widdor's bricks: feather-edged bricks are the same size as the common brick, except that they are thinner; they are used on edge in the external part of wooden building. A kind of flint F. is as broad, 8 inches, and 2 thick. Stock-bricks are known by the names of picked stocks, red, and grey stocks. Bricks or cinder-bricks are those which are much vitrified in the fire: sometimes 1 brick or cinder-bricks are laid 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 brick. He took out a patent some time since, which, having expired, his son now generally adopted round London. These bricks, however, are not considered to have either the fine colour of the London malt stock, or the best stone-coloured hue of the Parisian brand. He adopted the following method of making them, 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 for the horse to turn by. The bottom 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 barrow made to fit the inside of the mill, and a thousand bricks are placed on the 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 round the base of the mill, with the addition of a sufficient quantity of water; the horse then moves on, and draws the barrow, 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 stones and other superfluous matter to be carried off to the side 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 a 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 square one is prepared, and so on; there is no strict regard to the trench soil is prepared as 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 fire is applied externally only. Kils for burning bricks are constructed of various sizes. They are sometimes conical or domed; some are square-built with brick pieris, and covered with tiles. A kiln fifteen feet long, ten feet six inches wide, and twelve feet high, will hold 31,500 bricks, and if the size of the kiln is about fourteen inches thick, and incline downwards towards the top.

The year 1795 a patent was obtained for making bricks on a new plan. This brick was like the common brick, except that they were certainly of superior quality on each side down the middle, rather more than half the width of the side of the brick: a shoulder would thus be left on each side 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-fourth of the thickness of the stone.
number (1832) was 1,981,465.278. Ireland being exempt from the duty on bricks, is not included in these returns. The whole duty is drawn back on exportation.

BRICKLAYER. A charter was granted in 1568 to the tilers and bricklayers in London, by which they were formed into a corporate body, consisting of a master, two wardens, twenty assistants, and seventy-eight livery.

Bricklayers form a very numerous body of artizans in this country. A good workman can lay 1500 bricks daily in walls. His wages in London are 5s., 5s. 6d., and even 6s. a day. Country workmen have generally 4s. a day. Wages however vary according to the locality.

BRICKWORK. Brick walls are of various thicknesses. Four and a half and half or half brick; nine inches or one brick; fourteen inches or one and half brick; and eighteen inches or two bricks; and two bricks and a half and so on, to about three feet two inches. Except in large public works, walls are seldom built more than four bricks thick. In good work three bricks are well bonded together.

There are four kinds of bond in use in laying bricks, called English bond, Flemish bond, herring bond, and garden-wall bond. English bond consists of bricks laid lengthwise on the length of the wall, and crossed by bricks laid with their breadth on the wall. The former are called stretching courses, and the bricks stretchers; the latter heading courses, and the bricks are called headers. This bond is much used in water-works.

Flemish bond consists in laying a header and stretcher alternately in the same course. This bond, which is considered by bricklayers the most beautiful, is not so effectual as the English bond, but is sometimes preferred in building brickwork, especially in thick walls, and to remedy the weakness of the stretching courses, the bricks are often placed at an angle of forty-five degrees parallel to each other, and reversed in the alternate courses; this is done in the centre of a wall, and called a Flemish bond. It is advisable only to use this diagonal brickwork occasionally, because, though the bricks in the core have sufficient bond, the sides, on account of the triangular interstices, are very improperly tied to the core. Flemish bond is however varied according to the openings in the wall or front of a house. The reveals of windows are bonded every alternate course, with a closure or quarter brick and a half brick. The reveals of doors are terminated with a half brick and closure. Garden-wall bond consists of three stretchers and one header in nine inch walls, but when fourteen inches thick, the Flemish bond is used. In English bond, it is to be observed, that as the length of a brick is nine inches, and its breadth four and a half, it is the practice to prevent two perpendicular joints from falling over each other, at the end of the wall, so as to be bonded from the head to the base, or the so-called introduction of a closure, or by a three-quarter brick or bat as it is technically called, instead of a stretcher at the corner.

The most difficult work for the bricklayer to execute is the turning or intersection of arches in vaults, where every brick has to be cut to a different bed. This and the arches called gauged arches, either circular or straight, cut with the axe and rubbed on the banker or table, and afterwards set in line only, called patty, require the neatest workmanship. Some straight arches are called hopped; that is, the bricks are inclined each way, parallel to each other on the respective skewbacks or shoulders of the arch, until the soffits of the bricks touch, when the vacant space at top is filled with two bricks forming a wedge: this arch, like other solid or hopped arches, is constructed on a camber-slip, or piece of wood slightly curved on the upper side, and serving as a centering.

The bricks for rubbed or gauged arches are cut with radiating lines. Bosco for cambered or straight arches are cut by the manual skill of the workman, and the lines do not radiate exactly to one centre, like the bricks in semicircular gauged arches. The following is the method adopted by bricklayers in cutting the straight arch. The straight arch, so common in houses in London, is first drawn on the face of one brick and divided in the middle, and the pencilled line is a straight line; the lower, the curved line of the camber-slip, a segment of a circle, and the sides, the inclination of the skewback of the arch, which is usually inclined about seven inches and a half from the upright of the reveal. The top and bottom lines are then divided into an equal number of equal parts, and lines radiating are drawn as shown in the cut. The joints follow the curve of the camber-slip.

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.

Mould. [Cut of the mould with the bricks set off upon it.]

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. All arches, 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 support of 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 boarded 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 chiefly used in the construction of 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 liable to be wet and from there to be drained, becomes so firmly united with the mortar as not to be separated without the greatest difficulty. The work in this state is said to be water-bound.

In building walls, they should be carried up level all round simultaneously, and not one part higher than another, lest the wall should be a settlement, which would cause the parts to separate.

In laying the foundation of walls the first courses are always laid broader than the wall intended to be carried up; these courses are called the footings, and the projections are generally two inches in projection. Garden-walls are usually built with piers, projecting four and a half inches and the face of the work at every ten or twelve feet. These piers are turned in at the top like buttresses-heads, and the top of the wall is finished with a course of brickwork, and a coping of grey stone or cumbly stone.

When new walls are to be built to old it is usual to cut a chase 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 tootings 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 eiling line of first floor, and the party walls in the basement story two and a half bricks, and from the gutter two bricks. In second-rate buildings the party walls are two bricks and a half thick in the basement, and two
In the first and second floors. The external wall has one brick and a half, and one brick in the two upper stories. The third-rate have the external wall one and a half brick thick in the basement and one brick above, and the party two bricks in the basement and one and a half brick above. The fourth-rate has one and a half brick in basement of both party and external wall and one brick above in each wall.

A rod of brickwork was taken from the original standard of 163 feet square, and consequently the superficial rod of brickwork consists of 272 square feet; but as the 272 was found to prove some in calculation, 272 superficial feet has been adopted as the standard for a rod of brickwork.

The following is the method in practice for calculating the number of rods and feet in a brick wall, if of the standard thickness, which is 1½ inches, or a brick and a half. Multiply the width by the length of the wall, the product divided by 272, will give the rods. If it is more or less than the standard thickness, multiply the surface by the half-length of brick in the thickness of the wall, divide the product by 3, and the wall will be reduced to the standard, which, if divided by 272, will give the work in rods; or if the work is cubed, it must be divided by 360 to reduce it to rods, &c.

For details of the value and measurement of brickwork, see Elsom's Perpetual Price Book and Nicholson's Dictionary. A rod of standard brickwork set with mortar will require 47 bricks upon an average: the mortar required for the same is 1½ cwt. of chalk or white lime with two loads of sand, or 1 cwt. of stone lime with 2½ loads of sand. In walls a foot of reduced brickwork requires 17 bricks. A foot superficial of gauged arches requires 10 bricks. A yard of arches at Great St. Street, London, would require 100 bricks, or 144 Dutchlinkers laid on edge, or 36 bricks laid flat. The value of a rod of stock brickwork is from 1¼l. to 1½l. according to the locality. If set in cement 1¼l. is about the price. The weight of a rod of brickwork is calculated at 15 tons, 7 cwt., 2 qrs., 1 lb., in the following quantities:

<table>
<thead>
<tr>
<th>Bricks</th>
<th>Cubic Feet of Sand</th>
<th>Cubic Feet of Chalk Lime</th>
</tr>
</thead>
<tbody>
<tr>
<td>4500</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>81 cubic feet</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>40 ft. 6 in.</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Among the most remarkable specimens of ancient brickwork are the masses on the Palatine hill and the baths of Caracalla. The Roman brickwork in large works is excellent: the bricks are very hard, and so firmly cemented, that they cannot be separated without the greatest difficulty. Great care has been shown in the execution of the work; and one building, still existing near the grotto of Egeria, has on its surface, at intervals, long lines of brickwork, finely cut in a yellowish brick closely cemented together and still in high preservation. The most recent specimens of ancient Roman brickwork are the walls which surround Rome; there are also many specimens scattered throughout Italy. The bricks being generally thin and of the nature of tiles, this circumstance diminished the difficulty of constructing arches, of which the great arches of the Temple of Peace in the Forum Romanum are remarkable examples. The Tauf Kesa at Ctesiphon (about 18 or 20 miles from Bagdad) has the largest surviving arch existing being a semicircle 85 ft. wide, 106 ft. high, and 150 ft. long. (Ives' Voyage, &c., p. 289.)

The worst bonded specimens of brickwork executed by the Romans are those formed of triangular bricks filled with rubble. The reticulated work, which is constructed with stones, is often bonded with courses of brickwork. In Pompeii columns constructed with bricks have been discovered: in this city the brickwork of the public buildings has been very accurately executed.

The wall of Constantinople is made of porous bricks, light enough to float on water. The brick towers of Bologna are stupendous piles of brickwork. London contains more brick buildings than any other city in the world, some of which are built of the best materials and by the best hands. The Chinese wall, which is one of the best specimens of brickwork in Great Britain. The most extensive arched brickwork in London is in the sewers. The Thames Tunnel is also a remarkable piece of archued brickwork; but the largest series of well-constructed arches yet seen in England is the new railway from London to Greenwich, which is not yet finished. The brickwork in Holland is very accurate. There are many curious brick fronts 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 variety 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 that of Henry VII. and VIII.; and most of them date about the reign of Elizabeth. Hampton Court, built by Cardinal Walsay, is a specimen of good ancient English brickwork. One of the most elaborately carved specimens of English brickwork is that of the bath built at the time of the earthquake at Wymondham, 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, there were many curious buildings and other buildings adopted '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 well, near the church of St. Bride, in Fleet Street, is said to have been one of the holy wells of the city. Beginning about the vicinity of this well 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 service at the church adjoining the hospital. In 1755 a report was made to the governors respecting the unruly conduct of the 'Bridewell boys.' Their turbulences in the streets had become a great annoyance to peaceable citizens. From the time their peculiar costume was laid aside, the general condition of the boys was improved. 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 previously 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 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 roadway is formed for passengers and vehicles. Parapets are elevated on each side of the road, and foot pavements, called banquets, are raised for people on foot. There are still remaining bridges of great antiquity built by the Romans, but we are unaquainted with the earliest invention of some of these bridges. The Romans believed they 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.

In the Old Testament there is no mention of a bridge. 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 of this kind. The Long Bridge on the Danube (over the Desguadore, 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, to which a horse is tied, and the horse is thereby pulled in bridge-building by means of arabes. The bridge of Fou-tcheou-fou, the capital of Fokien, has more than 100 arches. At Tsuen-tcheou-fou there is a bridge with 300 stone pillars built with angles to the river. The bridge at Suen-tcheou-fou, a shallow estuary, is 2500 Chinese feet in length and 20 in breadth. The road-way of this bridge is laid
horizontally with huge blocks of stone on 255 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 Tansi 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 Dugald, vol. ii. and iv. pp. 91, 327, and the Index.)

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 Tarbiter bridge, over the Tami, which is built with a double row of piles, inclining to the course of the stream, and joined together at 2 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 held fast at each end by two bosses. The beams were bound together by transverse 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 Caesar’s Commentaries, translated into Italian by Danieli, with designs by Palladio, Venice, 1575, and also Commentarii, &c., Venetiis, s.vo. 1512, 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. (Dion. Cass. lib. lxvii. c. 13.) It consisted of 20 pier 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 Narn, 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 formed an aqueduct, now called the Pont du Gard, over the Gard or Garden 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 arches, smaller over the Narn, which carries the water from the mountains. The entire height of this structure is 190 ft. Another ancient Roman bridge, that of the Taxis at Alecanta, in Spain, consists of six arches raised 290 ft. above the river: the whole length was 670 ft. and the breadth 28 ft. [ALECANTA.]

An old bridge, near Bridoue, 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 Alecanta, near the city of Lisbon; the other, called the Ponte Maddelena, near the royal palace of Caserta, in the kingdom of Naples, to supply the fountains in the gardens of that edifice. The structure at Alecanta consists of 35 arches, unequal dimensions. The principal arch is 108 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 slope 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 conquists 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 volantes, are rudely constructed with a few boats, and are moved by a rope, which is fixed in the centre 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 Corydand, in Lincolnshire, which is said to have been 340 bds. 60 ft. wide, but is now very much dilapidated, 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 26 arches, whose bases stand in the circumference of a circle, equidistant from each other, and uniting at the top. ‘This curious trise tension 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 will be recently used as re-mus, 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 Llantwissent, 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 Liffey, near Dublin, built in 1799, presents an example of an elliptical arch 106 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 design of M. Angelo; its size, extending 550 ft., was 100 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 della Vecchia at Florence [Map of Florence, published by the U. K. S.], consists of three beautiful elliptical
arches. 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 older bridges is avoided. The Pont de Neuilly, built between 1768 and 1780, by M. Pernonet, over the Seine, is, we believe, the earliest modern example of this kind of bridge. It has five equal arches, 126 ft. wide, and 32 ft. in height; the piers only to the axis of the bridge. These arches pass in 33 ft. is not more than 63 in. In 1771 another flat bridge of 13 semi-elliptical arches was built over the called the Colossus, is 340 ft. The Lower Schuykill bridge consists of three arches on stone piers; the centre arch has a chord of 195 feet, and the two side arches 150 feet 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 feet; the two arches on each side the centre, 160 feet; and the two abutment arches, 160 feet each. This bridge was erected by C. A. Busby, in 1798. A very accurately-engraved drawing of it has been published by Measse, 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, it should be observed, were understood as early as 1615. See Seanor's Del Idea Archit. [Chain Bridge.] The most remarkable bridge of this kind is the Menai or Beaumaris bridge, near Caernarvon, which connects the island of Anglesea with the main-land opposite. A similar bridge has been constructed over the Thames at Hammersmith, near London. Very similar to this bridge is the Chinese chainbridge on the high-way of Yunnan, in the province of Koei-tchou, the work of General Pang (Dukialik, 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. (Dukialik, vol. i. p. 60.) The first iron bridge built in England was erected in 1777 at Coalbrookdale over the Severn: it consists of one arch upwards of 100 ft. wide, composed of five ribs, each rib formed of three concentric arcs, connected together by radiating pieces. The interior arc forms a complete semicircle, but the outer arcs extend only to the sills under the road-way. These arches 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 road-way. The interior ring is cast in two pieces, each piece about 70 ft. long; and the total weight of metal used is 3784 tons. (Telford's Jer.) 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 Southwark 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 Buildwas, built by Mr. Telford, is a single at 360 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 the 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 falls 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 85 tons, is opened and shut again in three minutes. The most recent bridge, and the largest of this constructed in 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>Foot</th>
<th>Arches</th>
</tr>
</thead>
<tbody>
<tr>
<td>London bridge</td>
<td>900</td>
<td>5</td>
</tr>
<tr>
<td>Southwark</td>
<td>850</td>
<td>3</td>
</tr>
<tr>
<td>Blackfriars</td>
<td>995</td>
<td>9</td>
</tr>
<tr>
<td>Waterloo</td>
<td>1326</td>
<td>9</td>
</tr>
<tr>
<td>Westminster</td>
<td>170</td>
<td>2</td>
</tr>
<tr>
<td>Vauxhall</td>
<td>896</td>
<td>6</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 Buildwas</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>1800, Sin.</td>
<td></td>
</tr>
<tr>
<td>Ruston</td>
<td>1454</td>
<td>34</td>
</tr>
<tr>
<td>Bridge over the Liffey, Dublin</td>
<td>106</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bridge</th>
<th>Foot</th>
<th>Arches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elbe bridge, Dresden</td>
<td>1490</td>
<td>16</td>
</tr>
<tr>
<td>Schaffhausen, on the Rhine</td>
<td>390</td>
<td>1</td>
</tr>
<tr>
<td>Pont Neuf, Paris</td>
<td>1015</td>
<td>12</td>
</tr>
<tr>
<td>Pont de Neulliy</td>
<td>724</td>
<td>5</td>
</tr>
<tr>
<td>Kamienost over the Moskwa at Moscow</td>
<td>840</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></td>
</tr>
<tr>
<td>Tho Rialto, Venice</td>
<td>nearly</td>
<td>100</td>
</tr>
<tr>
<td>Bridge over the Garonne, at Bordeaux</td>
<td>1535</td>
<td>17</td>
</tr>
<tr>
<td>Bridge over the Loire</td>
<td>1230</td>
<td>17</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 pacés</td>
<td>480</td>
</tr>
<tr>
<td>Pons Senatorius, now Ponte Rotta, at Romo</td>
<td>335</td>
<td>5</td>
</tr>
<tr>
<td>The Schuykill, called Coloulouse</td>
<td>340</td>
<td>5</td>
</tr>
<tr>
<td>The Trennt, 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 others, in the fashioning of bridges the reader may consult Mr. Gaertner's work, Beilger's Architecture Hydraulique, and Perronet; also Bosset and Rion on bridge-building. Mr. Telford's work on bridges, which it is understood will shortly be published, is expected to contain much valuable information on the subject.

**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, if constructed on the defile 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 secured. 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 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. side, 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 redouls flanking each other reciprocally, and formed by being set back from 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 the interval from the enemy. 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 lateral 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 parallel to each other, and at such a distance 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 bridges for non-Trent would be directed towards the riv., by which they will be secure from an enfilading fire of the enemy.

Should any commanding ground permit the enemy to direct a plunging fire of artillery upon the bridge or within the works, and should it be found impossible to give to the parapets a height sufficiently great to intercept that fire, batteries or redouls must be constructed in convenient situations on the rear side of the river, in order, by their fire, to prevent the enemy from occupying that ground. Those works will then be faceted to the head of the riv. when attacked; a traverse also should be raised on the same side of the river 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 riv., may be made more spacious and their numbers reduced. When several islets are to be reached, they should be fortified, both to prevent the enemy from occupying them and thus obtaining a view of the bridge, and to afford the means of flanking the principal head.

The most important bridge-heads in Europe are on the Rhine, at Mannheim, Kehl, and Hunningen; all these have been celebrated in the wars of which the frontiers between France and Germany have so frequently been the theatre.

**Bridge, Military.** [Fonteau.]

**Bridgnorth,** a. b. and m. t. in the S.E. part of Shropshire, 9 miles S.W. of Shrewsbury, and 139 N.W. from London. The town lies between 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 60 yards from the bed of the river. The town and borough were incorporated, consisting of the parishes of St. Leonard and St. Mary Magdalen, but certain rights were held under the jurisdiction of the bor. magistrates. The parliamentary bor. was extended by the Reform Bill, and now includes the parishes of Quatford, Oldlbury, Tasley, and Avelsh-Abotts. In 1831 the pop. comprehended within the extant boundaries 6172, of whom 846 are old borough.

Bridgnorth, aniently Bruges, is stated to be of Saxon origin. The first known charter is one of the 16th. It was confirmed by subsequent grants, by which special privileges were secured to the inhabitants. By the Municipal Reform Act the town council consists of 4 aldermen and 12 common councillors, 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 Magdalene
there are four daily schools and three Sunday schools; and
there is a daily school in Quaqford parish. The appoint-
ment of the master is regulated by the corporation. The town contains a considerable number
of charities. It possesses also two or three manufactories,
and a large portion of the labouring class find employment in the navigation of the Severn; but the market and the retail trade with the neighbourhood is far the principal
source of the town's revenue. There are four annual fairs, Sat-
day before Shrove Tuesday, 20th June, August 2nd, October 9th
(which latter lasts three days), for cattle, sheep, butter, cheese, bacon, etc.

The parish church 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 hewn 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
with authority to repair the bridge, and to erect a new
one, with new abutments. A new grant was made in 1823.
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 un-
doubtedly was made to incline considerably from the
perpendicular. It is uncertain when or by whom the castle
was built.

In 1102 Robert or Roger de Belemine, Earl of Shrews-
bury, strengthened Bridgnorth and defended it against
Edward I. The castle was seconded in the lease of the
his life was stated to have been saved by a knight, who stepped
forward and received In his own person an arrow aimed at
the king. The inhs. sided with Charles I. during the civil
war; and Bridgnorth endured a siege of nearly a month
from the part of the king. The

The inns to the E. 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.)

BRIDGETOWN. [BARRADORES.]

BRIDGEWATER, a port, bor., and m. t., situate on the
banks of the riv. Parret, in the hund. of N. Petherton, and
co. of Somerset; 23 m. S. W. from Bristol, 17 m. from
Taunton, 2 m. from Parret, and 1 m. 9' 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.

Bridgewater, in ancient charters called Brugia, or Brugio,
Brugge-Waller and Burgh-Walter, derives its name from
Walcon or Walter de Douay, on whom it was conferred by
William I. Prior to this it belonged to Saxon Thanes,
named Mereslaw, as appears from the Doomsday Book, in
which it is thus surveyed: "Walcon holds Brugia, Mereslaw
in the time of King Edward, and gelded for five hides.
The arable is ten carucates, in demesne are three carucates
and five servants, thirteen villanes, nine bordars and five
cottagers, with eight ploughs. There is a mill of 51. rent,
and ten acres of meadow and 100 acres of pasture. When
he is under the king it was worth one hundred shillings, bow
seven pounds." William de Brivere, 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 ob-
tained a grant of free warren. This William de Brivere 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
was very large possessions, and was confirmed by Jooselin
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, a thing notable,
and this house standeth partly without its est gate. This
college had pretenses that had the apparel of secular prelates,
with a cross on their breasts, and this house adjourned an
Hospice 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 income at this period was represented as £10 10s. 2d.
amounted to 1204. 19s. 1d. In the W. part of the town
was a priory of Minorities or grey friars, dedicated to St.
Francis, founded by a son of William de Brivere, the site
of which was given to one Emmanuel Lukar by Henry VIII.
There was also in Leland's time an hospital for lopors.
The founder of St. John's Hospital (of St. John), was a
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 trevit,' says William of Wor-
cerst,' were alluded to the coping of the structure.

Bridgewater was of considerable extent in the time of 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 moat of great depth and 30 ft. wide, which
every tide filled with water. Colonel Wyndham, the gov-
ernor, defended it a long time against the rebels; but at
last, on the 22nd of July, 1645, he was compelled to surren-
der. Upwards of 1000 prisoners, 44 barrels of powder,
3500 arms, 44 pieces of ordnance, and a great quantity of
properties, were carried away by the rebels. The town
was not sent to the castle for safety (it having been declared
impealtable), were taken by the besiegers, amongst whom
the booty was divided. The castle was completely disman-
tled, and the only remains of it are the sally-port and some
remains in the walls.

The inhabitants of Bridgewater supported the claims to
the throne of the Duke of Monmouth, a natural son of
King Charles II., and he was acclaimed king by the mayor
and corporation.

The municipal franchise was conferred on Bridgewater by
Edward I., in the 23rd 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 1283. By the 2nd charter, all free persons of 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 Quaintock
Hills. The broad Parret, with a bridge, divides the town into two parts. The W. part is the more
respectably 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
and fire-proof material. The houses are usually
in the neighbourhood. The other part of the town, called Esowter, is
little more than a suburb, and is newly built. The
town-wall 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 town 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; though, on the N. side, there is a very stately,
and proportioned spire. The altar-piece, which is much admired,
was presented by the Honourable A. Poulet, many years
member for the bor. It represents the descent from the
cross, and was found on board a captured French privateer.
The painting of it is uncertain. The vicar is vicar
connected with the rectory of Chilton Trinity, in the arch-
desancy of Taunton and diocese of Bath and Wells. The
crown is the patron of the living, the net income of which
is 342l.

The riv. Parret is navigable as far as Bridgewater for ves-
sels 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,' [Boox] which often produces much in-
convenience among the shipping. The principal imports
at Bridgewater are coals, wine, 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 into 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 official return of 1803) is 1645, and the tonnage of sixty tons. Many of the inns are occupied in the fabrication of a peculiar sort of white brick, which is made of all sizes, and the common brick. 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. At the fair, held in the town every year, called 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 tithe of the par., to which a sum of 200£. was afterwards added 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 gratuitously in the classics and four in English. In 1723 Mr. John Morgan founded a school (now conducted on Dr. Bentley's plan) for the instruction of the sons of poor men and gentlemen of certain of his relatives. The management of this school was vested in the hands of trustees, amongst whom are the archdeacons of Taunton and the vicar of Bridgewater; in 1816 a spacious school-room 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 3000£. in the funds, and the rents of certain messuages, amounting to 174£. per annum, for the clothing, educating, and apprenticing of the sons of poor men and gentlemen 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 chartered accountancy. Several sums appear from the 'Reports on Charities,' to have been left by will for the instruction of poor children: 52£. by Richard Holworthy; 41£. 10s. by Dorothy Holworthy; Richard Castleman left 200£., and James Stafford 40£.,—all for the like purpose. Some almshouses were founded by Inigo Jones, but they are now appropriated to the poor of the par., and the 18£. is distributed among poor widows not receiving parochial relief. An infirmary was established by subscription in 1815. In Will's 'History of Abbys,' several charities are mentioned—St. George, 100£., in 1624; Sir Thomas Maynard, for the education of 20 poor boys who belonged ten messuages, eight acres of land, and 40£. 1£. in Bridgewater and Trinity charity. Leland also mentions a chapel at the S. side without the town, 'which,' says he, 'was built in hominum memoria by a merchant of Bridgewater, caullid Poel or Pole.'

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.]

BRIDG Water, FRANCIS GERGON, DUKE OF, born in 1736, was the youngest son of Sarah, fourth Earl and first Duke of Bridgewater, by Lady Charlotte, 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. His predilection for the pursuit of studies was so decided, that his education was entirely neglected. He not only got the better of this early tendency, which had proved very fatal to his family, 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 prudence, that he was enabled to take the intelligent part which he derived from the accident of birth. One of the estates which he inherited, situated at Worley, near Manchester, contained a rich bed of coal, but it was comparatively of little value, in consequence of the heavy expense connected with the mining for its exportation; and the invention afforded by the Irwell, which, though rendered navigable, was a tedious and imperfect medium for carrying on an extensive traffic. In deliberating on the best means of supplying Manchester with coal from his pits at Worley, the Duke perceived that the waters of the Irwell, the Bridgewater, and Irwell, which he was able to connect by a series of canals and aqueducts, offered a great variety of expedients for overcoming them. At length he fixed on the expedient of constructing a navigable canal; and in the 32nd Geo. III. (1758-9) he obtained, though not without some difficulty, the act of parliament which enabled him to commence the first navigable canal constructed in Great Britain in modern times. From this circumstance he is frequently styled the 'Father of British Inland Navigation.' It was the Duke of Bridgewater's determination to render his canal as perfect as possible, and to adopt a line which should avoid, if possible, the most dangerous locks. The duke had the good fortune to select as engineer a man whose genius was unfettered by commonplace rules, and one who was exactly fitted to carry into execution a project, not only perfectly novel at the time, but which, even at the present day, attracts the admiration of all who consider it. [Brindley.]

The duke nobly supported Brindley in his bold and original views, in the merit of which he undeniably deserves to share. When Brindley proposed carrying the canal over the Mersey and Irwell navigations by a tunnel 39 ft. below the surface of the water, he desired, for the satisfaction of his employer, to have another engineer consulted. The duke was not deterred by the difficulty and magnitude of Brindley's plans, nor by the unfavourable report of the other engineer, from pressing him to carry out the work. When the individual called in to give his opinion had said, on being taken to the place where the intended aqueduct was to be constructed, that he 'had often heard of castles in the air, but never was shown before where any of them were to be seen.' The duke was rewarded for his enterprising spirit and confidence by the successful completion of the work, which is 200 yards in length. From the aqueduct the spectator may often observe seven or eight men slowly dragging a boat up the Irwell, against the stream, while about 40 ft. immediately below were the rapid waves of the high water. The duke drew with much greater rapidity five or six barges fastened one to the other. A considerable portion of the canal between Worsley Mill and Manchester was executed under the provisions of the first act of parliament, but a second act was obtained in the following year for the purpose of making some changes in the line. The whole of the canal from Worsley to Manchester, with the subterraneous works at the coal-mines at Worsley, was executed under these two acts; the underground canals and tunnels at Worsley are said to have cost £189,000, and to have been 18 m. in length. In 1762 a third application was made to parliament, and the necessary powers were obtained for opening an artificial water communication with Liverpool by the Mersey. Subsequent acts enabled the duke to complete his designs. The length of the canal is about 27 m., on the summit, which has rendered great embankments necessary, as the canal crosses several depressions. One of these embankments is 900 yards long, 17 ft. high, and 112 ft. wide at the base. The greatest width of the line from Manchester is in a direction 57° to the S.W. for about 5 m., when it branches in a N.W. direction, which crosses the Irwell at Barton, and runs to Worsley; from Worsley it is continued 6 m. to Leigh; a canal also runs from Leigh and joins the Manchester and Liverpool canals at Wigan. From the point where the Bridgewater and Irwell send of at Salford, which is nearly S., and it crosses the Mersey. On the Cheshire bank the general direction of the canal is more to the S.W. than the Mersey, but after crossing the river Bollin it approaches nearer the Mersey, until within about 3 m. short of Preston-brook, when it leaves the river farther to the N. From Preston-brook, in the parish of Runcorn, the
course 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 of the same name, built in 1824 by Sir Robert
Preston-brock. The Grand Trunk Canal (the name by which
this navigation is familiarly known in the country) joins the
Duke of Bridgewater’s Canal, which thus connects it with
the Trent and with Birmingham and London, and with Bril-
tington on the west coast of Yorkshire, Pitsford on the
Wessex, and Nantwich in Cheshire, every part of the canal was executed, under the direc-
tion of Brindley, in about five years. The squatted at Barton
was opened July 17th, 1761, and soon afterwards the whole
line. It cannot be computed what the total expense in-
curred by the Duke of Bridgewater in completing this grand
undertaking amounted to. The duke’s canoe however was
done as much to promote the public prosperity as to increase
the wealth of the noble projector’s heirs. Before its construc-
tion coals were retailed to the poor at Manchester at 7d. per
ton, but now they are sold to them from 9d. to 10d. per
score to be given to the cwt. The carriage by water from
Manchester to Liverpool was 12s. per ton; by land it was
as high as 40s.; on the duke’s canoe 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 canoe 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 real promoters of the Grand Trunk Navigation, and was a
man of law, the first
Manchester of N. to S. at its 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 500l.
on his bill in the city of London, and his agent, Mr. Gilbert,
had frequently to ride over the counties of Lancashire and
Lancaster, 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. His great estates at Ellersmere, which he held in
hereditary tenure, were quite sufficient, and the person
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 keeping house; he therefore made an allowance of 2l. 10s. 4d. to a friend of his, (Mr. Carvill) with 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 Administra-
tion, and was a large contributor to the Lottery Bank.
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 Lancashire,
Cheshire, and Brackley Estates, lie left to his nephew, the
late Lord Egerton, who was in the interesting position of
Lord Francis Egerton, who has just (Feb. 1836) inter-
minated to the authorities of Manchester his desire to erect
a public monument in that town to the memory of the Duke
of Bridgewater.

(Plate 3.) History of Inland Navigation; Priestley’s
Historical Account of the Navigable Rivers and Canals,
de Great Britain.)

BRIDGTON, formerly written BRELLINGTON, but
now commonly pronounced Burton, is a port and
market town and an important contributor to the Local
Exchequer, in the par. of Bridlington, and in the township
of Bridlington-quay. The pop. of the par. of Bridlington in 1831
was 5637: the pop. of the township of Bridlington-quay, including
the m. of Bridlington and quay, was 4792. In the bathing
season they are filled to nearly a thousand additional residents. The
par. of Bridlington comprises the following places:—the t.
of Bridlington-quay, the t. of Buckton, the ham. of Easton,
the chap. of Grindall, the t. of. Hilderthorpe, the t. of. Sewerby
and Marton, and the ham. of Speton. The area of the par.
is about 7 miles in circumference. ‘The face of the country as far as Bridlington is
diversified with lofty swells, and the wolds in some places extend to
the coast, which, near the villages of Speton, Bempton and
Flamborough, rise in cliffs of 100 or 150 yards in perpendi-
cular height. The harbour at Bridlington is safe for all
navies which continues for 6 or 9 m. to the S. without almost any variation.’ (Bigland’s Yorkshire.) Bridlington is distant
from London by Lincoln 203 m.; by York 258 m.; it is 40
m. E. by N. from York, and 32 m. N. from Hull. Its dis-
tance from London in a straight line is 167 m. It is one of
the polling places under the Reform Act, for the elec-
tion of Members for the E. Riding of the co. 5° 13' N. lat.;
8° 16' E. long.

Early History.—Bridlington is considered by some autho-
rites to have been the site of a Roman station—Gabranvici-
coruni. The vicinity of Flamborough Head as a post for
fishermen, the sheltered bay, the Stinus Portus of Polemy,
the formation of the tidal estuary, and the discovery of
Romans, Aldborough, are all circumstances which strengthen
the supposition. The remains which determine the exact sites
of inland towns inhabited by the Romans, have here been
lost for a long time away from the encroachments of the sea.
After the invasion of the Danes the Duke of Bridlington
had established themselves in Britain, the N. portion of
the country was the last subdued; nor was this effected until
the landing at Flamborough of Idas, A. D. 547. Whether
the t. of Bridlington which abounded throughout this district were
raised during the time of the Saxon invasion, or at another
or a later date, is still matter of speculation. The generally
received opinion is that they are remnants of a time prior
to the Roman invasion, and late discoveries are in favour of
this view.

On the 10th of July, 1834, a tumulus was opened at Grisethorpe, near Flamborough cliff, a description
of which has been published by Mr. Williamson, who infers
from its contents that the person entombed therein was ‘one of
the aborigines of the soil. The coffin was of oak, and of the
best shape and structure; the interior having been hol-
lowed out, a fragment of wood, which was only 8 in. thick,
the body within the coffin was enveloped in a strong skin,
which is supposed to have been a part of the man’s dress
when living. No pottery was found. Flint heads of arrows,
and of a javelin, pins of horn, bone, and wood, and the frag-
ment of a horn of a wild ox, which probably formed part of a
cofin; in addition to which was a spear-head of brass, or
some other composition of metal. The body is considered
to have been about 6 ft. 3 in. in height, and its muscular
attachments are very strong. The coffin and its contents
were placed in the Scarborou 12th aisle of the church.

When William the Norman ravaged the country for
60 m. between the Humber and the Tees, the monastery
of St. John of Beverley alone escaped the general ruin, owing
to the impossibility of the renunciation in which the patron saint was held by the
Conqueror. This is the reason why Bridlington continued to
be a parish church for three centuries before. The manor of
Bridlington formed part of the extensive possessions of Earl Morcar, and was
confiscated in 1072. This manor, as well as large grants
in Lincolnshire, was conferred on Gilbert de Gant, a nephew
of the son of the founder. Saxons were the first to build
the possesions of Gilbert de Gant descended to his son
Walter.

Ecclesiastical History.—To Walter de Gant Bridlington
owes the foundation of its priory, the most distinguishing
ancient institution of the borough. The town of Bridlington
was thought of from the time of the Saxons that a great
monastic establishment was endowed was on a scale of
munificence correspondent to the rich possessions of its
founder. When completed, probably in 1114, it was peopled
with canons regular of the order of St. Augustine. The
monastery was dedicated to St. Mary and St. Nicholas.
The charter of Walter de Gant, and the confirmatory charter
of Henry, are in Dugdale’s Monasticon; and the bull of Pope
Calixtus II., confirming all the grants, is preserved among
the MSS. of RogerDodsworth, in the Bolsover library of
the Dukes of Newcastle. The history of the Priory Church
of Bridlington. The estates of the priory were of
immense extent, and included not only lands in its vicinity,
but also in many other parts of Yorkshire, and in Lincoln-
shire. The Gilbert de Gant, the son of the founder, was a
great benefactor to the priory; and many other nobles added
liberal donations to its wealth. Henry L. granted to the
prior a full and complete civil jurisdiction over the manor
and town. Stephen granted them a jurisdiction over the port
of the town.

The priory is given in Burton’s Monastic Eboracens.
The canons were careful to have their grants confirmed,
in many instances by the heirs of the donor, the archbishop
of the province, the king, and the reigning pontiff. The

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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 ascendants at the great annual fair held in different parts of the country. He says, 'the canons of Bridlington regularly undertook the charge of Holy Week, from 1781, 1819, and 1822. In the compusite of the priory at Bridlington is a yearly account of wine, cloth, groceries, &c., bought 'apud sanctum Botolphum.' The last prior, William de Wode, was installed in 1531; having taken an active part in a rebellion soon after the suppression of the monasteries, with the execution of high treason, and executed at Tyburn, A. D. 1537. William of Newburgh was a native of Bridlington, though a canon of Newburgh. His Historical Chronicle commences with the Norman conquest, and is carried down to the 11th year of Henry II. The monastery existed four centuries; when it was dissolved its revenues amounted to 550l. 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 yearly was assigned to be paid by the lessee 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 curacy of 154l. 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 John Thompson, was intercepted by the enemy and forced to land at Bridlington, on the 26th September, 1797, soon after his descent upon Whitenhove. On the following night by moonlight an action commenced, so near to Flamborough Head, which was crowded with spectators, that some of the halls of the manor was burned by the officers of 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. An excellent description of the town's present condition is given in Thompson's History of Bridlington. This town was once one of the most distinguished in Yorkshire, and 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 200 children, of poor parisioners, in grammar, reading, writing, and arithmetic, at a gratuity; he has 70 scholars, 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 eating, knitting, and spinning of wool. Twelve children of poor parents, who have been at this school, are Pensioners; 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. (Pricott's Description, Appendix.) The national school was commenced in 1818. In the year 1820 it was reported that there were 500 children, and the in?. 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 infant school was opened in 1829, which was supported by the residents of the town, and has since been sustained by public subscription, 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-hall is over 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 whole place appears an appellation of the Norman baronage of the time of Henry VII.'s time, excepting however the north-western tower, which belongs to a much earlier period. The style of the north-western tower is early English, as is also the whole of the north side of the church. The west window is 60 ft. in height from its base to the crown of the arch, and 27 ft. in breadth. The head is filled with good perpendicular tracery; the lower compartment below the transom is the only portion at present glazed, and is 15 ft. high. Along this arch is a gallery connecting the two western towers, and at the angle of the church the parapet 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 the vault is covered with so much soot as to be almost wholly during winter, and during the summer months to be oftentimes quite black. The arches of the porch are of the width of the north side of the church, and there is a descent of several steps into the porch.' 'The length of the present church in the interior is 185 ft.; and the distance of the farthest pillar from the east wall of the church, whose foundation has been taken up, 182 ft.; so that the ancient church seems to have been nearly of the same length as Beverley minster, about 333 ft. The tower is 210 ft. high, and is crowned by a huge octagonal turret 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 parochial purposes, and contains nearly 2000 people. (An Historical and Architectural Description of the Priory Church of Bridlington. By the Rev. Marma-
The imports are 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 tides of the sea. This area is supposed to have been 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 there are two circular mounds of earth 104 yards saucer, called butt-hills, thrown up for the practice of archery before the introduction of fire-arms. (Historical Sketches.)

BRIDGINGTON QUAY is a small modern town in the recess of the bay on the sea-coast, the principal street of which runs directly to the harbour, and is very wide. The N. pier of the quay was wasted by the sea in 1816; there is no safe distance. There is good anchorage in this bay, particularly when the wind is unfavourable for cocking-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, affords a good walk at low water. There are warm and cold water-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 Ardsley, Yorkshire. The surf is divided, the ebbing and flowing spring, which was discovered in 1811, furnishes an abundant supply of water of remarkable purity. This spring was discovered in 1811 by the late Benjamin Milne, Esq., collector of the customs at this port; a man who, for many years, has been reared to this pursuit, is first among the benefactors of Bridlington. The fissils of the chalk cliffs near Bridlington are numerous and well known. A few years ago a head of the great extinct elk with branching horns, measuring 11 ft. from tip to tip, was found on the coast, by a man depositing coal. The peat bogs and shall marl deposits in which the remains of this noble extinct animal have been found in Ireland, Scotland, and the Isle of Man, are extremely similar to the lacustrine accumulations of Holderness. The entrance to the Holderness estuary is principally protected by one S. side of the town, mounting 5 guns (18-pounders), and the other on the N. side, mounting six guns (12-pounders). These batteries enflace the mouth of the harbour, and form a cross-fire with each other at right angles. The environs of Bridlington and Quay are exceedingly beautiful. On the 17th February, 1836, Bridlington was visited by one of the heaviest storms ever known. Several houses were destroyed, others much damaged, and the pier was much injured. (Historical Sketches of Bridlington, by J. Thompson; Pritchett’s Directory of Bridlington; Communication from Bridlington, &c.)

BRIDPORT, a bor. and m. t. in Dorsetshire, on the highway from London to Exeter, and distant from London by the road, about 135 m. It appears from a notice in Domesday Book, that, to have been a considerable place before the Norman Conquest, and has been noted from an early period for its hemp manufactures: the soil in the surrounding country being strong and deep, formerly produced excellent hemp. That now used is imported principally from Russia. There is a market every Thursday at a market, which has been hanged, 'He has been stabb'd with a Bridport dagger,' which shows the antiquity of the manufacture of hemp at Bridport.

The earliest charter of which any certain memorial remains is that granted on the 22nd June, 37 Hen. III. This charter received subsequent confirmations,—the governing charter was dated the 15th Aug., 18 Charles II. By the Municipal Reform Act, Bridport is divided into two wards, and has 6 aldermen and 18 councillors. The town is lighted by gas. Queen Elizabeth, in her 36th year, granted to the bailiffs and burgesses a market on Saturdays, on which cattle might be sold, from the Friday before Palm Sunday to Midsummer-day; and there are fairs, viz., on March 23d, on Holy-Thurssday and two following days, and on Michaelmas. The number of the fairs and markets average about 203. annually. The present market-house was built under an act obtained in 1785. The prosperity of Bridport is materially dependent on that of the harbour, which is at the mouth of the riv. Brit, about a mile from the town, the communication being by an excellent road. Many efforts have been made to improve this harbour. In 1318, one John Huleresfeld obtained from Richard II. a grant, for improving the port, of a half-penny toll for every horse-load of goods imported or exported here. Other attempts were unsuccessfully made, but the haven was repeatedly rendered almost useless, by the fall of the cliffs and the encroachments of the sands. In 1845 an act was obtained, of which the preamble states, that by reason of a great sickness, which swept away the greatest part of the most wealthy inhabitants, and other accidents, the haven became neglected and choked with sand, the pier fell to ruin, and the town daily tended to decay. The works, for which this act was obtained, were not begun till 1741, and the pier was finished in 1742, towards the expense of which the two representatives of the borough contributed 3500l., an individual 1000l., and the town 500l. Further improvements were made in 1825, and in 1828, and 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 bailiffs and burgesses, 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 17,500l. was borrowed, and together with the proceeds of the property of the Magna Charta Company, which has thereby been rendered safe and commodious for shipping not exceeding 250 tons burthen. The trade of the port is rapidly increasing. In 1804, the number of vessels which entered was 128, their tonnage 9926, the harbour dues 456. In 1835, the number of vessels was:—

<table>
<thead>
<tr>
<th>Inwards</th>
<th>Outwards</th>
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<tbody>
<tr>
<td>Vessels</td>
<td>Tonnage</td>
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<tr>
<td>27</td>
<td>2,404</td>
</tr>
<tr>
<td>23</td>
<td>2,925</td>
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Bridport was made a borough 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 of flax, hemp, and shad. Among the imports, 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 7700. 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 well built. The church of St. Mary’s, near the lower end of the town, contains a handsome and commodious 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 schools, 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 reading and lecture rooms have been erected. The town contains 2800 souls. Boundary Reports; Municipal Corporation Reports; Education Returns.

BRIE, a district in France comprehended partly in Champagne, and partly in the Ille de France. It extended 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 formerly divided into Bré Francie, Bré Champenois (confined to the banks of the Seine), and Bré Champenois lesuse afterwards incorporated with Bré Champenois. The whole was bounded on the N. by the Ille de France (proper), Valois, and Soissonois, on the E. and part of the S. by Champagne proper, on the remaining part of its S. frontier by Senonies, and on the W. by Hurepoix, from which it was divided by the Seine. The chief towns within its limits (with their pop. in 1832) were as follow:—
Brie had antiently its own feudal lords, who bore the title of counts of Mecaux; but Herbet of Vermandois, count of Mecaux, having become count of Tourouvre and Champagne in the 10th century, united the two countries.

Brie over after followed the fate of Champagne. The territory is now divided between the dep. of Aisne, Aube, Marne, Seine et Marne, and Seine et Oise, to which the dep. is referred. 

BRIEF (PAPAL) is the name given to the letters which the pope addresses to individuals or religious communities upon matters of discipline. The Latin name is 'brevis, or 'breve,' which in the latinity of the lower ages meant an quires or written scroll. The French in the old times used to lay 'briefs' or letters upon parchment, giving the name 'brief' without any particular matters, such as dispensations, release from vows, appointments to benefices in the gift of the see of Rome, indulgences, &c.; or they are mere friendly and congratulatory letters to princes and other persons high in office. The apostolical briefs or letters are written in the name of the pope, usually on parchment; it is sealed in red wax with the seal of the Fisherman (sub annulo Piscatoris), which is a symbol of St. Peter in a boat casting his net into the sea. (Chiampini, Dissertatio de Breviarii Munere, cap. iii.) A brief, as administered in the broad, is an instrument of the Church. It is the name given to the heads of the Catholic Church: it relates to matters of doctrine, and as such is addressed to all the members of that church for their general information and guidance. The bulls of excommunication launched by several popes against a king, or a whole nation, do not resemble the legal. They are not signed by the pope, but by an officer of the Papal Chancery, called 1 Segretario dei Brevi: they are indited without any preamble, and, as just observed, are written generally upon paper. The bulls are always on parchment, and sealed with a wax seal of lead or green wax, representing on one side the heads of St. Peter and St. Paul, and on the reverse the name of the pope, and the year of his pontificate: their name comes from the Latin 'bulls,' a carved ornament or statue. The bulls of the pope are divided and addressed to all the members of the church; the bulls of indulgences are addressed to particular individuals, or monastic orders, for their particular benefit. 

BRIEF, commonly called CHURCH BRIEF or KING'S BRIEF, is the instrument constituted of a kind of parchment 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 grantors 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 such documents do not appear to have been issued by the crown until recently to the Reformation, and may possibly be derived from the papal briefs, which, from very early periods of the history of the church, were given as credentials to mendicant friars, who collected money from country to country, and from town to town, for the building of churches and hospitals. In the 15th century, 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 stat 4 Anne, c. 14, after reciting that 'many inconveniences arose and frauds committed in the grant or acceptance of 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 a most inconvenient and expensive mode of raising money for charitable purposes.

According to the instance given in 'Burn's Ecclesiastical Law,' tit. Brief, the charges of collecting 614l. 12s. 3d. for repairing a church in Westmoreland, amounted to 330l. 16s. 6d., leaving therefore only a clear collection of 28d. 16s. 3d. This expensive and objectionable machinery (in the exercise of which the interest of the charity to be 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. 42, which, in the present case, is applicable. For the purpose of building, repairing, 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 be employed in carrying the designs of the society into effect. This statute does not interfere with the authority of the crown as to granting briefs; it only effect is to abolish the machinery introduced by the statute of Anne. Under the provisions of the stat. 9 Geo. IV., c. 42, ed. 3d, a brief was granted in 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, among other objects, to the education of almost 3000 of the debased 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 (in law) means an abridged relation of the facts of a litigation. The same is a written statement, or a document, supposed to be applicable to them, drawn up for the instruction of an advocate in conducting proceedings in a court of justice. Briefs vary in their particular qualities according to the nature of the court in which the proceedings are pending, and the peculiar circumstances of the case. 

BRIEG, a t. in the government circle of Breslau in Prussian Silesia, and the chief place of a lesser circle of the same name, which forms part of the principality of Breslau, and contains about 31,641 inhabitants. It has 3 Roman Catholic churches, 2 hospitals, an infirmary, a house of correction (in which the prisoners are employed in weaving cotons), a lunatic asylum and other charitable institutions, a gymnasmium and an arsenal, and contains about 575 houses, and a pop. of about 3200 souls. The manufacture of leather, woollen gloves and stockings, cottons, lace, leather, &c. It is the seat of a head office for the royal Silesian mines, of a royal salt factory, and of district courts of justice, and has 3 fairs in the year, besides being a large m. t. for cattle, and having considerable trade in timber, which is felled in the neighbouring forests. A long wooden bridge of solid con-
sition crosses the Oder at this place. Brieg is about 463 ft.
above the level of the sea, and about 26 m. S.E. of Breslau.
BRIEL or BRIELLE; sometimes also called the Brîl; a
sea-port town on the N. side of the isl. of Voorn in the
province of Holland; is situated near the mouth of the Maas in
51° 54′ N. lat. and 4° 41′ 30′ W. long. of Greenwich.

The confederates, having been driven from the Nether-
lands by the duke of Alba, equipped a fleet in England and
entered the harbour of Brielle, which surrendered to them,
and thus became the earliest seat of the independ-
ence of the United Provinces. In 1585 this town was
given up to Elizabeth, queen of Eng-
land, as security for advances made by her to the States of
Holland, and it continued garrisoned by English soldiers
until 1616.

The town is well built and strongly fortified. The bar-
rier is commodious, and capable of containing 300 vessels.
The in-h. consisted, in Jan. 1839, of 2000 males and 2195 females;
the men are principally occupied as fishermen and pilots.

Briel was the birth-place of O. Admiral Van Tromp and De
Witt. The town has an area of 12 m. W. of Rotterdam, and 24 m. W.N.W. from Dordrecht.

BRIENNE. [Bonaparte and Aub.
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 recommended
of Philippe Auguste, to Mary, daughter of Isabella, wife of Conrad, marquis of Montfort. Isabella
was youngest daughter of Amaryk king of Jerusalem, an
exile in France, and with her three illegitimate boys
married him. Of the early life of John of Brienne nothing is

When the emperor Frederic II., stimulated by ambition,
undertook to fulfil his often evaded vows of joining the
 crusade, upon receiving the nominal sovereignty of the
Holy Land, John of Brienne, weared with the ineffectual struggle
which he had to wage against the Adelphoi, the abdicating
in his favour, and brought his eldest daughter and
heir, Yolande or Iolante, to Italy, where Frederic
received her in marriage; yet in the subsequent wars between
the pope and the emperor, John commanded the pontifical
army and was held an able general. As emperor,
during his successful expedition to Palestine, entered
the Holy City; and upon a demur of the patriarch, crowned
himself with his own hand. From this union of Frederic
with Iolante, the present royal house of Naples derives a
c Claim to the title of king of Jerusalem, which it still
preserves. (Giannone, xvi. 2; Hallam, Middle Ages, i. 254, 4to.)

John of Brienne, in 1222, bâtit married as a second wife
Borengaria, sister of Ferdinand king of Castle; but his serv-
ices in more advanced life were again needed in the east. On
the death of his eldest brother Baldwin II. to the imperial throne
of Constantinople, the barons of Romania, seeing that the
Latin dynasty required a protector of greater vigour and
maturer years than their boy-sovereign, invited John of
Brienne to share the throne during his life-time, a proposal
which he accepted upon condition that Baldwin should
espouse his youngest daughter. In 1229 he accordingly
assumed the imperial dignity, and for the ensuing nine
years he nobly maintained himself against the increasing
powers of Saladin, whose conquests were limited by
affirms that the achievements of John of Brienne (who at
that time had passed his 80th year, according to the repre-
sentation of the Byzantine historian Acropolis) exceeded
those of Ajax, Hector, Roland, Uggier, and Judas Mac-
head. He was still active at the age of 90, and the
if we were to believe the exploits related of him when Con-
stantinople was besieged by the confederate forces of Vataces
and of Azan king of Bulgaria. Their allied army amounted
to 100,000 men; their fleet consisted of 300 ships of war,
against which the Latins could oppose only 160 knights and
a few serjeants and archers. 'I tremble to relate,' says
Gibbon, with well-justified apprehension, 'that instead of
defending the city, the here made a sally at the head of his
cavalry, and in the course of forty-eight hours, made
more than three escaped from the edge of his invincible
sword.' The ensuing year was distinguished by a second
victory; soon after which John of Brienne closed a life of
military glory by an act of devotion which raised him
incredibly high in that of devotion which raised him
equal in the estimation of his sovereign, who, on account
of his illness, in 1237, clothed himself in the habit of a Fran-
ciscan monk, and thus expired in which that superstition
considered to be the richest colour of sanctity.

The reign of John of Brienne was a long one, and much length
by Du
Cange, in the first edition of his Hist. Constantinop., and a
life of him was published at Paris, in 1727 (12mo), by
LaStu, a Jesuit.

BRIENZ. Lake. [Bern.]
BRIEYS (Brezis-Brenis), Brenis, or Bresens, a
royal town of N.E. France, and Zolomy, in Hungary, lies
between the Visop and Cesvata
oranges, in a valley of considerable elevation, and upon
the banks of the Gran. This t. was founded as a centre for
mining operations, in the year 1359, when it received its
charter privileges; in 1540 it was given to the rank of a royal free
tlement. There are 18 adjacent vills. within its jurisdiction,
which, with the t., contain about 920 houses and 6300 inh.,
of whom Briers itself contains about 3500. There are ex-
traordinary ranges of forests in the neighbourhood, and
the breeding of sheep is an important industry, and wool
are carried on to great extent. This is also the case with the articles of hemp
and
wax, the produce of which is occasionally much diminished by
the havoc which the bears from the adjoining woods commit on the
hives. Briers is also celebrated for its cheeses,
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 Michelaf. The t. has
a pianist college, and contains a National school for elementary instruction, and two churches. 45°
9′ N. lat. 19′ 40′ E. long.
BRIEU (SAINT), or BRIEUX (SAINT), a city in
France, capital of the dep. of Côtes du Nord. It is situated
very near the coast of the Manche and 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′
N.lat., and 2° 49′ W. long.

This city owes its origin to a monastery built in the 5th or
6th century; among its manufactures, under King

The town does not appear to have been walled. St. Brieu is remarkable for its
literary establishments. Its public library contains 24,000 volumes.
It has a college or high school, a school of hydrograph,
and an agricultural school. The town is
or 48° 3′. Its n. is a town
and

The bishopric of St. Brieu includes the dep. of the
Côtes du Nord, which has a pop. of 559,872. The bishop
is a suffragan of the archbishop of Tours.
The arrond. of St. Brieu is the most populous in the dep.
It had, in 1832, 171,730 inhabitants.
BRIG, BRIGANTINE. [Snm.]

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 guns under 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 Riffe 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 sap. 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 Père Daniel, commanders having the charge 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 appointed a brigade-major, who is usually a captain, or if 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 36 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 the British army is dispersed over the country, small 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. Each battalion, or body 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. It may be sufficient to mention, in one place 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 of the brigades were composed of battalions, some of two, and one of them of three. The infantry in the second line, in like manner, unequally divided: the centre consisted of two brigades of cavalry, one formed of three regiments, and the other of two; and there were eleven brigades of horse-artillery.

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 a considerable advantage by the division into brigades. 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, after making himself familiar 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, according to 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 the southern provinces, which includes the counties of Yorkshire, 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 Parisi (Carmen's Britannia). The Britons were divided into four principal districts, the North, South, West, and East. The tribe of the Brigantes included the two, being the largest of Britons. Claudius, when, having partially risen against the Romans during the war between the latter and the Iceni, they were defeated by the Pretor M. Ostorius, when some of their leaders were killed and the rest submitted and obtained peace, the Roman historian, in his account of the civil war, which occurred after the battle, by which the empire, after Galba's death, the Brigantes revolted against their Queen Cartismandus, who was an ally of the Romans, and who had forsaken her husband Venutius for a lover. Cartismandus 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 Pretor Petullus Britannicus, in the war of Caledonia, which was the session of the greater part of their country. Tacitus describes them as the most numerous tribe in the whole prov. of Britain (Agricola, xvi.). We find the Brigantes mentioned again under the reign of Antoninus Pius, when they made incursions into the neighbouring territory of Corunna, as is shown by Tacitus (Pausan. vii. 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. called Britannia Superior, which Elvoracum (York) was the capital, and afterwards in the new division under Constantine they were in the prov. called Maxima Caesariensis. We find in Tolemy a tribe of Brigantes in Southern Hibernia between the rivers Bregus (Barrow) and Labroma (Blackwater) occupying the space included in 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 Brigantes, a tribe in Vindelicia near the borders of the lake of Constance, whose name is given to a body of troops, some, as it is said, of Roman extraction, which from the number of the brigadiers, seems to prove 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 the French in the middle ages using the term Brigand for indiscriminately expressing robbers, whose name was the dread of the neighboring 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 the name was originally derived from Brigantes, or whether it signified anything of a more derogatory character, it is not certain, but at least we may say that the English also used to say of a bold lawless fellow, 'he plays the Brigana.' (Camden.) In the wars of the French revolution and of Napoleon the appellation Brigands became common in the French invading armies to signify all those who, on the declaration of war against the emperor, 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 Ward's Lives of the Gresham Professors, which we shall also follow as to dates and personal facts. Mr. Ward cites Dr. Smith, Vita Henrici Brigasti, and Wood's Athenae Oxonienses. Briggs was born at Wareleywood, near Halifax, probably about 1566. He was sent to St. John's College, Cambridge, in 1577, where he became scholar in 1579, B.A. in 1581, M.A. in 1585, Fellow of his college in 1588, and Warden of St. John's College in 1592. As a natural philosopher, to 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 geometry. In 1619 he was chosen first Savilian professorship of astronomy, having self 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 Merton college, but he continued to hold the Gresham readership till 1626, when he determined and continued to hold the Savilian professorship till his death, which took place January 26, 1630. He was buried in the chapel of Merton college. It is customary to record of him that he once called astrology 'the science of groundless conceits,' 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 publish the author a visitation in a letter to Archbishop Usher, dated March 10, 1615. 'Naper, Lord of Markinston, hath set my head and hands a work with his new and admirable logarithms. I hope to see him this summer in Edinburgh, where I never saw book which pleased me better, and made me understand the use of the art. When I 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 a to every value of x for all the minutes 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 logarithms. 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:

\[
10^x = \sin \theta \text{ to radius } 10^\delta \quad \text{or} \quad 10 = \sin \theta
\]

These are both on the supposition that the whole line, 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 decimal

in the table, and therefore of course depending on the number of places in the logarithms contemplated. But Napier himself (according to his own account) 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 would be amended if we should now call the tabulation of \( x \) from the equation

\[
10^x = \sin \theta \text{ to radius } 10^\delta \quad \text{or} \quad 10 = \sin \theta
\]

if the whole line 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. And so it appeared, the difficulty being 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,) who published, in 1618, (having printed the year before his \( \text{Chilias Prima Logarithmorum} \), containing the first thousand numbers, with logarithms to nine places: and in 1624, his \textit{Arithmetica Logarithmica}, which contains the logarithms of numbers (not of sines) from 1 to 20,000, and from 90,000 to 101,000, all to 15 places, with a method of using logarithms to the nearest thousand.

The whole work was fully done by Vlacq, who, in an edition of the work just cited, Goudae, 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 Gellibrand, (whom he had associated with himself in the task some years before his death.)

Gellibrand's \textit{Arithmetica Logarithmica}, 1633. It is to fifteen places of figures, and to every hundredth of a degree. Gellibrand states, in the preface, that, about 30 years before his death, Briggs had calculated a canon of sines (natural sines of course) by algebraic means, but which was not published.

It seems from the preface that Napier thought himself entitled to the discovery of the decimal method of logarithms, and that, if Briggs's statement be correct, he did not act quite fairly in superseding the latter name in the preface to his \textit{Radbologia}. But the controversial episodio is fully treated of in Dr. Hutton's preface to his \textit{Logarithms}, we shall content ourselves here with citing the passages which constitute the evidence:

1. Napier, \textit{Radbologia}, 1616, published after Briggs left his manuscript unfinished, and says that he published the \textit{Chilias Prima Logarithmorum} at the expense of his own.

2. Briggs, in the preface of \textit{Chilias Prima}, &c., written 1618, after Napier's death, hints that in the forthcoming publication of his own he has made an improvement on Napier as follows: 'Logarithorum speciem eliam multo praestantiorum \textit{nunc eliam invenimus}, et creandi methodum una cum eorum usum, si Deus longiorem vitam et velaetudinis usuram concessider, evulgar statuamus. Ipsum autem novi Canonis supputationem de invenimatione nat. logarithmorum generas salus replevimus; imprimi vero D. Henrici Briggs, Londini, publico geometrico professori, et amico mihi longa carissimo.'

3. Briggs, in the preface of \textit{Chilias Secunda} and \textit{Trigesima}, written 1618, after Napier's death, hints that in the forthcoming publication of his own he has made an improvement on Napier as follows: 'Quod autem hic logarithmorum diversi sint ab ipsis, quos clarissimus inventor, memorae semper colendae, in suo edidit Canone mirifice, sperandum eum librum posthumum abunde nobis proprie

satis satisfacere.'

Logarithmica,' 1624: 'Quod logarithmorum variis sunt ab ipsis, quos cl. vir, baro Merchistonii, in suo edidit Canone mirifice, non est quid miror. Ego enim, cum mea audi
dum notitia Londinonum, ammiror, quae in doctrinam explicarem, animadvertere multo futurum com

modium, si logarithmam sinus totius servaretur 0, ut in Canone mirifice; logarithmum autem partis decima ejus

dem sinus totius, nempe sinus 1 gr. 44 m. 21 s. esset 100,000, fuisse certum, si eum non ex angulis, aut autemere, et quam primum per annos tempus, et vacatometer a publico docendi munere licuit, profectus sum Elinburginis, ubi humanissime ab eo acceptas haec per integram mensum. Cum autem inter nos de horum mutatione sermo serenicer, ille idem dum sensisse et cuipusio dicebat, verutamentum ipsis, quos jam paraverat, edendos curasse, donec alios, si per negolia et valetudinem liceret, magis commodos perfeicerat. Itam autem mutationem ita faciens censetam, ut 0 esset logarithmus unitatis, et 10,000,000,000 sine, quo ego longe commodis\n
esse esse, non potui non agam.'

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 \textit{Binomial Theorem}, see that article. Briggs made considerable use of the second cause 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 algebra into England is so scanty, and the little there is of it is so confused, that a comparison of the system of Briggs 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 \textit{Rel. Verae Cal. Gregori}), and from the rest that he had some of his methods; it seems to us that there is a way 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:

'Quod modus inveniendi substantas ab antiquis unitatis traditur ad alia, quae, componendo, copia maxima resistorat, et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus et an hiatus and an hiatus.'

While speaking of the introduction of the \textit{specious} algebra, we should like to draw attention to the following sentence:—What is the book described in the \textit{Cat. Biblioth. Reg. Neapolitani Maseri} as \textit{Vestae Fr. Opera Math. Londini, 1589}? (See Hutton's \textit{Preface}, above cited; Masere's \textit{Script. Log.}, vol. vi.; Montucia, &c.)

BRIGHSTONE, a town, post town, and market, commonly written and pronounced BRIGHTON, a parliamentary bor., m. t., sea- port, and fashionable watering-place in the hundred of Whalesbone, rape of Lewes, Sussex, 46 m. S. of London, direct distance. It is chiefly in the par. of Brighton, of which it is the chief town, and is also in the parishes of W. of Westhampnett and E. of Sompting, and also 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 Brightonstone and Hove. It is bounded on the E. by the parishes of Rottingdean, Oving
den, and Falmer, none of which contain any houses connect ed 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 headborough, to whom are added commissioners for the police, commissioners for fire, and others for keeping, improving, and managing the town. It was created 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 known as the South Downs, which from Beachy Head westward to Penzance is renowned for its beauty. What is more, 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 a calcareous earth resting on clay; on the steep slopes and some of the flat tops the soil is 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 rapidly in the E. - change which the London and Lewes roads respectively are formed. The 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 very rapidly. In the reign of Charles I. in 1601 it was 7399; in 1611, 12,012; in 1621, 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 104, and upwards, was 9762; the entire number within the parliamentary boundary was 6685. The amount of assessed taxes in 1830 in the par. of Brighton was 31,800l., and within the boundary 35,580l. The place is rapidly and daily increasing.

The origin 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 coast the nature of the town has occasionally suffered from hostile invasion. It was plundered and burned by the French in 1313. Subsequently the Harlequin Hotel, 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 many houses which stood above, have lately been torn from their bases, and fallen into the sea. The coast has been driven inland, and the sea has washed up to 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 been a large place, and in 1699 it had a population of 700 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 coasting brig, which afterwards enjoyed a pension for his services.

About the middle of the 16th 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 resuscitated by the exertion of Lord Weymouth, and the Duke of Kent, who selected it as his summer residence. In 1764 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 situation of the palace is such that 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 inhabitants 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 John Hampden, formed by C. C. 1771.

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 up the cliff by 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 unimpaired, was seriously damaged in a tremendous gale on the night of the 15th October, 1834. Of the three spans or spires, 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. On the W. side of the par. of Hove, is 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 a crescent, which is the most beautiful feature in the present antient 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, built in 1830, on the site of the old market, nearly in the centre of the town, 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 been converted to present use; its internal columns 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 parish 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 patronage of George IV.; the Prince of Wales Hospital, founded by the Duke of Sussex in 1831, the Earl of Egremont in 1835, 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 two, a school for boys, which was built by the Union charity schools, educated by Edward Goff, Esq. in 1805, which girls, are supported by voluntary contributions; and there is a school founded by Swan Downer, Esq. in which fifty girls are educated and clothed. The education returns of 1835 show that there are 58 schools, 127 class-room masters, 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 innns, 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, called the Marine Bath, was opened in 1835. It is formed of a series of 16 sea-baths, produced by a mixture of several different qualities 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 whose opening and close a considerable place of amusement is formed.

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 convenient, 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.

The town extent was formed in the 16th century. The present battery was originally erected in 1793, 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 the W. of Brunswick Square.

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 Roman empire, to have been a Roman encampment. It is supposed to have been one of those that surrounded the naturalChil, 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 to the adjoining parts of Hampshire, Surrey, and Kent. The ground around Brighton affords a number of fine drives and walks.

Since the establishment of steam-boats and the erection of
of the chain-pier, Brighton has become a packet station, which is much used by those who prefer going and returning to Paris by way of Dieppe and Rouen, instead of the old route of Dieppe, Rouen, and Paris, which the new lines of road have been projected, and are now ('March, 1826) before the public. (Lee's Leces and Brightsheimstone; Dr. Relhan's Nat. Hist. of Brighton; Boundary Reports.)

BRIGNOLES or BRIGNOLES, a town in France, capital of an arrond. in the dep. of Var. It is on the riv. Calami or Calanis, whose waters flow ultimately into the Argens; and on the road from Paris to Draguignan, 515 m. S.S.E. of Paris, 43° 24' N. lat. and 6° E. long. The town is advantageously situated in a hollow, surrounded by wood-covered heights. The obscurity of the air was, at 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 and by 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, woollen cloths, wax, hats, glue, starch, candles, earthenware, and leather. 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 9000: in 1832 it was only 5492 for the town, or 5940 for the whole commune.

The country around Brignoles is exceedingly fertile: the vine and olive are cultivated on the surrounding hills; and the fruits, especially the dried plums, are in high estimation. The Brignolés had in 1832 a pop. of 71,662.

BRIMSTONE. [Sulphur.]

BRINDISI, the Roman Brundisium, and Greek Bren-"
tesium (Baurénvns), a town in the prov. of Terra d'Otranto in the kingdom of Naples, in 40° 38' N. lat. and 16° E. long., well known in Roman history for its capacious and salubrious crystals, and its robbery in 1864, when the French army invaded Italy. 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 cities of Messapian league, the Messapian pen, and of that part of it 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, it is said, the inner part of forms two horns which half encircle the head. 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 latter were defeated and put to flight, 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 267 B.C. Brundisium was made a Roman colony. The Via Appia terminated at Brundisium, and was called the Itrinerary.] The poet Pausanius 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 endeavoured to prevent his escape by blocking up the inner harbour, by means of two piers which he raised, one on each side of the entrance. Before 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 port has been attributed. The piers became 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 bar, or roadstead. This however was the means by which 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 inr. from attending to its repair. Formerly work on Monday and Thursday at the entrance of the town. Under the Angevins the inner bar 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 Brundisium was reduced to less than 3000, and was threatened with total destruction by the pestilential state of the atmosphere, when King Ferdinand IV. in 1775 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 Brundisium evidently improved. (Pignolati, Memoria del ripristinamento del porto di Brindisi.) The depth of the channel however is not more than about 8 ft., and the vessels are obliged to remain in the roads, in which there is good anchorage partly protected by an isle, having a castle upon it called Forte di Maro. New works have been undertaken lately (1830) to keep the channel of communication 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 northern arm of the inner harbour. The town is situated on the outer side of the Bay of Bari. The breakwater is said to be of Roman construction, with a niche on each side, from which two rills of very good water, probably the fountain mentioned by Pliny from which the ships were supplied. The water in the town is brackish. The town is about one and a half miles in circumference. The harvest is sometimes 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 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, at the 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-lev-Frith, in the county of Derby. The great incident of his life was his introduction to the Duke of Bridgewater, the manufacturer who undertook the promotion of artificial navigation. (Bridge-water.) 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 evinced 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 Bennet, residing near Macclesfield. This individual being generally occupied in distant parts of the country, young Brindley was left at home with few or only indefinite directions as to the proper manner of executing the work which had been put into his hands. This circumstance, however, was well calculated to call forth the peculiar qualities of his mind; his inventive faculties were brought into exercise, and he frequently satisfied himself of the ingenuity of improvements which he effected. Mr. Bennet, 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 similar machinery was in operation, it was reported that he would be unable to undertake his contract. Brindley was informed of this rumour, and as soon as he had finished his week's work, he set out for the mill, took a complete survey of the machinery, and, after a walk of fifty miles, reached home in time to commence work on Monday. He had marked the points at which Mr. Bennet's work was defective, and by enabling him to correct them, Bennet'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 600 yards long, calculated to render the use 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 eventually found incapable 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 the proprietors, who had persevered in their project, although some of the adherents of the project, were 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-Lyme, 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 undertaking was the means of fully awakening public opinion as to the practicability of a common waterway, and 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 some years longer. The Duke of Bridgewater's canal was referred to Mr. Brindley, whose principles were the same as the taking, just as the Liverpool and Manchester railway is at the present day in the prospectus 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 cutting canals, and the funds of an expenditure of above 13,000,000/. 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 in the way, there Brindley's genius was displayed. He was not only a master in the sciences in which he undertook, but an adroit administrator 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 competency, of being the means of making that tribe of beings, 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 canal was completed in a few years below the site was not completed at Brindley's death; but his brother-in-law, Mr. Henshall, successfully finished it. Brindley next designed a can. 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 disputes 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.

There is said to have been a proposal for another communication between the Thames, 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 can, 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 can. from Liverpool to Runcorn, where the Duke of Bridgewater was so much interested, and in the Mersey, he also designed this can. over that river at a point where the tidal water rises to the height of 14 ft. He formed also a scheme for uniting Great Britain and Ireland by a floating road and can. from Port Patrick to Donegal; and like most other impracticable schemes of ingenious men, it became a favourite 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 draining water out of mines by a losing and gaining hucklet. Phillips states that he had been in the 'employment of the great Bridley.'

Brindley's designs were the resources of his own mind alone. When he was beset with any difficulty he concluded 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, and then, in some measure, appearing a model of industry. 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 labours. He died at Tunstall, in Staffordshire, September 27th, 1772, aged 56, and was buried at New Chapel in the same county.

The principal events in Brindley's life were first communicated 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 benevolent designs which the philanthropist and manufacturer in him combined. But the severe and continuous toil of 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 the earth, with a head like his master. He was not a poor man, of 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, who desired to know whether he had accepted the whole of a scheme, was: 'To feed 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 contain many inaccuracies. The name of the other two is Caseda and San Girolamo. 45° 3' N. lat. 13° 5' E. long.

BRIQUE, a town in France, capital of an arrondissement, in the department of the Loire. The department is called Upper Loire, on the road from Paris to Le Puy, 271 m. S. by E. of Paris; in 46° 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 breca, a bridge, or ford (compare Samarsky-brook). 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 180 ft. span, supposed to have been built by the Romans. At Brioude, a hamlet beside the river, 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 woolen stuffs manufactured in this town; and in the neighbourhood marble is quarried and coal dug. The population was 5052 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 Clovis, in the seventh by the Burgundian Godfree, in the eight by Thierry, king of Mols, and in the ninth by the Saracens, and afterwards 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 1836, a pop. of 80,692. BRISGUAU, THE, or BRESIGUAU, in the S. W. part of Swabia, is bounded on the N. by the Ottausa, 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 landgrave belonging to the dukedom of Zähringen; it then passed into the possession of the dukedom of Hochberg, and in 1587 was sold to the house of Habsburg. Rudolph of Habsburg, who thus acquired it in his capacity as Elector of Saxony, after his marriage in 1584 with Sophia of Cleve, was born in the castle of Limburg, in this territory. It comprised an area of about 1260 sq. m., and contained about 120,000 inh., inclusive of a district called the Ortenau, which had a pop. of about 15,000. The Brisgau is traversed by numerous watercourses, of which the Rhine and the upper tributaries are the principal. Of the four springs of the Rhine, the middle is the only one that is not 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 extent, which besides wool, meat, dairy products, &c., are exported. Iron, copper, paper, and lead, are worked. The inhabitants of the forestdistricts are celebrated for the manufacture of wooden clocks and other articles of wood. The revenue which the Brisgau yielded amounted to 28,600£. per annum. By the treaty of Laneuvile, 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 also gave up the remainder to the Duke of Moden as a compensation for the loss of his territory in Italy. But in 1803, in pursuance of this treaty, which he would not sign, the Archduke Ferdinand of Austria, as Duke of the Brisgau; but in 1805, by virtue of the peace of Pressburg, it became the property of the then Elector of Baden, with the exception of a small tract assigned to Wurttemberg, which in 1806 was acquired by France. The Brabant, consisting of seventeen towns, including Freiburg the capital, Old Bruns, Waldkirch, Kensingten, Endingen, Staufen, and St. Bissel; and 430 villages and hamlets.

BRISON, BARNABE, was born at Fontenay-le-Comte in 1700, son of a poor family, among members of which had distinguished themselves at the French Academy, he applied to the same profession, in which he attained the highest honours. He was made king's advocate in 1755, afterwards councillor of state, and lastly president a mortier in the Paris parlement. Having been an intimate friend of King Henry III, used to say that no other king could boast of having such a man for his advocate. He was sent 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, traduit en ordre par Messeire Barnabé Brison, fol. 1587, afterwards republished with additions under Henry IV. by Le Caron, 1609, and commonly called Code Henri. Brison was well versed in the ancient writers, and several valuable works were the result of his profound knowledge. "Il est bien nécessaire," says a former monarch, "qu'on connaisse ces significations," a useful glossary of words and sentences of the Roman law. This work went through several editions; the one by J. C. Inter, fol. Frankfurt, 1683, contains many additions. 2. De formulis et solemnibus Populi Romani verba, lib. vii., 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 courts, in the forum, in their commercial transactions, and civil wars. An improved edition of this work was published by F. C. Conrad, fol. Leipzig, 1781, with a life of Brison prefixed to it. 3. De regio Personarum principatu, lib. iii., in which he treats of the ancient Persian monarchy, its political institutions, and the manners and customs of the Persians in their military establishment. An edition with notes and corrections was published by Professor Lederlin, Strasbourg, 1710. Several other works of Brison, chiefly connected with the Roman laws and institutions, are found in his works posthumously published without the title of 'Opera Minora, which contain 'Selectarum ex jure civilis antiquitatum,' 'De ritu nuptiarum,' 'De jure conviviorum,' 'De legem Julian de iurisprudencias, et de solutionibus et librationibus,' 'De legem Domonico de jure in terris,' 'Pragmin liber singulares,' all works of considerable erudition.

The end of Brison's life was remarkably unfortunate. When Henry III. was obliged to leave Paris on account of the factions of the League in January, 1589, Brison 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 leagues losing now in open revolt against the king, arrested. Jan. 1589, the President de Harley, and put Brison in his place as first president of the parliament, which he accepted, as he said to his friends, in order to save his life and that of his wife, in the same time protesting privately before two notaries against and on his allowances. Henry III. having by an edict of February, 1589, transferred the parliament to Tours, Brison did not obey the summons, but remained in the capital. After Henry III.'s death in August of the same year, Brison proclaimed the duke of Mayenne, the chief 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 pretensions of Cardinal Gasiano, the pope's legate, who on presenting to the king a number of petitions, obtained his letter which takes the seat reserved for the king. However Brison 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 Brison, with two other councilors, on 16th Nov., at 9 o'clock, and hanged 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 faction of the Sixteen. (De Thou, et D'Huyse sur la mort de Brison, par Denyse de Vigny, en partie, Paris, 1692.)

BRISON, MATHURIN JACQUES, whose zoological and philosophical works have rendered his name do nominally celebrated, was born at Fontanay-le-Comte on the 30th of April, 1660. He was graduated of the University of Paris in 1687. He was said to have been, under Rousseau (for his youth was passed in aiding the labours of that accurate observer of nature, and in superintending his cabinet), he imitated, 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 Royal.' He became a member of the Academy of Sciences, and, after the death of his former professor, the father of Nollet in the physical chair at the college of Navarre. A warm defender of the Abbé, whose theory of electricity he supported with all the weapons which his intimate knowledge of the subject afforded him, he attacked Franklin, and endeavoured to pull down Priestley; but, 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 lightning-conductors for the protection of many public buildings, and appointed him to examine those which other projects might bring forward.

Death crept upon him at Broissi, near Versailles, on the 23rd June, in the year 1786, at the age of eighty-three; but for some months before he died he was a melancholy example of the body surviving the intellect. An apoplectic attack had defaced all his ideas, depriving him of the knowledge which he had so laboriously acquired, and even blotting out from his memory even the names of persons of whom, only the 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 provincial idioms which he had heard from his nurse stamped on his memory. His works are numerous: among the most important are his ornithology, and his treatise on the specific gravity of bodies. The first appeared at Paris in 1770, in 6 vols. 4to., in Latin and French. The second, under the title of 'Pépière Épiscopique des Corps,' was published in quarto in 1778.

BRISSOT, JACQUES PIERRE, was born on the 16th of January, 1754, in the village of Ouvrville, near Chartres. His father, though only a poor pastry-cook, contended to give a perfect education of that boy, with the intention that Jacques Pierre, who as a boy gave signs of great talents, 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 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 crossed the Atlantic to the United States, where his love of republican institutions was increased 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 Bastille. On the 8th of October he was elected member of 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 Constituent Assembly. He joined the party called the Girondists, and co-operated with Vergniaud, Guadet, Gensonné, the Provençal Isnard, and others, who were weak and imprudent politicians, but among the most eloquent and best men in France. 'The opinions of Brissot, who desired a complete and perfect revolution, were not derived from the French people, but from the English philosophers, with whom he inclin'd to do anything to escape death, but on the entreaties of his family and friends he attempted to get to London, where he was safely landed, and thence to the Continent, where he was again arrested, and transported back to Paris, and brought before the revolutionary tribunal, where the Jacobins in vain endeavoured to destroy his courage and self-possession. The only regrets he expressed were at the political errors he had committed, and at leaving his friends behind him. He was condemned, of course, and went to the guillotine with twenty other Girondists, his associates and friends, on the 31st of October, 1793, just nine months and ten days after they had voted the death of Louis XVI. (whose life however they had consented to save), and forty days after the execution of the Queen Marie Antoinette. They marched to the scaffold with all the stoicism of the times, and singing, as it was the fashion to do, the Marsellaise, or song of the republic. They all died with courage. Brissot was only thirty-nine years of age, and of a fair and decent countenance. He was the son of a person né, Frédéric, Ducos, Valaze, Lasore, Silley, Gardén, Carra, Duprat, Beauvais, Duchâtel, Mainville, Lacaze, Boileau, Lehardy, Antiboul, and Vigea.

Brissot stood at the head of the party which he embraced. At one time in his political career a large portion of the house was called after his name, 'The Brissotins.' He was singularly honest and disinterested; he sincerely wished the good of his country, but he knew not how to accomplish it. His biographers have recorded of him, that he was a man of great abilities, and that he was somewhat deformed in person, and that his countenance was frank, open, and expressive. After his return from America, he affected the simplicity of dress of the Quakers. (Biog. Uni.; Biog. des Contemporains; Mignet, Hist. de la Révolution; and others.)

BRISTOL, a sea-port town in the West of England, is in 51° 27' 63" N. lat., 2° 35' 28" 67" 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 Severn and Avon. It is, however, not a large town, as it is situated at the mouth of 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 antient name of Bristol on record is Caer Oddor, the city of the gap, or chasm. From this word we have the English word 'bristol,' which is in the same language as the Latin 'brista,' a chasm. 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. Sayer, in his history of Bristol, has enumerated 47 variations, 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 etymology of it, are 'Bristow,' 'Bristol,' 'Brisot,' and 'Bristol.' The latter form most nearly derives Bristol from the Celtico words 'bra,' quick, rapid, or 'bro,' a gap, chasm, or rent, and 'tule,' a stream: a derivation entitled to some credit. With regard to Bristow, Chatterton derives it from Brictrice, the last king of Wessex, who commenced his reign A.D. 794, and died by poisoning, A.D. 800, supposing it to have been originally called Bristrestraw. It appears also that Bristow, or a similar name, prevailed from 1064 to 1204; and it is remarkable that a Brictrice was Earl of Bristol at the earlier of these two dates. But, notwithstanding theлисты and 'Brickston,' which are not the names of any person, the form 'Bristol' seems to be the most ancient, and the name which is most descriptive of the locality, and obtaining pure Saxon in exchange for pure British.

Historical Sketch.—Of the footing which the Romans obtained in this part of England sufficient evidence exists; and in the Saxon translation of Bede, to Veslow we are told that in a Roman station Abona, at Sea Mills, upon the Avon below Westbury-upon-Trym, has with great pleasability been ascertained. It is certain that the Romans obtained early possession of Bristol; and in the time of Constantine, the time of the Roman conquest, the Roman possessions included the walls and gates, which inclosed the area now occupied by the most central portions of the town. After the withdrawal of the Roman troops, and at the epoch of the invasion of Cerdic (A.D. 495), who first carried the Saxon arms into Western England, Bristol formed part of the dominions of the princes.
of Cornwall, whose jurisdiction extended over all Somersetshire and part of Gloucestershire. It is recorded in Ellis's 'Specimen of Early English Romances,' that 'a vast army of men under Henry I., went to the sea to defend Bristol 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 30 years. It seems to have maintained its independence until the invasion of Cruda, 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, the town of Bristol was a bordering upon the neighbouring Saxon state of Wessex, and divided from it by the Avon. Caer Odor had now become Bric-stow; and in 596 Jordan, the companion of Augustine, in his mission for the conversion of the Anglo-Saxon princes, visited the place. That at this time it was a great fortress, ascribed to the 8th century, is shown by the presence of the Bishop of Exeter, who subsequently became the site of the monastery, built in honour of the chief missionary, and now the cathedral church of Bristol. In 930 Bristol was held under Athelstan by Alward, as Lord of the Honor. Alward 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 Bristow; so that at this date (1017) it must have possessed some importance. Indeed it is a likely supposition of the time, that its existence may be dated; for we find that upon the condemnation of Earl Godwin (1051) 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 Pope, they obtained a safe-conduct and the body of men on board his fleet from Bristowest. We gather also from the life of Wulstan, who was consecrated Bishop of Worcester A.D. 1062, that Brichtou was, from its convenience as a port, especially for embarkation to Ireland, used commonly for the purpose of expelling slaves: a practice which Wulstan denounced to the Conqueror, who forbade, but failed utterly to extinguish, the inhuman traffic by a royal edict. On the accession of William, Brictric then held the honour in succession from his father Algar; but his son, and the successor of the Abbey of Westminster, of which Wulstan was prior, was imprisoned in Winchester Castle, where he died. The profile 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 charter of 1110, when Earl Ivo, son and heir of 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 headquarters, quartering 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, at least since the Conquest. Then the population the burgesses of Bristol are repeatedly referred to; Bristol then was a hag or walled town: it is also recorded that the burgesses paid to the king in reserved rents, fines, customs, and tolls, 574. 6s. 8d. It follows that it was a very hag, the tenants in which held for the most part immediately under the king. [Borough, p. 125.]

The local government of the city was vested in a prepositus or chief magistrate, who acted under the eustace of the castle, the caput honorum, the constable of which was either the lord of the castle, or the king himself, or, if it had possessed, holding under him or the king. It does not appear that the prepositus was a salaried officer, although, as he was de virtute officii escheator to the king, his reasonable charges on that head were defrayed; but the town was charged with the maintenance of the castle. So it is recorded in Domesday Book as paid to the king, there is this item,—And to the Lord Bishop [Godfrey] 228, which was the precise sum annually paid by the town to the constable of the castle for several subsequent reigns. The prepositor, at the accession of William I., was Hardyngh, a wealthy merchant of the town, and the founder of the Berkeley family. He was continued in his office by the Conqueror, and exercised it for 50 years. It only ceased to be of importance till the reign of Henry I. (1115), by Robert, commonly called Fitzharding, and first Lord of Berkeley. But during this period that of the present city which lies upon the Somersetshire side of the Avon, and comprises, as it was, a parish, the old borough continued a separate jurisdiction and a prepositor of its own. It was called the vil de Radcliffe, and was in every respect the rival of the neighbouring town until the two were incorporated. The estimated number of houses contained by the walls of the old town at this time 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 on it the church of St. Peter at Bristol, and a title of the rents of the old castle. The first of its bishops, the first prepositus, was then, attached to the Honor, and bearing somewhat onerously upon the townsman, 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 Robert, to whom he had, on the death of Rufus, transferred his allegiance. Henry gave the eldest daughter, Mahile, in marriage to his natural son Robert, on whom he conferred the Honor, creating him first (Norman) Earl of Gloucester: the annual rent of 1000 marks, the sum he had paid to the king of money at 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 some time kept confined at his castle. In order to secure him, was removed to Cardiff Castle, where he died. On the death of Henry, Earl Robert maintained Bristol and its castle on behalf of his sister Matilda, against the usurpation of Stephen. The castle he is said to have built; but as a castle it was in existence, the probability is that he enlarged its site and added to its defenses only; and this he appears to have done most effectually, for under him it became one of the largest and strongest fortresses in the kingdom. It occupied about 6 acres of ground, and was built of stone, except upon the tower and the walls, which were 25 ft. thick at the base and 9 at the top. Stephen was brought to this castle after his capture at the battle of Lincoln (1140), and kept prisoner until the following year, when he was exchanged against Earl Robert.

During this stormy period the prepositor of the town, Robert Fitzharding, was employing a portion of his wealth in erecting the abbey of St. Augustine, now the cathedral church; and William of Malmesbury writes that the port was at this time ' the resort of ships coming from Ireland, Germany, and Flanders, and the citizens of Southwark, and of many merchants from all parts of Europe, with many receipts of import and export, which being in native riches should be instituted to the commerce of foreign wealth.' Earl Robert died at Bristol of a severe fever in November, 1147, having previously founded the priory of St. James (subsequently the parochial church of that name) in Bristol, in the choir of which he was buried at his own request, interred. He was succeeded in his earldom by his son William. Henry II. on his accession (1154) resumed the royal jurisdiction over the towns, castles, &c., which belonged to the crown, by taking them into his own hands; but as a castle it was in existence, the possession of the castle of Bristol, when (1175) the earl surrendered it into the king's hand, constituting the king's son his heir, the king at the same time contracting for the marriage of his son John with Isabel the earl's daughter. The rise of Bristol into a free municipal town may now be said to fairly commence, and its progress was rapid in the extreme. For the services rendered to the king's mother during the wars with Stephen the burgesses had a right to expect favours at his hand; but the first gracious act on the king's return from the Holy Land is a charter in which he granted exemption from toll, passage, and custom throughout all the king's lands wherever they shall come, they and their goods. At his father's death, Prince John was Earl of Mortimer (Montagne, Normandy) and Lord of Ireland; and the events of his marriage and death are recorded in the local borough. August 29, 1180, he became also Lord of Bristol, to which city he in the following year granted a charter, which is historically most valuable, for it recites all the existing privileges of the place. From this document we
find that the burgesses were exempted from pleading or being implicated 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 on the hundred in which much of the town lay; from the payment of the censuses of 1248 and 1252, as well as to the death of a stranger killed within the walls: that no one could take an inn (hostipium) within the walls without leave of the burgesses; that they were exempt from toll, lattage (privileged portergato), 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 preposit of Edward would 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 for one in which he had become surety; that he could marry without the license of his lord, and that the lord had wardship only so far as regarded the lands in his own fee; that no one could take tyme (a tax levied in kind in those primitive times ad libitum) except for the use of the lord curf; that the burgesses could grind their corn where they chose, or in the lands of the burh, and give 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 borough land, land held as service (servitutum) and land held on the banks of the river and on 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 recognised.

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 alteration took place in the municipal government of the town. Hitherto the only local magistrate appears to have been the preposit, who also seems to have acted as the king's manorial steward; but now the privilege of choosing a mayor and two preposit was conferred on the burgesses. These were now chosen for life, from henceforth were similar to those of bailiffs or sheriffs, into which offices their own subsequently lapsed; and upon the mayor devolved the duty of escheator to the king. In the 8th of his reign (1252) Henry let the form of the town (thithel) and the city (biafia) of the burgesses to itself, for eight years, at the advanced rent of 245s. per annum, saving to the king certain baillies in the suburbs, and of the priage of beer so much as should be necessary for the use of the castle and the people—after his rent 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 Lawrence and to his wife and eight of his custums sold for weighing 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 250l; and at the termination of ten years the lease was renewed for a term of sixty years, at a rental of 256l. 13s. 4d.

The course of the river Fromo within the town had previously been to the E. of its present channel, so that it passed through a part of the town now called Baldwin Street, joined by a brook below the town, 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 rapid stream. This, however, the port had now however outgrown the extent of this quay, and the burgesses resolving to cut a new course for the quay, 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 1347. The extent of quay obtained by this spirited proceeding was 300 feet in length and 40 yards wide, at a cost of 5000l. For the completion of this undertaking, which for its day wall deserves the title of great, the burgesses of Bristol obtained a writ of mandamus from the king to the burgesses of Rochester, requiring them to render their assistance; and the work was speedily executed, the workmen being employed 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 Bristol shortly became the seat of those manufactories 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 magnis) 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 resisted by the burgesses, who complained also that a custom called cockets was levied on the borough. This 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 the jury; and a tumult 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 were obliged to surrender their burgesses and tenants, seize 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, so that a sovereignty so born with dimensions 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 it a wall and a tower; the barons and barons of the shire, the sheriff of the adjoining counties of Somerset, Gloucester, and Wilts, under writs issued in the midsummer of the preceding year; but the townspeople, encouraged by their mayor, John le Taverner, stoutly resisted their besiegers, and the king requiring men for his warlike service, 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. The sheriff, and the bailiffs and the burgesses and the customs sold for weighing wool and merchandize (in the town of Bristol, for the service of 10s. per annum.)

In the 29th of Edward I.
of the Court of Chancery. In the 6th 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 streets, markets, and commons of the town; the burgesses should have no franchise in the suburbs of the town; and 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 article 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 production by the local papers, it was relieved from so impolitic an impost on petition to the king. In the 15th of Edward III., the parliament having granted a subsidy of 30,000 sacks of wool, London was rated at 303 bags, Bristol at 93, 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 308 weavers; the trade has since altogether retrenched into the adjoining counties.

Reverting to the history of the town during the reigns of Edward I. and II., the first charter was granted by Henry III., and the king requiring vessels of the several ports for the defence of the kingdom, Bristol was commanded to furnish 94 vessels, and Liverpool one small bark. In the war with France, which commenced in the spring of 1242, 643 men were raised in Bristol and Gloucester, and 322 men in the counties of Wiltshire and Somerset. The number of vessels was partly increased by the establishment of the port and settlement of passenger vessels and mariners, and London the same number of vessels with 662 mariners.

A most important step in the municipal history of the town was taken at this time. A charter was granted in the 47th year of Edward I., the charter was to be afterwards confirmed by the king, but did not extend to future mayor shall, by virtue of his office, be seahcater, that the burgesses should annually choose three persons, out of whom the king should select one to be sheriff; and that these might account the king's exchequer for the issues of the same office, the sheriff was given authority to levy for the mayor and sheriff each to hold his monthly court, and to collect the profits thereof to the use of the commonality; it was also provided that the new mayor might be sworn in before his predecessor instead of by 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, hear and determine all felonies, saving all seac, and the jurisdiction of the Tolsey Court to the crown; that the mayor for the time being should be present in all the meetings of the commonalty, and the freemen; that the mayor and sheriff should appoint and put them in execution; that the town should not be burdens 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, and a power of local taxation be possessed by a council of 80, to be elected from time to time by the mayor, sheriff, and commonalty 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, and accountable for all or any sums received or expended. This charter is of infinitely more importance than the Tolsey charter, and was the foundation of all the growth and prosperity which the town enjoyed; it was the foundation on which the city was formed. This charter of the 27th of June, 26 Edw. II., was confirmed by the next 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 all kinds of salt, excepting salt for the table, all of which, 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 officers within the verge of the king's dominions was superseded all others. In the previous year (1395) the town was granted to the mayor and commonalty, 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 keepers of the castle at Bristol, and that part of the town which was the residence of Henry VI. Clement Bagot, the then mayor and exchequer, 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 fund of the town, and 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 the Hebrides, and Ireland, and this, with the importation of vessels attempted is ships and boats; of the former there 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 have arrived at the same time, the ships being large vessels, and the boats 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 cwts., 4 pipes, and 1 cask of iron, 100 pieces of glass, and 10 cases of cutlery, with various quantities of honey, meat, alun, pitch, wine, salt, fish, and cardys (carducy). The imports are infinitely more numerous; and among the most material are 12 tons of iron, 10,000 bales of linen cloths (frishe); 829 pieces of tin, averaging 2 cwts. to the piece; 16,575 lamb-skins; 529 goat-skins; 560 calf-skins; 13,600 yards of cloth and wool; 2,300 yards of satin; 2,000 yards of silk; 2,200 yards of calicoes; 2,000 yards of scarlet silk and damask; 900 bales of hides; 39,000 fish in bulk, and 1,197 packages, principally barrels and pipes of salmon and herrings; 110 barrels of salt; 12 ton of wine; a quantity of leather and hides; and among them will be found a variety of goods. The amount of the exports and imports is 21s. 16s. 10d.; for merchandise entering in and going out through the gates of the town, 5l. 17s. 10d.; for the fines and amercements in the court of Tolsey, 15s. 8s. 4d.; and for the mills, 14s. 4.4d., which, with the land revenues 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 profits severally amounted to 92l. 3s. 2d., 116l. 8s. 5d., and 115l. 13s. 4d.
A time at the accession of 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, was mayor of the town. His mayoralship of the town was recorded 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 acceded to the request of the burgesses, and allowed Henry, re-granted the town to the burgesses for ever on payment of the same annual rent: this charter bears date 12th February, 1461, and it was accompanied, or nearly so, by a grant in fee of the customs for murage, kwayne, and pavage, and by two charters confirmatory 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 equaled 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 adverted 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 here been 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 to 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 king's name to the mayor of the town that Brennus was made to say that he had left the town in possession of 'riches and wealth manifold,' but that since that time 'Bristow had fallen into a decay,' from which there was no hope of recovery without some remedy at the hands of the burgesses. The latter were accordingly rewarded. The king reports that 'after envenom the king sent for the mayre and sheriff, 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 which they had suffered by fire and storms that the king comforted them, that they should set on and make new ships, and exercise their merchandise, 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 towne told me they had not heard these hundred yeares from any king so good a comfort.' The follow-

[North Porch of Redcliff Church.]
erecting a dean and chapter therein. The Gaunts chapel and lands be sold to the corporation. Speed, in the list of suppressed religious houses, contained in his chronicle of Knole, mentions the revenues of this hospital, which was a charity for orphans, 1430; that could not pay its debts; he states at 767l. 15s. 3d.; and of Westbury College, to which Cannynges was so large a benefactor, and wherein, as has been stated, he ended his days, 232l. 14s. In the year fol-
lowing 1636, a pair of prizes were set up in the castle. On the accession of Elizabeth she granted (1558) a charter confirmatory of ancient privileges; and in 1561 the city was finally exempted from the charge of keeping the marches of Wales.

In 1586 it is related that the Aid, a vessel of 200 tons came into Bristol, bringing with her an Engimaux, 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 Frobisher. In 1581 the queen granted a new charter 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; and over 80, London, 23; Bris-
tol, 1; and under 80, London, 44; Bristol, 27: in which there appears either to be some mistake, or that the com-
merce of the kingdom had materially declined. The annual receipt of customs during the reign of Elizabeth was at 10,000/.

London exceeded, 77,000/., of which sum Bristol paid 5000/.

Six years after the accession of James I. (in 1609), Newfoundland was colonized from Bristol. In 1630, in consideration of the sum of 50,000l. Charles I. granted the whole of the lands, buildings, harbours, and town, 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 rent of 40l. per annum. In 1631 the merchant adventurers of Bristol fitted out the Henrietta Marie, and another vessel; the expedition sailed from Kingsrow on the 3rd of May in that year, pur-
posing the discovery of a North-West Passage to China, to which enterprise the merchants of this country were then excited by the report of the immense wealth acquired by the Spaniards in 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. 52°, where, finding his course further impeded, and the winter setting in with danger of injury to his vessels, he adopted the bold expe-
dition of wintering upon four mountains, which he had
wintered on shore. 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 steered their course for England, and arrived in Bristol in October.

In 1634 the customs at Bristol produced annually about 10,000/.; for several years following the receipts exceeded 15,000/. 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. 13s. 4d.: in 1636 the assess-
ments between Bristol and Liverpool were, according to Rushworth, thus distributed:—Bristol, 1 ship of 160 tons, 40 men, and 1000l. charges; Liverpool, no ship, 25l. charges. Bristol had it in its possession but the royalists and parliament were severe. Fynes reports that the 'riches of Bristol since the stop of trade, and many malcontents withdrawing their estates, is much otherwise than is conceived.' To this state of affairs Col. Fynes, who held Bristol unimpaired, 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 a charge of conspiracy, and their estates, to the amount of 5000l., were also seized in 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 country. Bristol paid the whole of this requisition, which was laid on the whole of the redoubt; but at this time the money was levied by the hand of Redoubted post Master. The council of ministers was 200l. per month.

Under the parliament the sum of 3000l. 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 1658 the castle was demolished by order of parliament, their last and best act with regard to Bristol un the civil war.

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 proviso that the members of the corporation should take the oaths of supremacy and allegiance; in 1669 the gov-
erny-general, Sir Robert Sawyer, in pursuance of the king's general attack upon the corporations of the king-
dom, moved for a writ of 'Quo warranto' against that of Bris-
tol. In November, 1668, the corporation, acting under the advice of its law officers, then under the re-
der of the privileges of the city into the king's hands. Upon this surrender, which was never entered, the king granted a charter confirmatory of all old privileges, but vesting the exercise of them all in the existing executive branch of the corporation, and confirming, by act of 1670, the power of electing its successors. The king however re-
tained in his own hands the power of removing any member by an order in council; and the corporation paid him 500l.

In 1667 King James chose to exercise the power reserved by charter of Charles II., and removed by was 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 ancient privileges and modes of election.

By an act of 1711 and 12 William III., the corpora-
tion, 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 Hanham in Glouces-
tershire; and in the 9th of the succeeding reign the same body obtained a similar extension on the Severn. The Queen, in order to ratify and confirm all previous privileges, removed, with every other right of the crown in fines, fees, &c., the power of depositing any member of the corporation by writ of privy council.

The reason of seeking this charter appears to have been some question concerning 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 during the following century. From 1735 to 1757 the average net receipts of the customs at Bristol was 155,189l.; at Liverpool 51,136l.; the net re-
cipt at Bristol in 1764 was 195,000l.; the number of vessels reported inwards 2335. In 1764 the customs at Bristol yielded 334,950l. In 1758 the king, succeeding to the port of Liverpool amounted to 49,541 tons, comprised in 485 vessels; the number of vessels belonging to the port of Bristol in 1757 was 366, with a burthen of 59,560 tons. In the same year the entire trade of Bristol stood thus:—Foreign trade—Br-
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THE PENNY CYCLOPEDIA

Vol. V

No. 326.
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net, to the Mansion-house, on the 2nd of April, 1831. These disturbances were at first nothing more than the expres-
sion 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 the people. But the result of the disturbances was the adoption of various measures taken to prevent a recurrence of the same scenes at the recorder’s visit, Saturday, October 29, 1831, the popular feeling was still more excited, and broke out into open violence. The military were called in, a skirmish took place, and man was shot by a soldier. The spectators to the populace still more, and it was judged prudent that the obnoxious regiment (the 14th) should be marshaled 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, and been repulsed, it was proposed by the magistrates, in any expression of political feeling, were assuming the character of mere rioting and plunder, the indecision 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 guards had been forced and fired. Opinion was divided; some proposed despatching 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 debors rooms with the furniture; and an hour or two from the occurrence the magistrates to the scene of disturbance being un-
armed, 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 mob, there was danger of the town being overpowered, and might have effectually put down the disturbance; the half-dozen dragons 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 transactions of this day, it will be found that the considerable number of the mob actively 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 goal fired. In the evening of the same day (Sun-
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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 territory occupied by the parliamentary borough, which embraces the whole of the out-parishes, except some inconsiderable parts of Bedminster and Westbury, more closely connected with the county than the city. The government of the poor of the in-parishes is vested in a corporation, under 3rd of Geo. IV. cap. 94, 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 precinct of the castle, and 48 persons elected by the ratepayers of the old 12 city wards, 4 to each. The corporation possesses two workhouses, one within the city, anent the mint, but 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 17,000/. per annum; the increase of pauperism in Bristol is shown in the averages of the last two periods of five years, each ending with the years specified.

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
<th>In-poor.</th>
<th>Out-poor.</th>
<th>Population</th>
</tr>
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<tr>
<td>1835</td>
<td>11,630</td>
<td>305</td>
<td>3,089</td>
<td>40,514</td>
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<tr>
<td>1836</td>
<td>33,510</td>
<td>597</td>
<td>4,659</td>
<td>59,074</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 increase of the population.

The increase of pauperism in England and Wales is given above: the increase of pauperism in Bristol is shown in the averages of the last two periods of five years, each ending with the years specified.

To the average of 31,000/. given above must be added an average of 4000/. of uncolllected poor rates annually reassessed in addition under the last act of incorporation (and separately allowed by the justices, although subsequently added to and collected with the rate) upon the entire 19 parishes of the city.

In 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 Westbury they are regulated under the general law. The whole area subject to the local acts of the three parliamentary boroughs does not contain less than 110,000 souls; nor can the rack rent be much under 450,000/., of which 200,000/., 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 occupants of small houses from all payment on the ground of poverty, encouragement is given to speculative building; and small houses, 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 2000/., poor's rate at 31,000/., compensation rate 10,000/., harbour rate at 240/., watch rate at 4500/., and a poor's rate of 10,000/., and reassessments of the whole at 6000/., is 65,900/.; this total has not averaged less than 60,000/., for many years.

The constitution of Bristol return two members to the House of Parliament, and have comprised within 1812, as Act 1833. Prior to the Reform Act the electoral right was in the freeholders and freemen resident and non-resident, in all 6000, 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 of a freeman, by sitting as a freeman within the walls, or by purchase; the price of enrolment in the three first cases was about 3/.; in the last the presumed value of the exemption from town dues, conferred, by admission, regulated the demand; and 300/., has been the average price. The numbers of the ordinary years are 50; in the years of contested elections they averaged from 800 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 old laws were attended with an expenditure of from 20,000/., to 30,000/., 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 the tests 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>Registered</th>
<th>Householders</th>
<th>Freeholders</th>
<th>Freemen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1832</td>
<td>4138</td>
<td>868</td>
<td>5309</td>
<td>10,315</td>
</tr>
<tr>
<td>1833</td>
<td>3817</td>
<td>933</td>
<td>5383</td>
<td>10,133</td>
</tr>
<tr>
<td>1834</td>
<td>3759</td>
<td>953</td>
<td>5388</td>
<td>10,100</td>
</tr>
<tr>
<td>1835</td>
<td>4713</td>
<td>1302</td>
<td>4332</td>
<td>10,347</td>
</tr>
</tbody>
</table>

For municipal purposes Bristol, as already observed, is now divided into 16 wards. The number of rated properties within the boundary is 19,227, which 10,425 are within the old city bounds; but the municipal constituency does not at present exceed 4000.

Trade.—The foreign trade of Bristol principally consists, in imports, of sugar, rum, wine, brandy, colonial and Baltic timber, tallow, refined wine, the grape, the cotton, and when the ports are open, wheat, and, within the year 1835, tea. In 1831 the import of foreign corn was 147,076 quarters; in 1832, the last, 32,000 quarters. In 1834 the customs revenue for the three quarters ending Michaelmas was 762,221.; for the three corresponding quarters of 1835 it was 899,776.; the increase of 127,575. is attributable to the new traffic opened with China. The average import of sugar is about 36,000 hogsheads; of tallow, 6799 casks; of wine, 1615 pipes; of rum, 2553 punchcans; of brandy, 115,192 gallons; and in the foreign trade about 10,000 tons of shipping are engaged. The principal articles of export are iron, tin, bricks, 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, commencing January 1, 1835, on the average of the 5 first and the 3 last years ending with the 31st 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>80,556</td>
<td>52,730</td>
<td>£403,881</td>
</tr>
<tr>
<td>1833</td>
<td>57,269</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 245 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 supply of coastwise, is attributed partly to the increase of local taxation in the shape of municipal and other imposts levied upon shipping and goods. The following are 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 transhipment, The

3 K 2
amounts collected average 42,000l. per annum, but the pressure is to be estimated rather than 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>Tonnage</th>
<th>Tonnage</th>
<th>Export value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outwards 290,000; including steam-vessels, 134,807.</td>
<td>do. 275,684</td>
<td>do. 134,615.</td>
</tr>
</tbody>
</table>

Bristol, upon the same average, takes from Ireland among other articles, 1159 tons of butter, 37,966 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, 99,058 lbs. of tea, and 5509 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 this increase has been subsequent to and consequent on the entire removal of duty in 1844 under the coasting and Irish trades, without which the trade by steam could scarcely have had existence: the effect of this on the Irish trade may be estimated from the following figures:

Year ending Jan. 5, 1824, 1834, and 1835, the average

<table>
<thead>
<tr>
<th>Tonnage</th>
<th>Tonnage</th>
<th>Export value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td>32,709</td>
<td>£125,899</td>
</tr>
<tr>
<td>75,573</td>
<td>96,764</td>
<td>286,000</td>
</tr>
</tbody>
</table>

The existing manufactures of Bristol are glass bottles, crown and flat glass, brass wire, pewter, sheet zinc, spelter, chain cables, anchors, machinery, drugs, calicoes, dyed, 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 long been known; but manufacturing 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, wares, metals, iron, and other provisions, and great facilities of internal conveyance, is mainly to be attributed to the habits of the people, their predilection, and impolitic excess of local taxation which even now compels the manufacturer often 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 contain some beautiful specimens of ancient English ecclesiastical architecture, the finest of which is the tower and nave 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, a part of the abbey of St. Augustine, the Norman gateway of which presents some of the florid specimens of its style in England. The proportions of the arch are in the original somewhat destroyed by the raising of the ground, and the effect is otherwise weakened by the introduction of modern arcades; in the annexed sketch the ancient window is restored.

Forty religious societies connected with the establishment and the various dissenting bodies of Bristol collect annually in furtherance of the peculiar views of their members about 10,000/. This is in addition to 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 erected by Sir R. Smirke, and surrounded 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 ancient building. The Mansion House, burnt down in 1831, has not been rebuilt. The gaol was destroyed in 1830, and was the first of its kind in 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 old drawbridge, crosses the harbour, connecting the parishes of Clifton and St. Augustine with the city; and two iron bridges, each with one arch spanning 150 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 overfall dam erected above the Bristol bridge in St. Philip's Marsh to the entrance lock at Rowham, including the branch of the Frome within the quays of St. Augustine and St. Stephen, into one floating harbour, about 3 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 yards; but these limits admit of any extension along the banks of the harbour below the town which the increase of trade could require. The place is divided by two basins for the temporary accommodation of vessels entering the Avon. The principal basin is that of Rowham, 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 into the Avon. The second basin lies south of the quay, containing along 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 about 175 yards long, and averaged 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 300,000l.; their actual cost exceeded 600,000l., which sum was made up, under the powers of four acts of parliament obtained subsequent to the instituting act, by force called upon the subscribers to the original subscription of 100l. to 147l. each, and by loans. The present capital of the company is 594,059l., of which 268,342l. is debt, bearing interest at five per cent.; the remainder of the capital is comprised in 209 shares, on which the maximum dividend amounting to 5l. per share, is regularly paid. The company has been in existence for a long time wholly unproductive, and the dividend when made seldom exceeds 2 per cent. The income of the company averages about 31,000l., of which 20,000l. arises from a tonnage on vessels, 7000l. from the rates on foreign goods, 1200l. from the rates on stores and 910l. from the property of the city parishes, and the remainder from lockages, canal rates, boat licences, and other inconsiderable sources of income. The cost of maintenance averages about 700l. The dock rates on vessels and goods far exceed the corresponding rates in the West India Dock, London, and the Clyde at Greenock. The rates on goods have been recently reduced.

The affairs of the dock company are managed by a directorate of 27 gentlemen, 9 of whom are chosen by the proprietors, 9 by the corporation, in whom the docks vest after payment of the debt and capital, and 9 by the Society of Merchant Venturers, an ancient guild which has outlived its original purpose. (Corporation Report, p. 1202.)

The customs-house and excise offices, destroyed during the riots, are re-building on their old sites in Queen Square. The new wharves of the Avon Street, which were opened in 1811, having been erected 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 voluntary subscriptions from merchants in the city, and the market, which was erected in 1825 in the town dues were consequent upon the exertions of this body; of late however its labours have been of very limited utility, and are likely to be shortly altogether superseded by the legitimate guardians of the commerce of the port—the new town council. In 1823, companies at Bristol, the first the Coal Gas Company, erected under 59th of Geo. III., with a capital of 100,000l.; the second the Oil Gas Company, erected under 4th of Geo. IV., with a capital of 30,000l. By the former company the public are supplied with gas for light, also with gas for heating purposes, and by the latter with the gas for lighting purposes of the adjoining parishes of Clifton. The Great Western Railway Company have already commenced their line, which is to unite Bristol with the metropolis. The capital is 2,500,000l. Two companies have since been formed, the first with a capital of 200,000l., to work a line to Exeter, the second with a capital of 1,000,000l., for continuing the line from Exeter to Plymouth and Devonport. A Bristol and Gloucestershire Railway Company already exists, with a line of 9 m. in extent, from the city of Bristol to Coal-pit Heath. It was opened on 24th August, 1833, previous to which a shorter line of 34 m., connecting the collieries with the Kennet and Avon canal, had been in operation from the March of 1832, during which intervening period the company had sunk 33 miles of tunnel. The principal stations, at Fore Street, are on the line from less than an average of 1000 tons per mouth, to an average exceeding 3000 tons. It is intended to extend the line from Coal-pit Heath to Gloucester, the capital for which has been subscribed.

There are various establishments in Bristol, including the branch of the Bank of England and the Savings Bank: two are on the principle of an extended proprietary, one being a branch of the northern and central bank, the head-quarters of which are at Manchester, and the other having its head-quarters at Bristol. The latter, under the title of the West of England and South Wales District Bank, has a capital of 1,000,000l., in shares of 20l., and commenced business December 1835.

The Savings Bank, instituted in 1813, has a capital of 2,811l., due to the earnest exertions and liberality of John Bateman, Wills, and others. The company, to which the last published account made up to the 20th November, 1835, is as follows—
The Bristol Institution, a handsom building erected in Park Street, by shares of 5s. 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 objects; among them, Bally's statue of Eve at the fountain, and a complete set of casts from the Etruscan marbles. It possesses a very fine cabinet of British and foreign insects, Müller's collection of criminal remains, the originals upon which his great work on the natural history of the criminal was founded; and minerals, the characteristic 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 rooms, visited and examined by a great number of the society, are occasionaly 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 fossils, casts, portraits, etc., are often given by a local society of artists, associated for the purpose 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 opened 1827. To these two institutions, more than 2000 guineas are annually subscribed, besides a proprietors' share of 126, paid by them. The Bristol Law 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 proprietary share of 126. The library consisits of about 15,000 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 has granted both the books and the building to the society to be used by it, in return, under the direction of the mayor, sheriffs, and chamberlain, as members of its society. The Bristol Law Library, in Clare Street, possesses 498 sets of books, including complete sets of all the Reports, and the best theoretical and practical professors. There are also a number of inhabited houses, the members of which meet in a building, formerly the French Protestant Chapel, in Orchard Street, where papers on medical subjects are occasionally read.

The Bristol college was founded in 1830 by a proprietary body of a grammar school, and is called the Old School of Bristol, a scientific and classical education at a moderate charge, without quitting their homes. It is situated in Park Row, and is open to students of all religious denominations. Shortly after the opening of the college, in January, 1831, a junta was formed and a number of classical studies were pursued. The school consists of a number of pupils, and is under the direction of a master who has a classical education. Discipline is maintained without recourse being had in any instance to corporal punishment. The Bristol Medical School, established on its present efficient scale in 1843, is held in the Old Park near the Bristol college, and furnishes a considerable course of lectures to be attended at its chamber, as a school of anatomy, medicine, and chemistry, ranks very high, and the certificates of its professors are recognized at Apothecaries' Hall. There are about 300 classes in ordinary business daily in Bristol; and the number of Sunday schools is considerably larger. Twelve of the 30 days schools are endowed; in the whole are educated 2000 children, and in the Sunday schools not less than 10,000. The income of the endowed schools is nearly 200L., for which are wholly maintained, educated, and apprenticed 169 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, and the income estimated at £200, is far exceeded. The endowed schools the principal is the Free Grammar School, instituted for the purpose of educating freely all who may resort thereto in "good literature." The school has two fellowships at St. John's College, Oxford, and five exhibitions at the same university, only one of which is endowed, but under the trusteeship of the late corporation it has ceased to have a scholar.

Among the charitable institutions of Bristol are the Infirmary, founded in 1735, stands pre-eminent: it is a large building with accommodation for 100 inmates, the average number of whom in the year is 1600: the average number of out-patients is 5000; all casualties are admitted on presentation at the door. The income of the institution is 7000L. per annum, of which 2200L. arises from annual subscriptions of two guineas, the remainder from funded property, legacies and donations. The Bristol General Hospital, instituted in 1832 at the opposite end of the town, is a much smaller establishment, and principally remarkable for its stictipendary ward and self-supporting dispensary, to which the patients contribute a small sum; 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 two stations at separate ends of the city, is supported by an income of nearly 2700L., including about 300 midwifery cases. Its income, arising from subscriptions, averages 1000L. per annum. Among other minor institutions of a similar character are two for the cure of diseases of the eyes. The one in Maud- Lane is supported by a subscription from the Corporation, and has an asylum and basket manufacture annexed: that in Frogmore Street exists entirely on voluntary contributions, and treats 1300 patients annually, Boarding some of them, at an expense of 70L. only. There are besides about 40 voluntary hospitals in Bristol, in which a large number of patients are treated, and the patients pay for their treatment. The City has a hospital for the poor, for 200L. per annum, and another for the insane, in the poor rate, 200L. The sums collected are divided among the poor, and the remainder is appropriated to the maintenance of schools and the poor endowments. This statement does not include casual charitable collections, which sometimes extend from 500L. to 800L. Bristol is a much more populous area, than 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 in the immediate neighbourhood of Bristol are composed of carboniferous and lias; the latter overlies the red sand-stone formation with the dolomitic conglomerate; in the last formation there have recently been discovered some saurian remains, which form three new genera. The ranges of mountain limestone at St. Vincent's, hills are remarkably fine, coal-fields extend N. and S. of the city about 25 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 temperature of which from the pump is 74° Fahrenheit, and the water is remarkably free from carbonic acid gas, and in consumptive cases. Its composition is thus given by Dr. Carrick:—Specific gravity f0077. In each pint—carbonic acid, 3.5 cub. in.; carbonate of lime, 1.5 gr.; sulphate of magnesia, 0.5 gr.; carbonate of lime, 25 gr.; muriate of soda, 25 gr.; of magnesia, 10 gr.; of lime, 6 gr. The water is beautifully situated beneath the rocks, looking on the river, along the banks of which a fine new carriage road leads from the west round the rocks to Clifton Down; but a reader of the rocks of the village of Clifton, which is the fashionable retreat—the west coast, flanked 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 scenery around Bristol is in the country highly interesting. In a catalogue recently issued by the manager (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 Leightor in the opposite shore. The phenomena of the tides having recently attracted considerable attention, a self-regis-
tering tide gauge, contrived by Mr. Sbirreff, the sub-curator of the Bristol institution, was, upon the suggestion of Pro-
fessor Whewell, erected at Kingroad, about halfway be-
tween the mouth of the river, and the end of 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 the following tables compiled 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 between
the height of the tide at springs and neaps, observed on the gauge during 1822, 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 dif-
fERENCE 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 which very clearly shows the method by which the height of the wave maintaining the same level is clearly erroneous. The temperature, pre-
vailing winds, &c., are shown in the annexed tables for the last six years:

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 co. occupies the Ex-
tension of the state and joins the co. of the same name in
Massachusetts. The pop. in 1810 amounted to 5072; in
1820 to 5657; and in 1830 to 6436.
Bristol, a seaport and principal town of the above
island, is situated at the mouth 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 bar is safe and commodious, and the place has considerable trade; the shipping belonging to this port amounting on the 31st December, 1831, to 3365 tons; the ex-
ports consist of agricultural produce drawn from the neigh-
bouring country, the soil of which is very fertile. The town
contained in 1830 a pop. of 3052; it has 5 incorporated banks, the aggregate capitals of which amount to 456,000 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 40 m. S.W. of Boston.

BRISTOL CHANNEL. [S.tern.]—A term borrowed from the French and ap-
plied, in general, to any port, whether of the coast or of the
parapet which deviates from the general direction. Thus a
front of fortification with retired flanks, the part of the
curtain immediately contiguous to each flank, which is traced
outwards to the central part and in the direction of the pro-
duced faces of the flank, is called a parapet; whilst the general
batter of the curtain. An example of this kind of brisure is shew-
at in (fig. 1) in the article BASTION. In field fortification
the faces of a star fort and of any indented line of parapet are
called brisé.

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
inhabitants 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 Kyklados of Herodotus, and the Cimbri of
the Roman books) who were being attacked by the Seythians
from their more ancient seats. N. of the Oxus, travelled
Europe in a N.W. direction, and found new settlements
near the Baltic and the mouth of the Elbe. These bar-
barians then reached Britain by the same route which was
subsequently 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 Gascany, and another from Armorica. At
a later period the Belgm, actuated by martial restlessness or
love of plunder, assailed the S. of the island. They
destroyed the city of the ist., and settled there, driving the Celts into the inland country. These Belgm were a branch of the great Teutonic family.

Before the arrival of Julius Caesar in Britain the ist.
was but imperfectly known to the more civilised nations of
the antient world. The people of Carthage and Massalia (called
Massallia by the Greeks) or Marseille, traded for tin with
several insular settlements on the S. of Vannium, called the ist., and left a name to the
inhabitants which is perpetuated in the island. The

etymology of the word Britain has been much disputed.
One of the most plausible is that which derives it from a
Celtic word britten, or brit, ' painted' (Cammed); in
which name it is supposed there is a reference to the custom
of the inhabitants colouring the curtains of the fortifications extracted from woad. Carte
says, that the name in the 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 Prythain, if it be anything
more than a corrupt form derived from the root brit, 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 writer upon whom any authentic particulars respecting the ist. 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 Bretagne),
and other maritime peoples 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 ist. (who alone of the Gauls had any ac-
quaintance with the coast of Britain), to learn from their
inquirers, 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 lead his ship and trust himself on
shore among the natives. Caesar, no way deterred by 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 the Belgae to the British in their native states from which they emigrated to this island, in which they made war and settled, and began to till the land. The population is very great, and the buildings very numerous, closely resembling those of the Gauls; the quantity of corn is considerable. For more than the copper rings 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 which is found in Britain except birch. The climate is very temperate, being advantageous to the heirloom, and the hen, and the goose; these animals however 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 opposite 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 500 m. The next side looks into Spain and the setting sun, and this is the Hilinum (Ireland), considered to be about the half 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 are thought to lie in the passage, concerning which nothing is written. But the solstices 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 side, according to our measure, is about 700 m. The third side fronts 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 2000 m. in circuit.

Of all the nations, 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 scorn, but live on milk and flesh, and have their clothing of skins. All the Britons however stain themselves with woad (se vitro inficiunt), 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 part of the body except the head and the upper lip. Even the women shave them by the mouth, and 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. 12, 14.)

As all 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 features. So much subserviency," he says, 'of one part of the nation written by Caesar is, that the means of influence and of the habits of obedience, is not without resemblance to that system of ancient Asia which confined men to hereditary occupations, and consequently vested in the sacrificial caste a power founded in the exclusive knowledge and control of the highest. (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. The origin seems to be lost in Caesar in the passage which it is about to quote. Nor are we at all instructed as to 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 mask 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:

They keep in this sort of things; they have the charge of sacrifices, both public and private; they give directions for the ordinances of religious worship (religiones interpreterrur). A great number of young men resort to them for the purpose of instruction in their system, and they are held in high estimation. For it is they who determine most disputes, whether of the affairs of the state or of individuals: and if any crime has been committed, if a man has been slain, if there is a contest concerning an inheritance or the boundaries of their lands, it is the Druids who are called in; for they have the following powers and decrees: 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 ungodly and accursed; all fly from them, and shun their approach and their conversation, lest they 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 preside, to whom they pay the highest respect; and in all transactions among them. Upon their death, if there is any other of the other Druids of superior worth; if there are others more than one who have equal claims, a successor is appointed by the votes of the Druids; and the religion is sometimes decided by force of arms. These are the things which Caesar mentions a little before the end of the century of the Carnutes (people of 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 literature, and submit themselves to the decisions of this system. Druidism is thought to have been formed in Britain, and then 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 Britons do not commonly engage in war, neither do they pay taxes from the rich to the poor; 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 up among them, and others are sent by their parents and connexions. 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 things, in the accounts of the state and of individuals, the Druids have adopted this practice. This system of knowledge is secret; and the Druids who 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 pupil, when he is a written character, 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 that there is no death, not even that which does not perish, but after death pass into other bodies; and they contrive a fiction, that when any thing else men may be led to cast away the fear of death, and to become courageous. They discuss more or less points concerning the heavenly bodies and their movements, of the sea and the world, the nature of things, the influence and importance 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 any danger, or violence, offer 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 secured, unless the life of one man be offered up for that of others. The Druids are also sometimes 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 setting them on fire, the men are destroyed by the flames. They consider that the torture of those who have been taken in the com-
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 scrip not to inflict 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 that he has the greatest influence in the pursuit of wealth and in 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 preserver, and that 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 stay all living creatures that are found among the spoil; the other things they gather into one spot. In many states, he raised 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 by the months and years, that the day shall come after the night. (Cæsar de Bell. Gull., lib. vi. 13, 14, 16, 17, 18.)

Although in what relates to is closely connected with the system of the Druids, we have quoted that part of Cæsar's account which crosses the Thames, we have not thought ourselves 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 a 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 behold the steep cliffs which skirted the shore covered with armed natives ready to display their strength, and to oppose every encounter 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 and level beach which presented itself to him. The place was at the mouth of the Thames, which he had not crossed on his prosecution of his first expedition, and he landed somewhat on the flat shore which extends from Walmer castle towards Sandwich. He did not make good his landing without a severe struggle. The success of the invaders, however hardly earned, and though somewhat incomplete, dispersed 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 Cæsar, induced them to renew the contest, and to attempt, first, the surprise of one of the larger parts of the island, and then the capture of the attack of the Roman army. They were again beaten, and compelled to sue for peace; and Cæsar, anxious to return, contented himself with requiring an increased number of hostages, whom he commanded to be brought to him, either from the parts of the continent, for which he had exhibited in the coast. 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, invaded the island with a much larger force. His fleet consisted of 900 vessels of all sizes, including some which belonged to private individuals; and the natives, who had assembled to oppose his landing, terrified 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 bad been formerly constructed probably in some domestic war. This strong hold is supposed by Horsley to have been subsequently the Roman station of Durovernum, 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 it. In the interval of some days Cæsar sent to his former post he found that the natives had augmented their forces from all parts, and had entrusted the command in chief to Cassivellaunus, (we use Cæsar's mode of writing the name, perhaps the native form of it was Cæs-va-llaunus or Cæs-ve-artus,) a prince whose territories were divided into 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 undaunted valour, nor the increased number of the Britons, enabled them to withstand the superior discipline and equipment of Cæsar's troops. After some obstinate struggles, Cassivellaunus dismissed the greater part of his forces, desiring about 4000 charioteers, whose skill in the management of their chariots rendered them very formidable, and retired, as it appears, into his own dominions on the coast of Armorica, and left his fleet and a greater number of men 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 Cassivellaunus. 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 Cassivellaunus to submit. The conqueror demanded hostages, fixed a tribute to be 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 into view. As to the place where the Origines locorum, of Caesar, states that Calendius or Calamus, fixed his town, the Romans have never been able to find it. Cæsar fixes it at Coway or Covey stanes, near Chertsey in Surrey, and Mr. Gale, in the 'Archæologia' (vol. i. p. 183), addsuce several strong arguments in support of Camden's opinion. In fact the stanes are described as they remained in 1803, as having the form of a lozenge, written by a later writer. To this we add strong Mr. Horsley's opinion that Cæsar crossed just above Kingston must give place. The town of Cassivellaunus is supposed to have been Verulamium (Verulam) near St. Albans.

The tribes with whom the Romans in this expedition became acquainted were as follows: we give also their names as written by Ptolemy, where they have been identified or where identity is conjectured by antiquaries. The positions are those laid down or suggested in the map published by the Society for the Diffusion of Useful Knowledge, 'Ancient and Modern Britain,' part i., with the exception of the Cassi, as to which we give Camden's conjecture:—

Cæsar. | Ptolemy. | Inhabitants of
---|---|---
Trinobantes | Trinovantes. | Es.
Anaciltes. | Anaciltes. | not mentioned.
Bibraci. | Bibraci. | parts of Hants.
Cassi. | Cassi. | Kent and Berks.

Of what tribe Cassivellaunus was originally the head it is difficult to say. The Trinobantes, Cenomanni, Segontiaci,
Andilebites, Britons, and Cassi submitted to Caesar before the final defeat of the Britons, 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 the town, this must have been in the territory of the Cassi, according to Camden's opinion of his situation, and within their lands. It is conjecture it would be this: that Casselvetrenicus was prince of the people called Catuvellani (known by Ptolemy, and Caustellani, Catuvellani by Dion, who are given in the Society's and other maps, as occupying the whole or part of Hereford, Buckinghamshire, and Northamptonshire; that the central district of this people was much less than has just been stated, but that they had subjected to their sway the Trinobantes, the Cennomagi, and the other tribes, except perhaps the people of Cantium), mentioned by Caesar; that the defeat of Casselvetrenicus (talked of in a passage more than a century later) induced the Romans, they were again reduced to subjection, and, with the exception of the Trinobantes and Cennomagi, so completely subdued, as to have lost their distinctive appellations, and to have been therefore included by Ptolemy under the name, and in the manner, of the description of their conquering tribe. The fact that Caesar does not mention the Catuvellani, nor Ptolemy the subjected tribes, unless under different names, is favorable to this conjecture. The Trinobantes, whose independence Caesar took pains to secure, appear in Ptolemy under their own name, and, therefore, probably, retained their independence, but not, 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 any attempt at the subjugation 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, leaving the Britons here for about a century, or going no farther than to threaten as attack. In the interval these 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 about one in four, though a Cassius (Dion), belong to a period of Cunobelin; (so on his coins, Cunobellinus in Sessorianum, Cunobellinus in Dioc 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 connexion 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 Aedui and Remi in Gaul), while the Romans would be willing to keep up an alliance in the island, which was of use to them whenever they were disposed and able to resume their schemes of conquest. The money of Cunobelin is supposed to have been the work of a Roman artist, or of some Gauls familiar with Roman coinage. The subject 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, they still retain their own independence, 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 find them with the lay in opposition to the innovation been sent by the Emperor Claudius, that are still called Causettani (whom we have conjectured to be the people of Casselvetrenicus) took either no part or at least not a prominent one; and this not want of power, for we find from Dion (Dion Cassius, 40, 50) that Camulodunum (now Colchester) was subject to them. Perhaps the Catuvellani was the independent part of the island, including nations for whom the most part were of Belgic origin, and who had either submitted without a struggle to the Roman sway, or had been subdued by Ptolemy and Cassius, or had willingly embraced the dominion of Ptolemy, and were subject to him. This was a part of the Celtae, and the Trinobantes of Belgic origin; and, in this connexion, 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, commanded 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 Bocius (Berice). The Roman soldiers were at first unwilling to leave their quarters in Gaul to engage in an expedition beyond the boundaries of the island, but were prevailed on to embark. The Britons did not resist their landing, but that night the town was occupied in two battles, in the first of which they were commanded by Catarius (Catarius, Dion), in the second by Togodunus (Togodunos, Dion), the sons of the now deceased Cunobelin. The success of the Romans disheartened some of the natives, and part of the Britons (whom probably the Dobuni (Doboninus) of Ptolemy, who dwelt in and about Gloucestershire, submitted. From the country of these new subjects Plautius advanced to a river (supposed to be the Severn), thought by the Britons to be impassable without a bridge; and having a body of Gallic auxiliaries, and after them his lieutenant, the brothers Flavius Vespasian (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 contest the vanquished natives retreated eastward to the marches near the mouth of the Thames (Tapuria, Dion) (the marshes of Essex), where another island was made with great slaughter and difficulty, called Timacum after Togodunus appears to have fallen; and the Britons, routed by the defeat of Venes, essayed 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, whose presence he solicited. Claudius embarked with some auxiliaries, and the same elephants; and landing at Mactili, 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 Camulodunum (Cassiaodovoue, Dion), the capital of Cunobelin, and forced numbers of the Saxons to desert. Claudius had been long suspected of having ravaged in his coinage. An ancient inscription refers to him the addition of the Cæsars to the Roman empire. The coin of which we give an engraving is one of those containing his British conquests.
the tribes mentioned by Caesar and given in a foregoing table; by the Iceni and Atrebatai, who are supposed by many to be mentioned by Caesar under the names of Cent
manci and Avelacites, by the Catuvellaunians or Catuvetchai, whom we have conjectured to be the native tribe of Cassi
derius, and by the Dobunni; and by the following people not yet noticed:—

Dumnionii or Dumnonii (Sis. Ant., Autogapaei, Plin.),
people of Devonshire and Cornwall.

Durotriges, Autogapaei (Plin.), people in and about Dor
set.

Belgæ, Bulcæ (Plin.), people of Somersetsire, Wilt, and 
Hants. The name of their capital, Venta (Kenena, Plin.),
is preserved in Win-chester.

Regni (Pyroioi, Plin.), people of Surrey and Sussex.

The Iceni had the name of their tribe so valued; 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 Trinovantes and Catuvellaunians) 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 who were hesitating between peace and war. He then advanced to a place which Tacitus says he whose name has 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 Romano-Britons, perhaps as neighbors. It does not appear in Tacitus how far the Roman connection was acknowledged by the Iceni. 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 against the Catu
vellaunians, who we presume to have been to the north 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 Brigantian people (by-vriges, Plin.), the people of Yorkshire and Lancashire. He had quelled the rebels and recovered the allegiance of the tribes, and was on the very point of marching against the Silures and Syriacs (BilegsÆ, Plin.), a people of South Wales, whom Tacitus (Ann. xi) supposes (ap
parently without any good reason,) from their dark complexions, 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 Brit
tain. That no apprehension of a rising in his rear might impede his progress he settled a colony of veterans at Camulodunum to repulse the Iceni and other neighbouring tribes, and to inure the conquered to the yoke of the Romans. Although the name of Cataraecis, or, according to the orthography of Tacitus, Caratacus, 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 the authority which he held was not confined to the Trinovantes, of which nation we have supposed him to be the hereditary prince: he was probably, with his brother, at the head of a large host, and under the command of the great Julius Cæsar. 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 a victory—and raised his standard in the Britons, and a celebrity to Rome itself; and his presence among them as their commander added to the relative con
fidence of the Silures. (Tacit. Ann. xii. 33. 36.) The sea of war was transferred into the country of the Orcebi (Oresticus, Plin.) people of N. Wales and Shropshire, by Catuvellaunian arms, when they were forced to abandon the Roman yoke, and who now determined to make a decisive stand against the Romans. He posted his forces upon a steep ascents, and fortified the approaches by a rampart of loose stones; a river which afforded no means of escape from him was enclosed within a strong position, and his best troops 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 Cæsar, secured themselves from the punishments and burdens of the Romans, and preserved undefiled the persons of their wives and children. The Britons responded to the exhortations of their commander. But their native valour was un
matched by their arms, and their descent was the destruction of their enemy. Their position was stormed; the victory was complete; the wife and daughter of Caratacus were taken; his brothers surrendered themselves; and the gallant prince himself was put in chains by Carataucus, queen of the Brigantes, whom the Romans had suffered 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 the sentence of his death was left open. (Tacit. Ann. xii. 36.) As it was irresistible. (Tacit. Ann. xii. 37.) His subsequent history is unknown. His defeat and capture probably took place A.D. 51. The lament of a triumph were decreed to Ostorius; but his successors ended with the defeat of Caratacus. An offer left with some other to establish a permanent station among the Silures was slain, and his men nearly cut off; and shortly after the Roman foregazers were attacked, and with the troops sent to their aid routed; and it was only by bringing up his legions that Ostorius could check the flight, which had been restored to the Celtis. He was harassed after this with repeated skirmishes, and the obsti
nate resistance of the Silures was stimulated by a declara
tion of Claudius 'that their very name must be blotted out.' A victory over a body of auxiliaries, and the liberal distribution of their trophies, by the emperor, quelled the remaining tribe. The war of the Silures, their allies, and 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 war which brought him to the grave.' The war of the Silures, the Cimbrians, the Con
domini, their allies, and other tribes, was the last in 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 command. Venutius, a Brigantian, had married the queen of Caratacus, and was the expected leader of the Britons after the death of Ostorius. He did not appear to have gained any signal advantage. His com
mand lasted into the reign of Nero, the successor of Clau
dius, probably till A.D. 57. Venutius, 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 dis
cipline had not the Romans been so advanced in the art of war in Armenia, and Suetonius was anxious to gain in the W. a name equal to that which Corbulus was acquiring in the E. He attacked the island of Mona (now Anglesea,) trans
ported his infantry over the straits which divide that island from the main land (the Menai) in flat-bottomed boats, forcing 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 Tacitus. (Annales, l. iv. c. 50.)

In the army of Cæsar 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 were Druids, who, pouring forth curses and lifting up their arms to heaven, exhorted the Britons to resist the Romans with every strength of courage and manliness into the hearts of the soldiers, who, as if they had lost the use of their limbs, exposed themselves motion
less to the stroke of the enemy. At last, moved by the exhortations of their leader, and stimulating one another to direct a blow with arms, they aroused themselves from their onset, 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 suppers were cut down. For this did it right: it sent its altars with the blood of their captives, and used to consult the will of the gods by the quivering of human flesh.

From the shores of the extreme W. Suetonius was re
called by the news of a great rising of the natives under Boudicca, in that part of the is. which had been already subdued by the Romans. (Boadicæa.)
The revolt of Boadicea 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. (Nolte's Hist. of England.) 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 chief civil or rather the fiscal officer of the Romans quarrelled with Suetonius, 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 Turpilianus 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. 70-78, in whose reign Petullus Cerialis subduéd the Brigantes, who, under Venutius, had renewed hostilities; and Julius Frontinus subdued the Silures. But the glory of completing the conquest of South Britain was reserved for C. Julius Agricola, whose actions are recorded by his son-in-law the historian Tacitus. [AGRICOLA.]

Boiled in their own tears the executioners of these brave governors were during the reign of Domitian, we read little about Britain in the Roman historians until the reign of Hadrian (A.D. 85 to 120), who visited the island, which had been much disturbed. The conquests which Agricola made in Caledonia seem to have been speedily lost, and the emperor fended in the Roman territory by a rampart of turf, 80 Roman, or about 74 English, ft. long. This rampart extended from the estuary Iuna, (Ferry crossing, Plt.), Solway Firth to the German Ocean, a little south of the modern wall afterwards built by the Emperor Severus. (Allius Spartan, Life of Hadrian.) In the subsequent reign of Antonius 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 Agricola's line of stations between the Forth and Clyde. [ANTONIUS, WALL OF.]

In the following reign of M. Aurelius Antoninus (A.D. 161 to 180) we have some notice of wars in Britain, which Calpurnius Agricola was sent to quell. (Capitolinus, Life of Aurelius Antoninus.) 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, Ulpius Marcellus, an able leader, who defeated the Caledonians with heavy loss. A great mutiny among the legionaries 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 Clodius 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 Clodius 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 renewing 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 province, he had certainly been forced to retreat; but the emperor lost, says Xiphilin, 56,000 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 Maetates (Menarae), who dwelt nearest to the coast of Britain, and the Boz, who were 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 poniarid, 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, the portable tent of the Britons being made of thatch, and 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 even in 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 antient historians, is given with great diversity. It is probable that it was 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 line of fort or stations, with perhaps a military way between them. This line of stations is by the above writers ascribed to Agricola; conjecture guides them, we believe, rather than testimony. The extent of the works of Agricola is however disputed. Hutton describes them in agger or mound, with a double ditch, and a second agger or rampart, being about 12 ft. wide. 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 have inferred that they were formed by the same person. The rampart of Severus, which in other parts of 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 of them from Hutton, conveying the best information as to the works themselves, without affixing the correctness of his statement as to their authors:—

There were four different works in this great barrier performed by the same person 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 dreadful 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 3 ft. high, and 30 wide in the base; this, with the ditch, will have been 36 ft. above the low water mark. If the bank sinks into a ditch 10 ft. deep and 15 wide, which gives the N. side of this bank a declivity of 20 ft. A small part of the soil thrown out on the N. side of this 15 ft. ditch forms a bank 5 ft. high and 6 wide, which gives an elevation from the bottom of the ditch of 3 ft. Thus we have 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 Hadrians 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 of 27 ft. wide, at the S., and on the N. 12. Then follows a plain of level terraces, and Serps, 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. . . .

Severus’s work, however, paled with the other two; 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.

* 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 16, which is not perfectly true; 81 castles, and 350 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 Roman Roads, 24 ft. wide, and 18 in. high in the central part, with two mounds of earth at each side, another, and still larger and more distant roads from the wall, which led from one station to another, besides the grand military way before mentioned (now the main road from Newcastle to Carlisle), which covered all the works, and no doubt was first formed by Agricola, improved by Hadrian, and, after lying dormant fifteen hundred years, was made complete in 1752. I saw many of these smaller roads, all overgrown with turf; and when on the side of a hill, they are supported on the lower side with edging stones. (History of the Roman Wall, pp. 138-140."

The vigorous proceedings of Severus had induced the natives to sue for peace; but upon the return of the emperor to South Britain they resumed hostilities. He prepared forthwith to enter their country, and resolved upon the expedition of 211. The events of this tour are described in the "Eboracum" (York), A.D. 210 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 so near to the rampart of Hadrian indicates that he thought it necessary to erect a new one. Such was his 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 stations beyond the wall which his father had built. After the emperor’s death, the northern tribes reigned without the occurrence of any event of importance in Britain. In the reign of Diocletian and Maximian, Carausius, a Manapian (the Manapians were a people of the Netherlands), who commanded the Roman fleet in the North Sea against the Frankish and Saxon 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 friends (Carmen, p. 289). The Britons of Britain were united, and Allectus was recovered for the emperors by Asclapiodotus, 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 Eboracum, A.D. 307, after having undergone an expedition against the Caledonians. His son Constantine the Great also carried on some hostilities with the same people and the Massetens. 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 diversely from the northern tribes, Picts and Clyths, Picts and Atacotti burst in from the north, and the Saxons infested the coast. In the reign of Valentinian, probably in the year

387, Theodosius (father of the emperor of that name), being sent over as governor, found the northern people plundering Augustus (London), so that the whole province must have been overrun. He thereupon led the provincial towns and forts, re-established the Roman power, and gave the name of Valentinian to the district between the walls of Antoninus and Severus (Richard of Cirencester, Roy, or, as Horsley thinks, to a part of the province south of the Severn, as a Caledon, a 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, took umbrage at the preference shown to a stranger, and raised himself. He was one of the most active of Roman emperors, of 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 authority. He was however at last overcome by Theodosius, and the province returned to its subjection to 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. [BARTASONE.]

Stilehoh, whose 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 panegyric verses of Claudian; but the time and particulars of his service are not known. Perhaps it was about A.D. 403. The unhappy province after his death had no active governor to defend it, being deserted by the licentiousness of the Roman soldiery, who successively set up three claimants to the imperial throne,—Marcus, Gratian, and Constantine. The first and second were soon dethroned and de-trayed by the very power which had raised them. The third, whose name is given to the island, raised a force among the youth of the island he passed over into Gaul (A.D. 400), acquired possession of that province and of Spain, and fixed the seat of his government at Arles, where he was soon after besieged, taken, and killed. His son Constantine III. followed him. His title of Britain’s natural defenders: the distresses of the empire rendered the withdrawal of the Roman troops necessary, and near the middle of the 5th century, or, according to some, about A.D. 450, nearly 500 years after the first invasion by Julius Caesar, the island was deserted by them.

Having thus traced the progress and decline of the Roman power, it now only remains for us to give an account of the subdivision, government, and general state of Britain while a prov. of the Roman Empire.

The first Roman emperors, officers chiefly or entirely military; nor are there, so for as we know, any records or traces of a subdivision of Britain till a comparatively later period of the Roman dominion. The extensive and important changes introduced into the Roman government (men of consular rank) by some of their successors, has given rise of much of that disguise with which names and institutions of republican origin had invested the imperial despotism of his predecessors affected Britain. The whole empire was divided into four great prefectures, and Britain was included in the prefecture of Gaul, abandoned by them. Our authority for the administration of Britain is the Notitia Imperii, a record of late date, probably as late as the time of the Romans quitting the island. From the Notitia we learn that the government of the island was conducted by two Consulares (one for Britain and one for Ireland); the latter, however, mention "Britannia" instead of "Ireland.

* We have translated the words Comes and Dux by Count and Duke, after Horsley: the modern titles are obviously derived from the same origin, but there is this difference, that while the modern names now indicate only rank and title, the ancient names were attached to officers.

* There are all on the N.E. coast, extending from Portsmouth to Grantham in Norfolk.
proved so fatal to the island. The **Dub Britanniarum** had the charge of the Wall of Severus and the command of the N. district of the island with its garrisons and military posts. We are inclined to think the **Comes 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 parts of Britain, according to Richard of Cirencester (a monk of the 14th century, whose work was discovered and published at Copenhagen about the middle of the last century, 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>Occupied By</th>
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<tbody>
<tr>
<td><strong>Cassii</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Belgae</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Dumbrii</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Bibraci</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Saxonitae</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Hedui</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Atrebati</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Duromerici</strong></td>
<td>Richard</td>
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</tbody>
</table>

Not mentioned by Richard, unless the first are the same as the Rhiemii or Bibraci, and the second as the Atrebates.

**Cimbri** | People, as it seems, of Devonshire and Cornwall; wall mentioned by Richard, not by Ptolemy.

**BRITANNIA SECUNDA**, the country separated from the rest of Britain by the Sabrina or Severn and Devon or Dece; i.e., Wales, Herefordshire Monmouthshire, and parts of Salop, of the counties of Gloucester and Worcestershire; including the territories of the

<table>
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<th>Nation</th>
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<tbody>
<tr>
<td><strong>Silures</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>People of that part of South Wales bordering on England</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>of those parts of England between South Wales and the Severn</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Ordovices</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>People of that part of North Wales bordering on England</strong></td>
<td>Richard</td>
</tr>
</tbody>
</table>

**Dinomeor** | People of the S. part of South Wales, counties of Pembroke, Cardiganshire, Cardigan.

**Cumbriani** | People of Caernarvonshire, supposed by some to be the Cungii, attacked by Ostorius.

**Flavia Camarinia**, the territory N. of the Thames, &c. of the Severn, and probably S. of the Mersey, the Don which joins the Yorkshire Ouse, and the Humber; comprehending the territory of the

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<th>Nation</th>
<th>Occupied By</th>
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<tr>
<td><strong>Carnabi</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>People of Cheshire, part of Shropshire, and</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Kempestrae</strong></td>
<td>Richard</td>
</tr>
</tbody>
</table>

Richard of Cirencester considers the Cassii and the Catuvencii to be the same people; we do not agree with him. The same writer considers that the Cassii and Dobuni made up the kingdom or rather the republic of the Cassii. The situation of these tribes has been given already.

<table>
<thead>
<tr>
<th>Nation</th>
<th>Occupied By</th>
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<tbody>
<tr>
<td><strong>Cassii</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Catuvencii</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Dobunii</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Iceni</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Trinobantes</strong></td>
<td>Richard</td>
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**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, he gives as the other subdivision, calling them**

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<tr>
<th>Nation</th>
<th>Occupied By</th>
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<tr>
<td><strong>Cenomanni</strong></td>
<td>Richard</td>
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**Maxima Cambrensis**, the country from the Mersey and the Humber to the Wall of Severus, comprehending the territory of the

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<th>Nation</th>
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<tr>
<td><strong>Brigantes</strong></td>
<td>Richard</td>
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</table>

**Parisi** | People of the East Riding of Yorkshire.

**Valesani** | Two nations confederate together, according to Richard, not mentioned by Ptolemy; they inhabited Lancashire or part of it.

**Sutovanni** | Two nations confederate together, according to Richard, not mentioned by Ptolemy; they inhabited Lancashire or part of it.

**Valentia of Valantina**, the country between the Wall of Severus and the rampart of Antoninus, including the

<table>
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<tr>
<th>Nation</th>
<th>Occupied By</th>
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<tr>
<td><strong>part of Scotland, the county of Northumberland, and</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>part of Cumberland, comprehending the territories of the</strong></td>
<td>Richard</td>
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<tr>
<td><strong>Graban</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Belgaria</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>and the adjacent coast of Scotland.</strong></td>
<td>Richard</td>
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</tbody>
</table>

**Gelendia** | People of the W. of the Oustiand in Northumberland, in Roxburgh, Selkirk, Peebles, and Lanark-shires.

**Selgavia** | The inhabitants of Dunfirm and part of **Midlothian**.

**Novantia** | The inhabitants of **Wigtownshire**.

**Damastia** | The inhabitants of that part of Scotland S. of the Wall of Antoninus not occupied by the above-mentioned nations. They seem to have occupied a considerable tract N. of the wall, which, being cut off from the rest of their territories, was wasted by the Caledonians.

The remaining part 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 thus subdued is termed by Richard

**Vesperiana**, including the country between the rampart of Antoninus and a line drawn from the Moray Frith to **Fife**. The same writer considers the territories of the

<table>
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<th>Nation</th>
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<tr>
<td><strong>Horwii</strong></td>
<td>Richard</td>
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The范围的 the Grampian towards the

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<th>Nation</th>
<th>Occupied By</th>
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<tr>
<td><strong>Vancangir</strong></td>
<td>Richard</td>
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<tr>
<td><strong>Oxswayki</strong></td>
<td>Richard</td>
</tr>
</tbody>
</table>

**Dalmatia Albani**, not mentioned by Ptolemy; parts of Perth, Argyll, Stirling, and Dumbarton-shires. General Rev considers Albani to mean mountainous.

**Alamanni** | People of the Grampian towards the

<table>
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<tr>
<th>Nation</th>
<th>Occupied By</th>
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<tr>
<td><strong>Ptolemy</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>People of Ptolemy</strong></td>
<td>Richard</td>
</tr>
<tr>
<td><strong>Perth, Argyll, Perth, and</strong></td>
<td>Richard</td>
</tr>
</tbody>
</table>

**Caledonia**, comprehending the territories of the following people:

**N.W. of the Moray Frith 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 assigning to them parts of Galloway, Perth, and Argyll-shires.

**Cantia** | Inhabitants of parts of Ross and Cromarty-shires.

These two nations 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.

*Footnote:* It is correctly written in the Latin edition of Ptolemy by Polybius. The same Varii still exist in Strath Fuar, the upper end of the Moray Frith.

A comparison of the statements of the Eberston in the tract of the
There were ten cities Latin jure donati; the inhabitants of these possessed privileges, but not equal to the foregoing. 

Duinon (Durnum), now Dunoon, Argyll. 

Sorboeum, now Old Sarum.

There were twelve towns called Stipendiaria, with whose municipal constitution and privileges we are not acquainted.

Vista Silurum, now Caerwent or Caer-gwent, Monmouth-shire.

Vista Belgarum (Caerleon), now Wincaster, Hants.

Vista Isca (Silchester), now Calster, near Norwich.

Sactonum, now Caer-Boient, near Caermonrvon.

Muridenum, now Seaton, near Colyton, Devon.

Rogan (Rutic, Itin. Ant. Paris), now Leicester.

Canteburiae (Canterbury), now Canterbury.

Cirencester (Cirencester, prov. Ant. Antonw), near Rochester.

Dux (Dover, Itin. Ant. Dux), now Exeter.

Bremennium (Bretignou), now Richester, Northumberland.

Vindonissa (Windsor, Itin. Anton), near Andover, Hants, a very doubtful position.

Durobrivae, now Rochester.

As to the population of the island we must conceive that it received a very considerable mixture of Roman and foreign blood. Communities were often formed to a wanton extent, by 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. Whether the Grecian learning, which was preserved under the Roman dominion, we are enabled to make some general conclusions which cannot involve any serious error.

Accordingly we find among the Roman monuments of Britain abundant evidence of the presence in this island of soldiers from France, Belgium, and other parts of the continent; from which circumstance there necessarily resulted a great intermixture of foreign and native blood. Many Romans would receive grants of land in the island, which in fact is implied by the very nature of a Colonies; and the numerous remains of Roman villas which have been discovered in the island, prove the reality of the convivial habits, and the leisure and taste for the ornamental arts. The Roman 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 aspire to any civil employment (which in the course of time could hardly have been denied to the natives) must have learned the Roman language and laws. To this period belongs also the first introduction of Christianity [ARCHABER, vol. ii. p. 268], which necessarily was accompanied with a knowledge of the Roman language. The Grecian learning was totally lost during the times that followed the Roman dominion (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 time of the Emperor Theodosius was 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, richborough 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 these towns. Under the names of Colonnie, Municipii, &c., received municipal institutions similar to the towns of Italy, Gaul, and Spain; and thus the Romanized int. 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. When 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; and it is hardly conceivable that a comparatively small body of invaders would completely overturn all those municipal institutions, which, though few and free from 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 twelfth 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. [BRITANIA.] When only six years old, while exhibiting before his father in the mime fights called Troja, during the Circensian games, the wishes of the populace served to incline in favour of Lucius 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 transferred to Sicily, 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.

This affront and complained to his 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, affected by the ingratitude of the 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 diploma 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 malignities against his son, and she pointed out the infamous Nero to him as the true stock of the Caesars, and alone worthy to succeed to his father's empire, while Nero was only adopted into the family of the Caesars. Little solicitous 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 Burrius, or the wordy rhetorician Seneca, who guarded the palace.

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 Satyrnida, Nero compelled Britannicus to throw dice for the kingship of the evening. Nero, who on one occasion happened to be the successful caster, issued his orders to each of the company to do some inoffensive trifle; but when it came to the turn of Britannicus, Nero commanded him to sing. The youth 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 incomprehensible words of the singer, which even 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 Suetonius, 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 which she assured him would be 'as rapid in deathly 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, who were enrolled with the children 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 created 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 it, he was struck down by a violent spasm of convulsion, and expired. His body was consigned to a non-promiscuous tomb, and the inscription, 'Britannicus,' inscribed on an arch near the site of the temple of Mars, was said to be 'the tomb of the great Nero,' and it is not incorrect that the monument was erected by the people of Rome as a relic of their quarrels with Nero.
Suetonius adds to the other causes of hatred which Nero cherished against Britannicus, that he was jealous of the superior excellence 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 seemed to suffer from the effects of it. As if to obscure its taint (a design, in all probability, marked on the forehead), introduced by Narcissus 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 Circus Maximus. The potion, says Suetonius, miscarried, and the patient survived five hours. This process being far too slow to satisfactorily nerve Suetonius, 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 subject of a magnificent subject, which the French consider among the chefs-d’œuvre of their dramas, but which to our taste abounds 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 circumstances of the history of the times, though the entire severity of the treatment may be tolerated on prescription, although she is entirely 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 Junio—the boy and girl love between whom is so natural, yet so 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. Junio too, he tells us, is Junia Calvia, described by Suetonius as "the daughter of a certain man of consular rank 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 our opinion rather favourably. Brother of Tiberius, he is the 13th book of Tacitus, states that Junio, whom 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.

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 title of 1763 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 of the 1763 treaty, the S. boundary of its continuing provinces is as follows:—

**Entering the riv. St. Croix in Passamaquoddy Bay, in 45° 10' N. lat. and 67° 16' long., it follows the course of the St. Croix to its source in 45° 49' N. lat.: proceeding thence in a line due N. for 41 m., to Mars Hill, it reaches the high land which separate the rivs. 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. shore of the Great Lakes, and thence, descending to the E., extends to 46° N. lat. 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. Franc, is long. The line then proceeds in a S.W. direction through the middle of the St. Lawrance 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 is. of St. Joseph into Lake Superior, which it crosses with a winding course, leaving Isle Royale within the U.S. limits, at a S.W. angle of the Lake. St. Louis 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 45° 30' N. lat. and then takes a course due W. to the Pacific.
tion, and management of the institution, which it was de-
teminated should bear the name of the British Museum.

The cost of the three libraries only in estimates, and the
quence of benefit arising from unsold tickets, amounted to
105,352. 7d. 6d.; but the losses of the lottery amounted
to 26,000l. and the cashier of the Bank was paid more than
560l. for the management of it, so that the net produce was
not more than 100,000l. Out of this sum 30,000l. were set aside
as a fund for the payment of future salaries, taxes, and other
expenses; some loss was sustained by the difference of price
between the times of buying and selling stock; and 46,000l.
were expended for furniture peculiar to the museum. The
surplus went to the gradual liquidation of numerous
and general expenses, including the removal of the different
collections.

The only buildings offered as general repositories at this
time were Buckingham House, with the gardens and field,
for 30,000l. and Montague House for 10,000l. The consi-
deration of the former was wavered, partly from the greatness
of the sum demanded for it, and partly from the inconve-
nience of the situation. The latter was finally fixed upon
and the agreement for it made in the spring of 1754. No
official proceedings were taken respecting the building, except
an Old Palace Yard, where it was at one time proposed that
the museum should find a place in the general plan which
had been then recently designed by Kent for new Houses of
Parliament.

But the House was first built about 1764, by Ralph
Montague, Esq., afterwards Baron Montague of Boughton,
and Duke of Montagu; in the manner of a French palace.
It was erected from the designs of Robert Hooke, the cele-
bated mathematician, so much employed in the rebuilding of
London after the great fire. French artists were chiefly
employed in its completion by the Duke of Montagu's desire,
and amongst them Signor Verrio, for the decorations;
when finished, it was considered the most magnificent and
complete building, for a private residence, then known in
London. But, on the 19th January, 1766, owing to the
favourable situation of the house, it was sold at auction for
the large sum of 12,873l.

The large income of Lord Montagu was again placed in
requisition for the re-construction of his palace, and, though
executed by fresh artists, the plan was the same, the new
structure being raised upon the foundations and butt wails of
the old one.

The second architect employed was Peter Puget, a native
of Marseilles, who was assisted in the decorations by Charles
de la Fosse, Jacques Rousseau, and John Baptiste Monoyer,
three artists of great eminence. La Fosse painted the ceilings,
Rouveau the landscapes and architecture, and Monoyer the
flowers. Rousseau also assisted as clerk of the works to
the building*

This second building was purchased for the general Re-
pository. The Harleian collection of MSS. was removed to
it in 1765; followed, in 1766, by the other collections; and
the whole having been properly distributed and arranged,
the Museum was opened for study and public inspection,
January 15th, 1759.

At this time the contents of the Museum were divided in
two departments, viz.: Printed Books, Manuscripts,
and Natural History.

The Department of Printed Books consisted, at first, of
the libraries of Sir Hans Sloane and Major Edwards
only. In 1755, King George II., by instrument under the
Great Seal, added the library which had been collected
by the Kings of England, as far as printed books were
concerned, from the time of King Henry VII.: rich in
the prevailing literature of different periods, and including,
among others, the libraries of Archbishop Cranmer, of
Henry Prince of Wales, and of Isaac Casaubon. For a sum
paid to his gift the privilege which the royal library had
acquired in the reign of Anne, of being supplied
with a copy of every publication entered at Stationers' Hall.

This department was further enriched, in 1763, by a
donation from King George III. of a collection of pam-
phlets and periodical papers published in England, between
1640 and 1660, chiefly illustrative of the civil wars of the
time of Charles I. and the Commonwealth, and the
consequence of the restoration of the Stuarts, 1660.

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; a valuable collection of MSS., consisting of
many of the most important poems and sonnets, and
many letters and autographs; a part of Sir Richard Colt Hoare's;
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 Crache-
dode; the law library of Francis Borporaw, Esq.; the
library of science which belonged to the Baron de Mul of Molineux;
the libraries of Mons. Giugues, author of the 'Histoire
Litteraire d'Italie,' and of the Rev. Dr. Charles Burner;
and Sir Joseph Banks's library of natural history, are among
the larger.

Four separate collections of tracts, illustrating the
Revolutionary History of France, have been collected at
different times by the trustees: one was the collection
formed by the last president of the parliament of Brittany
at the commencement of the revolution; two others extended
generally through the revolutionary period; the fourth was a
collection of tracts obtained in the last quarter of the
decade of 1789, and at the beginning of the years 1790 and
1791: 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-
scry, is the museum of newspapers, consisting of
all newspapers deposited by the publishers in the
Museum in 1763.

In 1833 the library of King George III. was pre-
sented to his successor to the British nation, and by Par-
liament ordered to be added to the library of the British
Museum; but for ever to be kept separate from the other
collections. The Museum copies of all newspapers delivered
from the first in 1765. Sir Hans Sloane had formed a
grand collection for his day. To these, in 1818, were added
the Burney collection, purchased at the estimated value
of 1000l. Since this time the commissioners of stamps have
found it necessary to augment the Museum collection
by purchases from private sources; and at the present
moment more especially works of the first ages of the art of print-
ing; it is rich in early editions of the classics, in books from
the press of Caxton, in the history of the States of Europe
in the languages of the respective countries, in the Transac-
tions of Academies, and in a grand geographical collection.

Its formation was commenced at the time when the houses
of the Jesuits were undergoing suppression, and their libra-
ries sold throughout Europe; it was still further enriched
from the secularized convents of Germany. It was fed for
years by the sales of libraries which had been formed for
little less than 200,000l., 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 grants 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 rank with the greatest libraries of Continental
Europe; near 2000 is now expended annually in the pur-
chase of old and foreign publications.

The Department of Manuscripts was formed by the
Harleian, Sloanean and Cottonian MSS., formed the nucleus of this department 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., some of
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
written at Alexandria in the 4th and 5th centuries. It
was presented by Cyril, the patriarch of Constantinople,
about the time of Charles I. Many of these MSS. came
into the royal collection at the time when our monastic institutions
were destroyed, and some still retain the monastic upon
their title-pages, and the donors denounced against those
who should alienate the respective parts 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

* The exclusive employment of French artists in the new house gave rise to the popular but improbable idea, that Montague House was rebuilt at the ex-
defence of the English, to whose court Lord Montagu had twice been sent as
ambassador.

** This was the title of the British Museum in the reign of Charles I.
succession of periods to the 16th century. Here also are preserved a numerous assemblage of the domestic music-books of Henry VIII.; and the Basilicon Doron 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 illuminated manuscripts of the 12th and 13th centuries; 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 interliner Saxon gloss, written about the year 690, 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 the country, but throughout Europe, from the earliest period in which letters were written to the seventh or eighth 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; in registers of parishes for the Thames valley and the country adjacent, among which is one of the earliest known of the Odyssey of Homer; in missals, Antiphoners, and other service-books of the Romish church; and in old English poetry. It likewise contains a large number of splendidly illuminated MSS., and an extensive mass of Charte MSS. CAMBRIDGE. The principal part of the Charte MSS. principally consists of MSS. on natural history, voyages and travels, upon the arts, and especially upon medicine. It comprises the chief of the celebrated Kempster's MSS., with the voluminous medical collections of Sir Theodore Mayoure, and amongst them the life and history of English medicine from 1611 to 1649. 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 richest and most accurate ever seen. Two volumes upon venereal diseases, and the pencil of Madame Merian; one relates entirely to the insects of Surinam.

The collection of MSS., formed by the first marquesses of Lansdowne, was added to these libraries in 1807, having being purchased by Parliament for 492l. It consists in part of the Burghley and Caesar papers, supplementary to the Cottonian collection; in a very large assemblage of bishop Kennett's MSS. and in numerous collections of an in-curial kind. Among the single volumes which may be unerringly marked as a first-rate collection is this volume of the letters of Charles V. of France (a MS. of great rarity even in that country); five volumes of the 'Lettres de Charles V. de France,' presented by his author to King Henry V. A French version. The Sacred Scriptures, upon venereal, translated by Rasul de Presele at the command of Charles V. of France (a MS. of greatly rarity even in that country); five volumes of the 'Lettres de Charles V. de France,' presented by his author to King Henry V. A French version.

Another large collection of MSS., almost exclusively in the faculty of law, was purchased in 1813, of the representatives of Fransick Harlgarde, Esq. Among these, besides numerous copies of early reports, is an abridgment of Equity, by Sir Thomas Sawy, Master of the Rolls, 1445.

The collection of MSS., chiefly of the Greek and Latin classics, which had been formed at a vast expense by the Rev. Dr. Charles Burney, was purchased in 1816. Among these there is a large number of Originals in insects, the like of which is similar to the Harleian collection, purchased at the price of 600 guineas; two early MSS. of the Greek rhetoricians; a volume of Papyn's mathematical tracts; and a magnificent Greek MS. of Pollen's geography, adorned with maps, of the 12th century, and some have also been added: one made by Claudius James Rich, Esq., while consul at Bagdad, and purchased by parliament in 1825, contains, among other MSS. of a rarer kind, several of the Syriac version of the Scriptures, of great antiquity: the other, a collection made in various countries of the East by Joseph Fowler Hull, Esq., consisting chiefly of Arabic and Persian MSS., was by him bequeathed to the Museum in 1827.

In 1829 a small but valuable collection of MSS., in part relating to French history, and partly of a literary character, was bequeathed by the reverend Francis Henry Lock. In 1831, at an estimated value of 350l. 3s.: it consists of more than 500 volumes, and contains many MSS. of unusual interest in almost every branch of learning; it is singularly rich in materials for the history of our own country and language.

The ancient MSS. in the Museum, many thousands in number, partly belonging to the Cottonian, Harleian, and Sloane collections, and partly accumulated additions, chiefly illustrative of English History, monastic and other property, form another division of the Department of MSS., with a distinct Catalogue.

These are the larger and separate collections. Among what are called the 'Donation MSS.' there are smaller collections, the gifts or bequests of individuals, or acquired by purchase. Among these may be enumerated Madox's collection of the Kinship Rolls, and Madox's record of the French Rolls, and unusual materials for his Fenlens; Dr. Birch's historical and biographical MSS.; the Decisions of the Judges upon claims in the city of London after the fire of 1666; Sir William Musgrave's Obstuary; Cole's collections for a historical dictionary of the Church of England; Elstob, with his materials for an Athenae Cantabrigienses; various Copie and other ancient MSS. taken from the French in Egypt in 1799; Ducarel's Abstracts of the Archiopiscopal Registers at Lann&;eth; a long series of calendars of the Originals Rolls of the Court of the Arches of 1 Hen. VIII. to 2 Jas. I.; Sir Anthony Mill's diplomatic correspondence with every part of Europe during his residence at the court of Frederic the Great of Prussia; Sir William Barrell's and the Rev. William Hayley's joint collections for the history of Sussex; Mrs. S. S. Banks's MSS. on heraldry, preconists, and minute-scritps of American insects in 17 volumes; quarto; Wollay's collections for Derbyshire; Sir Joseph Banks's foreign correspondence; Esmyo's and Kerrich's collections on Gothic architecture and costumes; the Stiepeney papers; the papers of the Count Joseph du Puy at the Chouan war and the French Royalists from 1773 to 1825, in 117 volumes; the Jermyn collections for a history of Suffolk in 41 volumes in folio, presented by Hudson Gurney, Esq.; the materials assembled by Archiopical in Cooke whilst engaged in editing the 'History of England'; the works on 260 volumes; numerous MSS. illustrative of Italian history, selected from the collection of Frederick fifth Earl of Guilford; 310 Rolls, commonly known as the 'Cancer's Rolls,' being duplicates of the Great Rolls of the Pipe between 9 Hen. II. and 17 James I. presented, in 1833 and 1834, by order of the Commissioners upon the public Records; the topographical collections of Samuel Lyons, Esq. and the Rev. Daniel Lyons, being chiefly materials for the 'Magna Britannia,' and 'Enquiry of London,' Esq. and in the Pipe rolls at Salt's, chiefly relating to other subjects and partly presented by J. G. Wilkinson, Esq.; a very extensive collection of antient Irish MSS., including one or two copies of the 'Breton Laws,' and a selection made, at an expense of more than 200l., from the MSS. lately possessed by Richard Hiber, Esq.

Department of Natural History.—Sir Hane Sloane's collection was very considerable for the time: it consisted of quadrupeds and their parts; birds and their parts, eggs, and nests; amphibious crustaceans; zoophytes, stones, ores, bitumens, salts, and an extensive herbarium.

To this department also, in the infamy of the museum, all miscellaneous artificial curiosities were consigned, with a few antiquities, and a collection of fossils of natural history however soon made a rapid progress; and the collection of Sir Hans Sloane, which when purchased was deemed of the first magnitude, insensibly diminished in its comparative value, particularly in the classes of ornithology and mineralogy.

In order to supply the first of these deficiencies, the true
tées, in 1759, purchased a collection of well-preserved stuffed birds which had been brought over from Holland, for 460l.; many additions were afterwards made by purchase, and in the reign of George III. brought numerous acquisitions; and in 1816 a rich collection of British zoology, which had belonged to Col. Montagu, of Knowle in Devonshire (including a very large number of birds), was purchased for 1100l. Since that time the collection has been increased, and the 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 collection, 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 purchased as baubles. The first day of Queen Anne’s reign, a collection of minerals,uttle the present, has been purchased by the Rev. Mr. Morgan, the collection, exclusive of General Hardwicke’s bequest, fills 23 cabinets of medium size, and is an extensive and valuable collection, known 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 bones, medals, and a collection of specimens of ancient sculpture formed the establishment. The arrival of the Egyptian monuments acquired by the capitulation of Alexandria in 1801, which were ordered in the following year by King George III. to be placed in the British Museum and six cabinets were set apart, with other cabinets, to accommodate these important acquisitions. The Department of Antiquities, which has been added since, enlarged, and now occupies the largest division of the building, is arranged according to the arrangement which has been adopted as the basis for general arrangement, occasionally interpolated with the genera of other authors where Lamark has left lacunae.

The entomological branch of the department of natural history is chiefly an outgrowth of the Ray collection, but of late creation, 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 however are continually swelling their number, and the accession has been recently from Austria and has been purchased 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 22 cabinets of large size, and is as extensive and valuable as that at Paris.

The discovery of the Museum was also a great support. In 1772 a very considerable assemblage of articles of Greek and Roman antiquity, comprising the largest collection then in existence, was purchased of Sir William Hamilton for 8400l., and was purchased by D. Hancarville. The original building of the Museum was still spacious enough to contain all that was accumulated in every department; and the articles which were purchased, induced the desire to increase the establishment. The arrival of the Egyptian monuments acquired by the capitulation of Alexandria in 1801, which were ordered in the following year by King George III. to be placed in the British Museum and six cabinets were set apart, with other cabinets, to accommodate these important acquisitions. The Department of Antiquities, which has been added since, enlarged, and now occupies the largest division of the building, is arranged according to the arrangement which has been adopted as the basis for general arrangement, occasionally interpolated with the genera of other authors where Lamark has left lacunae.

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, which Lord Byron purchased from them for 15,000l. The British Museum and the Department of Antiquities were transferred, together with the coins, medals, drawings, and engravings.

In 1816, the Prince Regent, at an expense of little less than 20,000l., purchased and ordered to be deposited in the House of Commons granted in the session of parliament in that year the sum of 8200l. for the purchase. In 1818, the Prince Regent, at an expense of little less than 20,000l., purchased and ordered to be deposited in the

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 slight deviation, is that of Professor Berzelius, founded upon the electro-chemical 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 outside of the glass cases and labels are interpolated or appended to them. The geological 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 English synonyms of Latham. The names of domestic animals as well as in other parts of the general museum collection, are attached to specimens which have been presented.

The amphibia, crustacea, reptiles in spirit, sea-eggs, and starfish, with the general collection of fish and corals, form a separate division of the natural history: the shells of the collection of crustacea and spiders are preserved in proper cabinets in a separate room.

The shells of the Museum, the collection of which has resulted principally from the gift 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 molluscan animals. They are arranged in classes, orders, and genera. In each group, each species, the best collection is selected by Mr. Blyth, and of late creation, 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 however are continually swelling their number, and the accession has been recently from Austria and has been purchased 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 22 cabinets of large size, and is as extensive and valuable 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 bones, medals, and a collection of specimens of ancient sculpture formed the establishment. The arrival of the Egyptian monuments acquired by the capitulation of Alexandria in 1801, which were ordered in the following year by King George III. to be placed in the British Museum and six cabinets were set apart, with other cabinets, to accommodate these important acquisitions. The Department of Antiquities, which has been added since, enlarged, and now occupies the largest division of the building, is arranged according to the arrangement which has been adopted as the basis for general arrangement, occasionally interpolated with the genera of other authors where Lamark has left lacunae.

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present Majesty: and a collection of Persепolitan marbles, 
presented in 1825 by Sir Gore Ouseley, forming a valuable 
section to some which had been previously presented by 
the Earl of Abercorn.
Necescissarily a large number 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 antiques. In 1824 
Mr. R. Payne Knight, a trustee, whose attainments in an-
tient 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 Herculanenum, 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 Siris, 
purchased, by subscription, from the Chev. Brundsted, were 
added, at the expense of 1000l. In 1825 the trustees ob-
tained a large collection of Babylonian antiquities.

Coin 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 
6000l., 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 presented to the Museum by Samuel Townley, 
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 coins of great value was obtained by the purchase 
of Greek coins from Col. de Bosset for 800l. In 1814 the Townley 
collection of Greek and Roman coins (particularly rich in 
Roman large and second brass) was added by vote of par-
lament, with a collection of Greek coins offered for sale by 
Crabbe. In 1823 an acquisition of different kinds was made, 
belonging to the cabinet of Sir R. Payne Knight. 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 Museum purchased 
in 1825 parliament purchased for the Museum, together 
with Mr. Rich's collection of MSS., a large assemblage of 
early Arabian, Parthian, and Sassanian coins, of the esti-
mat ed value of 1000l.; and in the same year King George 
IV. presented to the Museum a collection of medals and 
marks 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 unrivall ed 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 Kaisiffs, but 
those of many other nations, which were especially in 
use for 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 more E. division of the Asia, containing 
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 many former gifts, by the late Mr. Marsden, in 
1809. Of more importance to indivi duals, 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 the purchase of some bronzes 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., 
belonging to the Jewish collection in 1824; and a series of 
of all the varieties of 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 
ear 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, 1000l. were expended in the purchase of coins 
in gold, silver, and brass, chiefly Greek, selected from the 
cabinet of Mr. Borrel. Two hundred and ninety-six styras 
Rhedelaid, Eared, and 1600 Kings of Northumberland, 
and of Vigmund and Eismald, 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 Berworth in Hampshire. A consid-
erable collection of coins has also been recently pur-
chased of Lieutenant Burrows.

In engraved gems, principally from the collections of 
Sir William Hamilton, Charles Townley, Esq., the Rev. C. M. 
Crocherode, and R. F. 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, 
armilis, and other trinkets of gold, this department is also 
rich. The latest acquisition of this kind is the gold breast-
plate, supposed to have belonged to a British chiefian, 
late found in Athelney.

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. F. Knight's bequest, containing 272 ori-
iginal drawings of Rembrandt, and the title-page and a 
blague 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 col-
collection of engravings of pictures of the school 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 highly finished drawings in 
black chalk, copied from the most celebrated pictures in 
Rome, and accompanied by an extra volume after the 
frescoes of Guido in the private chapel of the Vatican, by 
Musman; these were presented to the Museum by the Earl 
of Exeter, and cost near 3000l. There is also a large 
collection of engravings of prints of all ages, chiefly 
formerly belonging to Mr. Charles Townley; and two folios of 
drawings made under the direction of the Elgin at 
Athen.

In 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 
1452, purchased in 1833 for 270 guineas. The prints of 
the different masters are for the most part arranged in 
schools, as the Florentine school, the school of Siens, 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, Bonasovi, Rembrandt, and Holler: a very 
rich and extensive collection of prints and engravings of 
the English school: a fine collection of prints of the latest 
315l.: a Granger collection of English portraits of great 
extent: a very large collection of German prints in wood: an almost 
perfect collection of prints of the school of St. 
Joshua Reynolds: a large collection of Bartolozzi's engravi-
g: Dr. Burney's collection of theatrical portraits: an 
immense collection of foreign portraits, purchased with 
the library of the Baron de Moli of Munich: and a Pennant 
which contains an immense number of prints, engraved by 
the late Mr. Cole at an expense of 7000l., by whom it 
was bequeathed to the Museum.

In the print room also is preserved one of the most won-
derful and splendid of the works of art therein: a carving in bone by 
Albert Durer in alto-relievo, representing the birth of St. John 
Baptist, dated 1510, for which Mr. Knight, who bequeathed it 
to the Museum, gave 500l.

From 1802, when the monuments taken from the French
at Alexandria arrived, till 1817, no material additions were made to the Egyptian part of the antiquity department; but in that year the upper part of a fine colossal statue, commonly called the Sphinx, was purchased by Sir John Soane, for 2000l. Another collection, particularly illustrative of the domestic manners of the ancient inhabitants of Egypt, belonging to Mr. Joseph Sams, was purchased by parliament at the recommendation of the trustees, in 1834, for 2900l.: a considerable number of antiquities of the same description were presented to the Museum in the same year by J. G. Wilkinson, Esq., and in 1835 a still larger accession was obtained by an expenditure of 3012l. 16s. at the sale of Mr. Sams’s third collection of Egyptian antiquities, including numerous pappry which have since been unrilled. In this year also Lord Princedoe added to the Museum collection the two fine lions of red granite which his lordship had procured at Jebel Barkal in Nubia. [Barkal]

Under these accumulated acquisitions the old Egyptian room became no longer sufficient for its purpose. The larger articles of Egyptian sculpture, the colossal heads, tablets, and fresco paintings have been in consequence removed to a more spacious apartment, now termed the Egyptian saloon, in the lower story of the west wing of the new building, the arrangement of the domestic life of the Egyptians, at present under arrangement, are designed to fill two apartments of the story above as soon as they are completed.

Connected with the department of antiquities, and of particular interest to the young artist, is a large collection of architectural and other casts in plaster, the property of the late Sir Thomas Lawrence, purchased and presented to the Museum in 1831 by the Royal Academy: a small collection of works of modern art is also attached to this department, in which classical portraits, are hung in the long gallery which contains the minerals in the new east wing. In the print-room is Sir Joshua Reynolds’s portrait of Sir William Hamilton; in the committee-room that of Sir Joseph Banks by Sir Thomas Lawrence; and in the hall of the old building the statues of Shakespeare by Roubiliac, and of Sir Joseph Banks by Chantrey: a few modern busts, some of which belonged to Mr. R. P. Knight, are preserved in the medal-room, together with a gold snuff-box set with diamonds and ornamented with a mask of Sir Joshua Reynolds, by which it was presented in 1815 to the Hon. Mrs. Damer.

Fifth or Bankian Department.—Sir Joseph Banks, who died in 1820, in one of the odicols to his will bequested the use and enjoyment of his library and botanical collection, known as the Bankian Library, for such a time as should be fixed by the appointment of trustees, by whom it was presented in 1815 to the British Museum. But the trustees conceiving these collections to be in a state of possible danger from fire, being in a private house, surrounded by other private houses, in order to secure the library and collections for public benefit with as little delay as possible, came to an arrangement with Mr. Brown, who, in consequence was appointed to the office of under-librarian in the Museum. Sir Joseph Banks’s library being transferred, but kept distinct, was added to the general collection of books; but the botanical collections, containing the herbarium of Sir Hans Sloane’s herbaria, and Mr. Brown was placed at the head of a botanical or Bankian department. All the botanical collections of the Museum were thus brought together and rendered equally accessible.

The Sloanean herbaria are contained in 325 volumes, bound in 252, and consist of Sir Hans Sloane’s collections made by himself in Jamaica and elsewhere, and of various others presented to or purchased by him. Of the latter the most considerable are those of Plukenet and Petiver. About 200000 dried plants have been added, making the collection one of the largest in the world, containing the herbarium of John Bauhin, the house of Beaufort, Kiggalar, Budde, Uvedale, and Hawkin; together with numerous smaller ones obtained from many of the principal botanists and travellers of the day. The most interesting are from the collections of More, Cunningham, Plukenet, Banksian, Constantine, Banks, Sawney, Schuchner, Kamel, Vatikall, Kempter, Catesby, Houston, and Boerhaave, with the plants presented to the Royal Society by the Company of Apothecaries in pursuance of the directions of Sir Hans Sloane, for the years from 1795 to 1796. These formed the rent which the Apothecaries’ Company paid for the botanic garden at Chelsea. Some seeds and plants of the most rare, extensive and well preserved. The Herbarium of the Baron de Moli of Munich, in 48 portfolios, was added to the botany in the Museum in 1815. The herbarium of Sir Joseph Banks’s of which the largest arrangement was in course of progress, comprising upwards of 25,000 species, is in progress of arrangement being estimated to contain 5000 more. This herbarium is formed, in addition to Sir Joseph’s own collections upon his voyage with Captain Cook, of the herbaria of Clifford, Hermann, Clary, Amel, and M. J. de Jussieu, and many of the plants collected by Tommout and described in his ‘Corallarium.’ Anheb’s plants were from French Guiana; the collections of Clifford and Hermann were from which Linnaeus formed his Hortus Cliftonensis and Flora Zeylonica; Claverton’s Herbarium which contains collected from the rich Gironvius from Flora Virginica, it contains 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 Cochin-China. The Bankian collection alone formed at one time the most valuable ensemble 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 all equal the Bankian department in the amount of plants. A few 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 in number to the Bankian collection. Of more important and more rare or succulent plants, preserved in spirits, also form a part of the Bankian department, to the amount of upwards of 2500 bottles; with a collection of seeds and fruits in a dried state. Since the arrival of Sir Joseph Banks’s library, the herbaria of the society for the promotion of natural knowledge in India, formed and distributed by the East India Company, and formed and distributed by Dr. Wallrich, 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 26 Geo. III, and two or three other acts, in 48 trustees, including 23 official trustees, nine family trustees, one royal trustee, and 15 trustees who are elected by the Equestrian Society of the Royal Institution, and four trustees elected by the trustees of the Museum. The members of the Board of Trustees, Sir Charles Shaw-Lefevre, 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 the council, the lord high steward, 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 Knigh family, by whom they are respectively appointed. The royal trustee is the duke of Northumberland, and the president of the Royal Society, the principal librarian, who is also expenditor; six under librarians; and three assistant librarians, the name of librarian being given to the officers of all the departments, a secretary, and an accountant. Several permanent and very considerable additions have been made by the society. There are also attendants in the several departments, a clerk of the works, household servants, &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 present of the king's three principal trustees as the king may direct 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 Friday, every week of the year, except four, except in the Christmas, Easter, and Whitsun weeks, 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 few members are admitted on those days, who are not likely to cause any disturbance. The 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 Whitsunday respectively, and on the four single holidays already 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 of the trustees. The applicants are then requested 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.

The following are the catalogues and descriptions of the different departments of the British Museum already published:


**Department of Private Papers.**—Alphabetical catalogue of the library of printed books, by H. Ellis and Rev. H. H. Baker, 7 vols. 1813—1819. Catalogue of the geographical and topographical collection attached to the library of King George III., in 1 vol. folio (to match the catalogue privately printed of the royal library), and 2 vols. 1827.

**Department of Antiquities.**—Description of the ancient Town of the Britons in the Empire of Trajan, by Mr. Adrian part I. to IV. by the same, 1812—1820. Part V. by E. Hawkins, Esq., 1826. Part VI. by C. R. Cockrell, Esq., 1830. Catalogue of Greek coins by Taylor Combe, 4to., 1814. Of Anglo-Gallo coins, by Edward Hawkins, 4to., 1830. Mr. R. P. Knight's catalogue of his Greek coins, 4to., 1830. A catalogue of the greater part of Mr. Marsden's Oriental coins was published by himself, entitled 'Numismata Orientalia illustrata,' part I. 4to., 1823. Part II. 4to. Lond. 1823. Manuscript catalogues of the additions in the printed book and MS. departments 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 king's late lord chancellor, of the manuscripts and inscriptions in all languages, with more than 10,000 books of reference, are constantly open for the use of students of the reading-room in the cases and presses which surround them.

In 1843 Sir George Beaumont communicated his desire to the trustees of the British Museum, for the benefit of the public, his collection of pictures; and the then buildings of the Museum afforded no proper rooms for their exhibition, and the trustees were unable to receive them at the moment. In consequence of this, and in pursuance of a Despatch from the Duke of Wellington, in parliament his intention of moving for a grant in the succeeding session, to be applied under commissioners, to the purchase of Mr. Angerstein's and other collections of pictures for the formation of a National Gallery; to which it was consented. Sir George Beaumont's pictures might be added.

In the spring of 1824 Lord Liverpool announced that the Angerstein Gallery had been purchased by the government for £7,000; and it appearing to be the opinion of the House of Commons, expressed in their debates, that the British Museum, in consequence of the present and future 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 Nation's Gallery, thus retaining their property in the pictures as well as a joint exercise of superintendence. In 1831 the Rev. Holwell Carr bequeathed another collection of pictures to the trustees, with a distinct direction that they should be placed in the same building with Mr. Angerstein's and Sir George Beaumont's pictures. A number of 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 1827, a landscape by Raimbault, presented by Lord Parnborough, and the Banishment of Cleombrotus by Leonidas by Mr. West, presented by William Wiltens, Esq.

**BRITTON.** We have, under 'BRACHTON,' enumerated all the principal writings of those early English lawyers and historians whom we have called the 'ancient text-writers of our law.' In respect of the time in which they lived, it may be said to extend from the close of the twelfth to the middle of the fifteenth century. It is remarkable that so much obscurity should rest not only on the persons of these authors, but on the bulk of their writings. Their eminent abilities, treating of their subject with great precision and learning, and writing, it may be said, even with elegance.

We have seen that there is doubt who Bracton was. This is still more doubt respecting Briton, whose existence as an individual person has even been doubted. Selden, who on such points is a high authority, in his notes upon Ptea, contends that 'Briton' is nothing more than a particular: 'Bracton,' and that to the same hand may be reduced the 'oretical' and 'ancient' of the text. It is also the French treatise known by the name of 'Bracton.' This was Selden's later opinion; for in an earlier work he has spoken of them as 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 Briton, 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 treats of almost every point in the practice of the common law. It is one of the most complete in form of the great volumes which have been published by the British Museum. 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 1640 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 saith) 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 1646, 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 a tapestry in French, in one of 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 worth the trouble, and it is written with 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 best. It is certain that the present manuscripts do not prepare such an edition, and a specimen of the intended work may be seen in Cooper on the Public Records, 8vo., 1839, vol. ii. p. 403—413; the text being taken from what is perhaps the best manuscript (Harleian, 324), and the margin presenting the various readings found in many other manuscripts.
In 1762, a translation of Britton, as far as the 24th 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 the London Society for promoting the Study of Natural History, it was presented to the library of that society, where it now remains.

**BRIVE, 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 45° 6' N. lat. and 2° 29' 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, Gondebaud, an illegitimate branch of the Merovingian kings of the Franks, caused a church to be established, and it has long been a market town, lying on the banks of the river Corrèze, on 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.' Brives is enriched by a pleasant walk planted with elm trees and skirted with good stone houses; but in the interior we do not meet either with handsome streets or good squares. It had before the Revolution a large and populous chateau, containing six religious communities, and a good college. The manufactories are chiefly of large copper utensils and silk and cotton goods; and these, with chestnuts, nut-oil, wine, brandy, wax, and wood, constitute the chief articles of trade. The vineyards, surrounding the town, supply the hour hand of the Paris market, and many pigs for Bordeaux and the south of France. Slate and animony are obtained at no great distance. The pop. in 1832 amounted to 5776 for the town, or 5831 for the whole commune. There is a library, a public library, an agricultural society, and an hospital.

The arrond. of Brives had, in 1831, 111,024 inh. In a valley two or three miles S. of Brives are several apartments excavated in a rock and pierced with doors and windows; these are supposed to be the remains of a, J. B. Kelland, returned from the ravages of war, but the peaceantry 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 26,000 souls. The town lies at the foot of the Brenner, and at the confluence of the Rienza and Eisack, in the bosom of a cheerful, fertile valley. It has a large theatre, a hospital, a large stricken appearance; the houses are in the Italian style, but ill-built, the streets are badly paved, and the number of inb. does not at present exceed 4000. It is still the residence of a bishop, whose palace, together with the handsomely-kept streets, squares, four-storied town-hall, are the principal edifices in the place. It has a gymnasium, an episcopal seminary with a theological school attached to it, a Capucin monastery, a female school conducted by the nuns of the English sisterhood, and a convent of the Benedictine nuns. The vineyard along the steeps of which is extensive, with vineyards which produce a very palatable red wine, in which the chief trade of Brixen consists. 46° 40' N. lat. 11° 40' E. long.

**BRIXHAM** (DEVON), a sea-port, m. L. and par., in the county of Devon, and of the Hundreds of Haytor and co. Devon. 22 m. S. from Exeter, 165 W.S.W. from London, and in 51° 25' N. lat. and 3° 22' W. long. The area of the par. is 5210 English statute acres.

The manor of Brixham formerly belonged to the Wovants, and thence it passed into the hands of the Valeter 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 quays lords. The har. consists of two basins; the outer one has been recently formed, at an expense of near £100,000. There are about 120 vessels employed in the port from 60 to 150 tons burden, and 105 from 20 to 45 tons burden, and about 64 smaller boats, nearly all engaged in the fishing trade. The principal fishings are the turbot, mackerel, mullet, 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 established 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 about a mile. It is a delightful place, and is of great importance in this respect; 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, about a mile from the quay, is 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 700 ft. At Lower Brixham is a chapel of ease, added by the rector, and maintained by the parliamentary commissioners. There are also places of worship for Baptists and Wesleyan Methodists.

The pop. of Brixham is 5915, of which 2110 are males and 2805 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 60£ per annum; two school-rooms have lately been erected near the master's house, where 460 children of both sexes are taught. The mastership of the same school was lately given to this establishment 15£ per annum. Mr. John Kelland left by his will (dated 1799) a sum of 2000£, for the endowing of charity schools and augmentation of small livings, at the discretion of his trustees; in consequence of which John Tompkins, the present headmaster, has been enabled to purchase the sum of 400£ to the par. of Brixham, and purchased with it an estate at Ashburton, now let at 42£ per annum, in aid of this school. Besides the land there is now about 700£ stock belonging to this charity.

Brixham is 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 Penclis; it now belongs to the executors of the late Sir H. G. Buller, the judge; and also a curious well, called Lay Well, the water of which ebbs and flows about nine times in an hour.
The work of Brochi, is the result of his repeated visits to the central and S. parts of Italy. It begins by an inte-
resting description of the province of Carnia, and its various
minerals, both metallic and non-metallic, as well as the
minerals found in Italy, and of the persons who had cultivated the science previous to the author's time. This is followed by a general
view of the structure of the Apennines, and a sketch of the
physical constitution of the lower hills lying between these
mountains, and of their relative ages. It was to these submains
hills and the adjacent valleys and plains, which abound in organic
remains, that Brochi's investigations were chiefly directed. He
examined the numerous varieties of shells found among them,
and described an additional variety of shells existing in
sensa, and which form nearly one-half of the whole.
It should however be noticed that the rocks to which Brochi
assigned the name submains are not all precisely of the
same geological age, and that the amount of recent shells
detected in them has since been found to vary according to the
relative antiquity of the rock in which they occur. The
newer rocks containing the larger proportion of these shells.
The second volume consists of a descriptive catalogue of
the fossil shells, with the living analogues where they are
known to occur, and the work is accompanied with plates.

3. Catalogo ragionato di una raccolta di rocce dipinte
con ordine geografico per servire alla geognosia dell'Italia,'
8vo. Milan, 1817. This work contains a catalogue of more
than 700 specimens of rocks collected by Brochi in various
parts of Italy, and distinguishes the rock only in the
Territorio di Lavaro and Puglia, the Marche, Tuscany,
and Moderna. It is preceded by a well-written introduction
on the geology and mineralogy of the different regions of
Italy. Several other minor works of Brochi are published,
and his investigations are referred to by several writers
in the Collection of Antiquities of the University of
London.

In 1820 Brochi, after retiring some time at Rome, published
"Delle Stato fisico del snolo di Roma,
Memoria per servire d'illustrazione alla carta geognostica
di questa Città." The work is divided into two parts. The
first treats of the ancient condition and appearance of the
surface of the ground on which Rome, both ancient and
modern, now stands; and, secondly, of the character of the
soil, of the various rocks and strata of the hills and of the
valleys in the Islands of the Tiber, and the Tiber itself.
The second part of the work is of more importance, as it
companies the work with a very correct idea of the physical
topography of Rome. Brochi'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 concern a "Discourse on
the Condition of the Air of Rome in Antient Times."
He argues that the air in ancient times must have been more
unwholesome than it is at present, although he admits that
the country was much more populous and the people more
hygienic than at present. He says the ancient Romans
bared their dress and their manner of living. Brochi made some
curious experiments during four nights which he passed at
S. Lorenzo fuore delle mura, one of the most unwholesome
spots near Rome, in order to discover the most wholesome
spots near the city. He concludes that the air is bad in
Rome, and that the cause is partly the air of the
Canarria. He condensed the night
mist or damp vapours flowing in the air, and submitted
them to a chemical analysis, but all his trouble and risk
led to no satisfactory result. He gives a plain and straightfor-
ward account of his attempts at the end of the book.

In 1823 Brochi sailed from Trieste for Egypt, a country
which he had long wished to examime, especially with
regard to its mineralogy. He found-favour with Mehemet
Ali, who sent him on several missions, supplying him with
funds and support. He contributed to the working of a coal mine, and afterwards to look for the
emerald mines of Mount Zaharak, which Cailiaud and Bel-
zoni had visited some years before. Brochi however found
only some loose pieces without their matrix, which he disposed of at work. He then searched for silver mines as use-
less labour. In 1825 Mehemet Ali sent Brochi into the
newly-conquered kingdom of Sennara, as one of a com-
mission appointed to organize that country and make its
resources available. In this expedition Brochi was pro-
thrombosed with a severe attack of fever. He wrote to his
friends in Italy in April, 1826, that he was busy in prosecuting
his scientific researches and in promoting the improvement of
the natives; that he enjoyed good health, notwithstanding
the heat at work. He was taken ill however in the
summer, 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
country, and among the riches of his museum were the
(Scachi, Varita letterarie, Necrologia di G. B. Brochi).
Brochi has done more for the geology of Italy than any of
his predecessors.

BROOKESBY, [Hass.]

BROOKESBY, RICHARD, the only son of Richard
Brookesby, 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 Ballyitore school, in the N. of Ireland, where he
was a pupil of Edmund Burke, which ripened his mind to the
most cordial friendship when they again met in London.
He afterwards studied at Edinburgh, and then at Leyden, where he took the degree of doctor of physic
under the celebrated Gaubius, in June, 1745, his inaugural
thesis being a dissertation "De salute sanar et moreibus
Rud. Bat. 1745.

The following year he came to London, and settled in Broad-street; and as the income allowed by
his father was not large, and his professional gains were
at first small, he determined to regulate his expenses with
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
conferred on him the degree of bachelor of arts, and the
license to practice the science of physicians; in 1747 he
obtained the honorary degree of M.D. 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 Master of Arts. The London Press having appointed
physician to the hospitals for the British forces, and returned
to England before the peace of 1763. He now settled in
Norfolk-street, Strand, and soon reaped the reward which
skill, attention, and good humour seldom fail to attain,
in his profession. The Trustees of the Middlesex hospital,
likewise added his half-pay, and his paternal estate of
6000, per annum. Being unmarried he was enabled to live
in a very handsome style, and often entertained at
his table such as the persons most distinguished for rank,
ables, or learning, in the kingdom.

In 1763 Dr. Brookesby 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
rapid recovery gave a great impulse to his physician's rising
reputation.

Dr. Brookesby 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 civil liberties and rights of the
commonwealth, 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 pianitude of his temperament, 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 peaceful and sensible upon record—the
seconds having taken care to place the combatants at such
a distance from each other that their hail, even if they
should hit, could not possibly do any mischief.

As Dr. Brookesby's prudent frugality had preserved him
from embarrassment when poor, so it enabled him to in-
dulge in the most munificent charity when rich. He
had large sums upon which, and other three widows 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
not only liberal, but so judicious in his liberality as to
make it compatible with his professional duties. While the
declining years of Dr. Johnson seemed to render travelling
advisable, Dr. Brookesby offered him a life-annuity of 100l.
per annum; and on this being declined he made him an
orphan's offer to his own reception at his own expense. 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.

[THE PENNY CYCLOPAEDIA.]

Vol. V. 3 N
In 1794 Dr. Brocklesby found the inferences of age increase so fast upon him that he declined visiting patients, except for a few poor, for the sake of making some money; 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 fact was on the 11th of December, 1797, in his 72d 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. Brock and Dr. Thomas Yonge Brock, and one or two other friends.

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. 486); and 'Experiments on Cutting the Tendons in various Animals, with the Object of producing a disease similar to that of the eyes.' Before mentioned, he was the author of the following:—'Eulogium Medicum, sive Oratio Anniversaria Harveyana,' &c., 1760. 'Economical and Medical Observations from 1738 to 1763, tending to the Improvement of Medical Hospitals.' 8vo. 1764. (The date '1738' is given both by Hutchinson and Reeve—if correct, he must have begun his observations at sixteen years of age.) 'Case of a Lady labouring under a Diabete' (Med. Observations, vol. iii.). 'Experiments relative to the Analysis and Virtues of Seltzer Waters.' 8vo. 1790. 'Tumour of the Orbit of the Eye, ouden by Messrs. Bromfield and Ingram' (ibid.). 'A Dissertation on the Music of the Antients.'

BROCOLI, in horticulture, is a plant of the cabbage tribe producing its young flowers in very compact masses called heads, which, in consequence of their being closely enveloped by leaves, are partially blanched at the period when they are cut for table. This plant is what botanists call Brassica oleracea Botrytis, and differs from the other races of the same generic species by being more disposed to crowd together into fleshy heads, but also in the seeds being rather smaller. On this account it has been thought by some, as by Miller, to be a peculiar species; there does not however appear to be any proof of this opinion being correct. But it is true that the heads, although always considered by gardeners in this country as something quite distinct from the cauliflower, is in fact nothing but a very slight variety of that form of the cabbage, and cannot be distinguished by any very precise character. It may consequently have been brought originally from Cyprus along with the cauliflower, or have been subsequently found in the gardens of England or France. Broccoli seed is sown in open beds like other kinds of cabbage: when the seedlings have grown to about half an inch high they are thinned out and banked over in a new bed at the distance of three or four inches from plant to plant. In a month or six weeks they become fit for taking their final station, which is to be in some rich quarter of the garden, in lines 24 feet asunder, the plants themselves being separated by a yard in the line without further care. The season of the broccoli is the autumn, winter, and spring, and the plants are made to produce their flower-heads at those seasons by regulating the period at which the seed is sown. Broccoli which are intended for autumn use are sown in March or the early part of April: if for winter use, in April or the beginning of May; and if for spring use, in the end of May. There are three principal varieties of the broccoli,—the purple, the green, and the cauliflower, the last of which hardly differs from the broccoli.

Like other species of brassica with woody stems the broccoli may be propagated not only by seed but by cuttings of its stem, and thus the necessity of saving the seed may be avoided. For this purpose the old stem is to be cut into truncheons not less than two or three inches long, and the truncheons are to be dried for a few days in the sun. They are then to be dibbled into the places where they are to stand, and not to be watered until some symptoms are exhibited of the truncheons beginning to grow. To ensure success in this operation it is only necessary that a dry day be chosen for planting, and that the soil should be light and well drained.

BRODY, a town in the N.E. part of Galicia, lying in a swampy country near the borders of Poland. In the year 1779 Brody was raised to the rank of a free town, and consequently it has its own magistrates and council. The town consists of 3000 houses (mostly of wood) and about 24,000 in., of whom above 8000 are Jews, on which account it has been nicknamed 'The German Jerusalem.' There are several squares and open spaces, the principal of which are the King's market, a large one, 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 schools, a high school and a primary school, and the 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 cabin in natural and experimental philosophy; a Roman Catholic seminary, composed of Latin and Greek, and a gymnasium 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 horses, hounds, wax, tallow, isinglass, hides and skins, leather, aniseed, 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 rope manufactures, and the mean annual revenue of the town is about 10,000/. In 1807 N. & T. 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 was obtained from the bishop of Utrecht in the 13th century, and was long known by the name of Nieuwer Broek, or New-market, and had then a considerable 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 colours, disposed in the form of mosaics. The houses, many of which are two stories high, are built in a small garden, laid out with formality, and stocked with flowering shrubs and the choicest flowers. The houses are all painted in different colours; the order and cleanliness of the interior are answerable to their outward appearance. At the door of each house there are two or three steps and a small person who enters must submit for his shoes: it is said that when the Emperors Napoleon and Alexander visited Broek they complied with this custom. Many workmen are constantly employed in cleaning and repairing the paths and buildings, to provide for which is considered a duty on the part of the proprietors, so that any one who neglects his share of the work is liable to have his name exposed on a board in the most public place in the village.

The inh. are all reputed rich, and live upon the interest of money they have acquired from their business, and to their wealth by dealing in butter and cheese produced from the fine pastures in the neighbourhood. The men seldom marry until they are near forty years of age, and if they more than once, they return to women under thirty or thirty-five. They live very retir'd lives. The houses of the vil is never opened except on the occasions of festivities, marriages, and funerals, and the inhabitants pass in and out of their dwellings by the back entrance.

The vil., who are about 1200 in. are reformed religion, and their church is a fine building, with a square and some pulpit and painted windows. The place suffered considerably in the great flood of 1823.

BROKEN WIND is a peculiar affection of the wind or breathing, in which, in some instances, the air blows from the lungs, occupying double the time that the inspiration of it does, requires also two efforts rapidly succeeding to each other, and attended by a slight spasmodic action, in order fully to accomplish it. Examination of the animal after death shows that the bronchial tubes are patulous, and some of the air-cells, particularly round the edges of the lungs, are ruptured: they have run into one another, and irregularly-formed cavities have thus been made into which the air may easily enter, but cannot without considerable difficulty be expelled. This affection is also known by a characteristic low grunting cough, likewise easily explained by this morbid structure of the lungs.

If the usual breathing has been rendered thus laborious, it is evident that the horse, without skilful management, will be utterly incapable of rapid and continued exertion. In fact, if he is but a little hurried he evinces evident dis-
tress, and, if still urged on, he drops and dies: this therefore is one of the worst species of undomesticates.

The cause of the rupture of the air-cells may be various inflammation of the lungs, by which a portion of them has been rendered impervious, and thus greater labour thrown on the more ductile structures of the diaphragm, which are probably weakened by the inflammation in which it had shared, yields to the unnatural distention to which they are thus exposed. Many a horse has become broken-winded when urged to extra exertion immediately after he has been feet. On the other hand, there is a reality and truth in the sudden and forcible inspiration, 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 part of them, the edges, which are free from this pressure, are actually less depressed than the diaphragm, to which the horse is accustomed has much to do with this disease. It is comparatively inustitive, 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 shallow breathings of a horse, in which case the horse will have much to do with this disease.

There is no cause 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 a very considerable extent. The food itself is in many cases, a more nutritive kind, and lying in a smaller compass. 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 fare. In fact, the amount of food should be so diminished that the horse exercise should not be required when the stomach is full. Occasional or periodical bills 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 is 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, and in the purchase and sale of goods of different kinds and descriptions, 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, their business is to ascertain the true quality 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 parties. Merchants who deal in a great variety of goods and produce drawn from different countries, and destined for the use of different classes, cannot have the same intimate knowledge for his guidance, as will consequently find it advantageous 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 for ships outgoing or incoming, or entering or leaving ports 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 underwriters to give insurance against the various accidents that may happen to the goods within the port, or during the voyage, and at the various conditions under which they engage to take the risk, and receiving from them the amount 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 fulfllment of the conditions of the contract, while an insurance-broker has no such liberty, and in all cases, if the losses exceed the amounts of the premiums, he is held responsible for the amount of the premiums. 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 each country has its local exchange or bank. 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, brokers, and they 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 in the purchase of bills of exchange having 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 capitals of joint-stock companies. The business of parliament, by which the proceedings of stock-brokers should in certain cases be regulated (7 Geo. II. cap. 6, and 10 Geo. II. cap. 8), have long been dead letters. Under these enactments every bargain or contract for the purchase and sale of bills of exchange is rendered void, for that purpose, but is 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.

Any 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, without fraud or contrivance, 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 keep a book of accounts of his business, and if his book is not entered, and this book may be called for and received as evidence of transactions when questioned in courts of law. Each broker pays on admission a fee of 5l., and an equal sum annually so long as he continues to act under his licence, and if he has not incurred 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 that in which he is as hero 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 payment of which they must provide themselves with an excise license, and they come under the regulations of an act of parliament (37 Geo. III. c. 93).

The business of broking, therefore, is utterly different from that of the commercial brokers here described. [Pawn Broker.] BROMBERG, a government circle forming the northern half of the Prussian prov. of Posen, bounded on the S.E. by the kingdom of Poland, on the N. by the Baltic, and on the W. by western Prussia, and containing an area of about 4450 sq. m., with a pop. of about 337,000, of whom about 200,000 are Roman Catholics, and 21,000 Jews. It contains nine districts, 64 towns, and 916 villages, and possesses colonies; it is a level country, fertile in part, and full of forests, especially in its eastern district between the Vistula and Netza. 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 3 N 2
136,000), sheep (about 600,000), and other domestic animals are reared. The manufactures consist of woollens, linens, leather, paper, salt, sugar, and tobacco. 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 both of these circles of province is situated on the German, or Spree, in Poland, and is called 'Bydgoszcz.' It is situated about 5 m. W. of the Vistula on an eminence, the base of which is watered by the Brda. The town is built on the banks of the last-mentioned riv., which is a navigable stream, and finds its water supply from a natural lake, about 5 m. in diameter, which the town of Bromberg canal, about 18 m. in length, which unites the Brda and Vistula with the Netze, passes through Bromberg. The number of houses is about 610, and the population 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 manufactures Bromberg has a large sugar, two tobacco manufactories, several flour and oil-crushing mills, some potteries, and lime-kilns, &c.

BROMELIA-CÉ, a natural order of endogenous plants, taking its name from the genus to which the pine-apple was once incorrectly referred [Ananassa], and consisting of herbaceous plants, remarkable for the hardiness and beauty of their blossoms, being either foliage or flowered, abundant in the tropical parts of the new-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 branches of trees, round which they coil their simple, succulent roots, vegetating upon the decayed matter they there may find, and absorbing their food in a great measure from the atmosphere. Their leaves are always puckered together so very closely at the base as to form a kind of sheath, which is often very handsome and sweet-scented; but the fruit is in no case of any value except in the genus Ananassa.

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Acid decomposes a portion of the sulphuric acid. The best method is to mix bromine and phosphorus and a little water; the reaction is highly exothermic, and emits hydrogen bromide, 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 contact. 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. 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 liquid muriatic acid: it is colourless, strongly acrid,若有要在吸收热量, and in hot weather 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 = 79

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.

Chloroform from chloroformic acid. 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 and pungent. It is inflammable. It is insoluble 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 prepared by passing carbonic acid gas over bromine in a closed vessel. 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 tinge. It emits white fumes when exposed to the air. When moist it reddens litmus paper strongly, but slightly when dry. Boiling water is decomposed by bromide of sulphur, and there are produced hydrobromic, hydrosulphuric, and sulphuric acids.

Its composition is uncertain.

Phosphorus and Bromine. Form a bromide of phosphorus, which is a solid, and a fluid phosphorus bromide. The solid bromide is liquid, and the perbromide is solid. The protobromide is composed of one equivalent of bromine 79, and one of phosphorus 16 = 95. 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, the bromo-iodide, 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 is produced, which unites with water and gives a solution possessing bleaching power. It is probably the perbromide 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 bromates which their oxides form with bromic acid, we refer to each particular metal.

But little use has been 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 smallities, 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 fall into the basin of the Severn and ultimately into the Irish sea, and others descend in the opposite direction to the basin of the Trent and the German Ocean. The strata belong to the new red sandstone formation.

The Lickey is composed of quartz, and must at some period have been an immense mountain; for it is considered that the source from whence the earth had derived the vast beds of gravel which extend through Oxfordshire, in the valley of the Eveslode, and even along the Thames.

In the par. of Droitwich, just without the confines of the par., a wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded wooded 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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, it may prove fatal with all the symptoms of asphyxiation [Asphyxia]. But it gradually subsides, as several bright red spots, which are seated suddenly, without any apparent cause, with extreme difficulty of breathing, which progressively increased until it terminated in death; and on the examination of the body, no morbid appearance could be detected, excepting a general diminution of the blood-vessels of the 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, manifestly of every type, whether common continued fevers, etc., which affect the bronchial tubes, small-pox, etc. In the state of congestion the mucous membrane is preternaturally red, the tinge of colour varying according to the intensity of the affection from a pale to a brown and purplish red.

When the mucous membrane of the bronchi is in a state of active inflammation, it is of a bright red or crimson colour. This inflammatory redness may be partial or general; but it more commonly affects particular parts of the membrane than its entire surface. Sometimes the redness is confined to the larger branches of the bronchi, and limited to the smaller. Sometimes it exists in the bronchus of one side only; at other times it equally affects both bronchii.

The consequences resulting 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 and change in the secretion are chiefly the result of the inflammation, in some cases of which affection the secretion becomes so excessive as to completely fill up the bronchial tubes, and thereby to occasion suffocation.

The trachea and the bronchial tubes being mere conduits of the air, the disturbance of function produced by the inflammation of the air-tubes, and the obstruction by blood-vessels, is but a corollary 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 result will not be the same, if it affect all or 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 chest, accompanied by a peculiar sensation, as 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 first matter secreted is scirrhous and acrid; and this acridness diminishes as the quantity of the secretion increases; and when the matter secreted assumes a yellow colour, it is always quite bland; and then the cough is loose and the expectoration free.

When the inflammation is seated in the mucous membrane that lines the cavities of the nose and pharynx, the morbid changes which the membrane undergoes during this process are in some degree manifest to the eye. It is obvious that the part affected becomes redder than natural; that its blood-vessels are more turgid with blood; at the same time the membrane swells and becomes thicker and firmer than natural. At first it is perfectly dry; for the first effect of the state of inflammation is the suppression of secretion: but soon a transudation of the inflamed membrane occurs, which is rapidly absorbed by the inflamed vessels, which irritates and even exsorbs all the parts with which it comes in contact. After flowing for a certain time, varying from a few hours to two or three days, according to the intensity of the disease, this morbid secretion changes its character, loses its acrid nature and becomes more bland, but still remains transparent. In an indefinite time, in general in two or three days, still further changes take place; its bland character remains, but its colour is altered; it gradually assumes a greenish tint; it then passes to yellow, and finally becomes of a bright brimstone hue. As the disease proceeds the condition of the membrane is changed; for the blood fluid is formed the morbid thickness and firmness of the mucous membrane diminishes, and it gradually subsides, as seen by the redness of the mucous membrane, of the bronchi and its ramifications.

The redness, swelling, and firmness of the membrane, together with its altered secretions, are then local signs visible to the eye which denote the inflammatory condition of the membrane in corvys and in cynanche tonsillaris, and in other inflammations. The membrane is in part manifest to our senses in the situations in which these diseases have their seat, we can observe the morbid process that goes on, and mark its different stages. It is probable that a perfectly analogous process goes on when portions of this membrane which are present in the trachea, the bronchi, and the larynx, are affected by inflammation. When inflammation is seated in the larynx the membrane cannot be seen. That the particular part of the membrane which lines the larynx is in a state of inflammation is a matter of inference derived from the disturbance of the function of the organ itself, the function which relates to the formation of the voice. But when inflammation descends further into the trachea, the bronchial tubes and their ramifications, not only are we altogether unable to see the condition of the membrane, but as the functions of these tubes are so diversified, and to such different purposes, that the only indication we can obtain that they are in a state of disease must arise from the disturbance of that single function, namely, difficulty of breathing. Certainly there will be combined two other symptoms, namely, cough and expectoration; the cough in both diseases is the result of the secretion of the lungs, and consequently cannot be diagnostic, that is, distinctive: while difficulty of breathing is common to every disease of the lungs and heart which has arrived at a certain degree of intensity. When inflammation is seated in these important situations it is impossible to know what it is, for it is impossible to arrive at any certain knowledge of the specific disease from the symptoms or the signs of disordered function only.

One of the most brilliant achievements of modern science, the honour of which is due to Lissence is, the discovery of a series of local signs by which inflammation of the bronchial tubes, placed as they are deep in the cavity of the chest, is rendered almost as evident as any external disease of the body; the hand may bring forth completely within the cognizance of the ear what it a few days could never have seen, nor the sense of touch have reached.

It has been shown that inflammation of the mucous membrane of the bronchial air-passages has two consequences, first, a swelling of the membrane, and second, a change of its secretions; 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 to completely close that portion of the tube in which the inflammation is seated. The consequence must be that the respiratory murmur [Auscultation] cannot be heard in that portion of the lungs 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 absent in that portion of the lungs. In another condition of the respiratory murmur is however common to several other affections of the lungs. Hence percussion must be called to the aid of auscultation. By striking the chest [Percussion] it is found that the sound elicited is natural in bronchitis, while in suppurative inflammation of the lungs it is dull where there is no respiratory murmur.

The reason of this difference is, that in bronchitis the coats are filled with air, so that a natural sound is elicited by percussion; but the obstruction occasioned by the swelling of the mucous membrane which characterizes the morbid affection of the air, and consequently the respiratory murmur is lost; while in other affections attended by absence of the respiratory murmur the air-coils are impermeable, either from their consolidation or compression, and then the sound, on percussion, is invariably dull and flabby. If on the other hand the inflamed membrane is 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 wheezing, the intensity of which is sufficient to cause a vibration upon the partition 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 deeper bass, morguses into the respiratory murmur, and with it 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 fluid poured into the tube; it is formed in the tracheas, which is 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 direction of the bronchial tubes; or it may be heard 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 be in the centre of the organ or at its surface. In this manner we are taught the danger of allowing any of the characteristic of this kind of sound, 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 disturbed state of the system in general are all those which belong to the disease termed Fever. Whenever any organ of the body is affected with any disease of a certain degree of intensity, in addition to the disordered functions of the affected organ, the whole system is affected. These general symptoms are always a certain kind, and a certain place, and in a certain degree; these being 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 constitutional pneumonia, or constitutional fever, for that it is the original and essential disease, which is termed idiopathic [Fever]. The general or feverish symptoms are lassitude, indisposition to motion, chilliness, often amounting to shivering, pains in the limbs, and more especially in the loins; chills, not always alternating with a chilliness of the mind, 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 intermingling 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 usurious, but only in the extremities; the hands and the face are more or less thirst; the pulse continues rapid, but becomes full; and the urine, which is still small in quantity, is now high-coloured. Then perspiration succeeding to the chills, the face is flushed, the fever changing 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.

With regard to the treatment.—When the disease is in its mild form nothing is required but confinement to the house in a uniform temperature in a warm room; demulcent and diaphoretic medicines to determine to the surface; mild aperients, and the abstinence from all stimulating food and drink, and when the feverish symptoms have subsided, when all uneasiness of the chest is gone, and the cough is slight, some light tonic, as any of the ordinary hitters, will assit in restoring the strength of the patient, and in preventing a relapse.

If the disease is in its severe form, and more especially when it is very acute, that is, when there is much difficulty of breathing, much oppression at the chest, very irritating cough, and a high degree of fever, blood-letting is indispensable. The quantity of blood taken must of course be in proportion to the intensity of the disease and the debility of the patient, but it must be sufficient quantity to produce a decided impression upon the heart's action, and consequent upon the power and rapidity of the circulation. Antimonials exhibited in decided doses immediately after the blood-letting. Unless the necessity of giving them are further depletion. The best preparation of Antony is the tartar emetic, given in solution, to the extent of from one to two grains every second or third hour. The vomiting induced by the first doses commonly subsides or becomes less after a short time. When this is the case the remedy produces so much irritation in the stomach and the system in general that it cannot be given in the quantity necessary to render it efficient; then ipecacuanha forms an excellent substitute, the powder of which may be given in the doses of half a grain to two grains every three or four of an advanced age, in the child and in the infant, is of the last importance in practice: but it is impossible in this place to enter into minute detail; all that can be done is to state and illustrate the general principles that should guide the treatment of the disease, and hence the arrangement of the following chapters on the Diseases of the Lungs, &c. by Dr. T. Davies. Art. Bronchitis. Dr. Copeland's Dict. of Practical Med.)

BRONCHITIS, or inflammation of the bronchi or arteries of the lungs, is a very serious disease among quadrupeds. It is occasionally confounded with the bronchitis of the membranes of these passages, but it more frequently spreads to the lining membrane of the windpipe and larynx, and to a greater or less degree involves the substance of the lungs.

Pneumonia.—It is not a common disease in the horse, but it 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 increased heat of catarrh and the deathly iciness of inflamed lungs; a pulse quicker than either in catarrh or the early stage of pneumonia, not so hard as in pleurisy, but more so than in catarrh or inflamed lungs; the nostrils dilated, and the respiration strangely quickened, being far more rapid than the pulse; a haggard countenance; an almost insuperable liability to contusions; a cough exceedingly painful; a purulent discharge from the nostrils of a greyish green colour, which soon becomes fetid or mingled with blood; the breath hot; and no expiration of pain in any part, or by looking at the side or flank. Pieces of hardened mucous 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 occas-
sionally epidemic. Every affection of the respiratory organs will then rapidly degenerate into this disease. As it pursues its course, the fever and the warm and moist body will be seen becoming flushed, and the caliber of the bronchial tubes is proportionally diminished, while the mucous secretion is abundant, increased, and consequently the animal dies of suffocation, the air-passages becoming completely dogged.

Spleen 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 sub-mucilary 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 draughts of ale should be administered morning and night, until the fæces become softened. The dung having been rendered putrescent, powdered ditties, nitre, and sulphur should be administered morning and night, in doses varying according to the circumstances of the case. From half a draught to two draughts of the first may be given, and from two to four draughts of each of the other drugs.

A blister is indispensable, and it should cover the brisket and parts about the entrance of the wind-pipe. The horse should not be coaxed to eat, and nothing more nutritive than mashes should be allowed.

Cattle.—Bronchitis is a still more formidable disease among cattle, and many thousand animals are yearly destroyed by it. Coughing, which begins at first produces, and which inexcusable inattention and idleness suffer to continue, almost inevitably terminates in bronchitis or inflammation of the lungs, or both united. The food of cattle is much concerned in the production of it. The mouldy hay, the very refuse of the stall, and the common aliment of the yearling cattle, too generally and fatally produce inflammation of the air-passages; and any beast comes from the straw-yard bearing the seeds of death within him.

For reasons 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 losmy 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 animalcula.

The attack of bronchitis is somewhat sudden; the animal has a dry, husky, and particularly distressing cough, and very soon begins to droop and to lose condition. It is painful to see the beard of the beast, held by the bronchial tubes, dilated 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 faucæ, are filled with small worms, mingling 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 strongylus, and the species filaria. They are of a thread-like form, 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 papillæ; the tail of the female pointed, and that of the male somewhat rounded and oblique. The females produce ova; and a number of young worms or ova, but so few as to appear to have been deposited there accidentally, are occasionally found enveloped 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 it is found in such great numbers 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 animalcula. 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 conical abode; or the ova may be hatched, run into the veins, be carried to the smooth, 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—over 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 then with the hard base, or that in 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 matter, whether connected with the water or the pasture, which is necessary to the existence 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 however 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 evaporation of chlorine. 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 alloy, has been produced, and occasionally the beast as well as the worm has been destroyed. This method of these parasites are far be considered as 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 are taken up by the absorbents 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 turpentine increases that of the kidney. 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 and produce the destruction of these parasites. Common salt readily destroys many species of worms, and is conveyed through the circulatory vessels in 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 common salt, 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.
BRONCHOCELE (βρονχοχελή), from βρονχός (bronchos, bronchus, bronch), and χελή (hile, a swelling, called also Gorte and Delphine Neck,—a swelling in the upper part of the neck, occasioned by a preternatal enlargement of the thyroid gland. The tumour is free from pain, generally of the natural colour of the skin, does not readily inflame, and causes no signs of malignancy. 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 some cases it affects the right side of the neck, but in the present instance several of the cases assigned are contradicted.

What is certain is that there are countries, or rather particular places in certain countries, for example Switzerland, Savoy, the Tyrol, certain districts of South America, and Susa, in the Grand Duchy of Baden, 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 functions. Dr. Copland says, 'It is a remarkable number of cases which have come before me in females, I have never met with any before the period of commencing puberty,—not even at the Infirmary for Children; although the menses have often been delayed for a year or two, or even longer, before the tumour has appeared at this season; and have seldom observed an instance in this sex unconnected with some 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 symptoms attended the continuance of the gorte; 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 originated in sterility or barrenness. In all these cases, authors have added conclusive proofs of its occurrence here-ditarily, independently of endemical influence."

It has been said to have an intimate connexion with poverty and bad food, the rich being comparatively exempt from it, but no point of importance is conflicting. It has been 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 Swiss who drink snow-water are free from the disease. Dr. Franklin says, 'A well watered climate is prone to it.' In his journey to the Polar Sea, Captain Franklin observed that at a part where bronchocele prevails, the disease is confined to those who drink river-water, while those who use melted snow escape. Mr. Dally ascribes its frequency, 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 gorte and cleftism. Dr. Coinder observed that the inhabitants of the most frequented, and 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 maladies of those places operates only as a predisposing cause, favouring the action upon the system of some unknown irritation. Observations have been made on the disease, and the 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 Barry, with singular success, in cases such as Dr. Manson of Nottingham states, that out of 120 cases treated with it by him, 78 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 of the efficacy of iodine. It has been adduced by some practitioners however it has wholly failed, apparently owing to their having administered it in too large doses. In persons of a lax fibre and irritable habit, and in children more especially, it is apt to produce a high fever, which is alleviated by administering an astringent, and it is rarely cured without the aid of the iodine. The great use to which it is rubbed into the tumour should not be of sufficient power to act as a remedy. occasionally no remedies will avail, and it is necessary either to take up the arteries which supply the gland, or to remove the tumour from the body. Of these operations a full account will be found in surgical works.

BRONTE, a town in the intendence or prov. of Catania in Sicily, situated at the western base of Mount Etna, and near the outer skirts of the woody region which enircles that mountain, and which near Bronte abounds in pines of very large size. The territory of Bronte is healthy and fertile, though its inhabitants are very poor. The wine which is exported from England to this part of the country is called Bronte wine. Bronte lies near the banks of a stream, called by the inhabitants Cyanoosor, which is one of the affluent streams of the Simathus or Giarrella (Clavera). It is furnished with a number of springs of clear, cold, and potable water, and a number of wells. 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 town of the early period (Ferrara Storia dell' Etna, 2. 20), and bears the title of Duchi. 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 8000l. a year. (Cassell's History.) It is 22 m. N.W. of Catania, and 55 m. S.W. of Messina.

BRONZE, Ital. bronzo; Fr. bronze; Gr. χαλσ (chals), Lat. cæs, is essentially a compound of copper and tin, which metals appear to have been among the earliest employed by man. In this state bronze is found in the earliest works, as 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 precise etymology of the word 'bronze' has not been ascertained, but it is first met with in Italy, where to express this mixture of metals, and it is not very improbable that it is a corruption from the Italian bruno, which signifies brown; the bronze of the Italian, and particularly the cinque cento schools, being of that colour, which is the original tint of the material when left in its natural state. The green hue that distinguishes ancient bronzes is acquired by oxidation and the combination of carbonic acid; and the moderns, to imitate the effect of the former, have used similar processes, sometimes advance that this must be usually mixed with a small quantity of an acid. Vasari alludes to this practice among the artists of his time, and to the means they adopted to produce a
brown, a black, or a green colour in their bronze. (Vit. dei Pistor. Introd.) The Greeks and Romans, in speaking of works in bronze, used words which at once referred to the metal; the Greek chalceor being a mixture of copper and tin, and the Roman aes the same. These words are often understood by moderns to denote brass, which is however a different composition, being a mixture of copper and zinc. Though there is no doubt that the uses of some of the metals were known very early, there is unfortunately little or no notice in any of the ancient writers, or in the mode of working them, or of the time of their discovery. It is certain, however, that, 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. Iron came in a later period. The simpler processes of metallurgy seem to have been known, and a 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: Abraham's servant gave her 'a golden ear-ring of half a shekel' and 'a gold bracelet of half a shekel, weighing a talent of gold,' and spoke to her of his master's riches, particularly mentioning silver. (Gen. xxiv. 22.) The accounts of the oraments and utensils in the history of Jacob, and of Joseph, and in various other passages of the Old Testament, give us an idea of the 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 as refinement. The earliest recorded names of sculptors (counsors are metals. The earlier process may be traced, for them. One was Benzile, 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 brass, and in iron, and in gems of any kind, of the tribe of Dan. They were the artists appointed to execute the works of the Tabernacle. (Ked. xxxiii.) Among the Egyptians the employment of metal was known in times prior to any historical record; and it is probable that the metallurgical 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 bronze works of art that have been discovered in this country are particularly numerous, and 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 Persian physician contemporaneous with Xenophon. He describes works in gold and in 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, are to be received with some qualification, must be granted; but we must not refuse to accept the evidence relating to the works 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 gave them a pre-eminence in fields of art in which 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 a Phoenician origin (namely, some found at Carthage, and some at Ashdod) do not enable us to mark the brilliant epoch of the Phoenician nations to be fairly quoted as specimens of original taste or practice. Their supposed traffic with Britain furnished them, or probably they plagiarized from Spain or Italy. As has been commemorated the Sidonians received the distinguished title of Σιδωνες ποιηταικες; 'the Sidonians the skilful workers.' The artist employed by Solomon in the decoration of the Temple (about 1000 years before our era) 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, may have been of the times of the commanding monarchs, and which may be referred, without doubt, to an extremely remote date; but the slight changes that have taken place in the style of their art and workmanship prevent any classification of them, or even an approximation to the times at which any of the more ancient of them can be fixed. The works that remain of the Greeks, whether considered with reference to the illustration of their history, or for the exquisite specimens which they offer of their taste and feeling in imitative art, claim our especial regard, and the names of a few sculptors, or master statues, of whom we have reached us who were not chiefly distinguished for the excellence of their productions in bronze. In the time of Homer the scarcity of iron occasioned the general use of other metals; and we find the arms, offensive and defensive, are always described as being made of bronze, or perhaps copper alone, which it is possible they had some means of tempering and hardening. (Caylus and others.) The art of casting statues seems to have been first practised by the Asia Minor, or Phrygians, and at an early period, and was so unpractised, that, they were too uninitiated to undertake such works. The Lydians and the Phrygians were early distinguished for their skill in these arts, and they were probably the teachers of the Greeks. The records to be depended upon as to Greek art go as far back as between 600 and 700 years n.c., and the mode of working metal at that time seems to have been the same, or nearly so, as far as there are means of judging, as that adopted by other and earlier nations. The first and most simple process appears to have been hammer work; the lumps of the material were beaten into the proposed form; and if the work were too large to be made of one piece, several were shaped, and the different parts fitted and fastened together by means of pins or keys. Pausanias (iii. 17) particularly speaks of the rich work in the very antient brass statue of Jupiter at Sparta; and this mode of working (mentioned by Herodotus, iii. 69) is called by him and others ψαρφοραον (ψαρφειτων), 'hammer worked,' in opposition to the term ιρρα χανιτα (χανιτα), employed to 'works that were cast' out of metals. This statue was the work of Leochares of Rhigium, and Pausanias says it was the most antient statue of the kind; by which he probably means that it was of the most archaic or antient style, as Herodotus, Diodorus Siculus, and others, as we have seen, say that it was the work of a more remote date. Pliny (xxxiii. 4.), in speaking of a solid gold statue of Diana of Anaitis, refers to a mode of execution termed Holophytos (derived from three Greek words, signifying wholly, out of stone or matter, or, of a more remote date. This process is alluded to in Homer (Odys. i. 295); and as early as Moses the brazen censers of the disobedient were, by the lawgiver's command, beaten out into plates for covering the Tabernacle. The most ancient civilized inhabitants of Europe, in the beginning of the Iron age, had few means of working in lamins, or plates: there is an example of it in the British Museum in a figure of Buddha. A great saving of metal was effected by this process. Soldering (σηλλευον), or the art of uniting the parts of metal without welding, is a part of the process of the art of Alcyattes of Lydia. The art of soldering iron is attributed solely to Glauces. (Compare Pausan. x. 16. with Herod. i. 25.) It is extremely difficult to determine when the art of metal-casting was first practised. It was undoubtedly known very early, though its adoption in European Greece is probably of a comparatively late date. Its progress was evidently marked by three distinct stages. The first was simple, metal being cast into a mold, and the second, metal being cast into a mold and being cast into a mold in a mold or in a mold; the change being of course made solid. The last, which argues considerable knowledge and skill, was casting it into a mold,
The first artists who are celebrated by the historians of Greek art for their success in metal-casting are Rhecous (who is said to have invented the casting of metal), Theodorus, and Teletoe, natives of Samos (prod. i. 30; Paul. viii. 14: Fr. Plin. N. H. xxxv. 12); and the manner in which they are known to have proved 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 the antients who held different opinions on the subject; it seems that the first artists so called lived between 700 and 600 B.C. Theodorus is made by Herodotus the contemporary of Crosus, who was defeated by Cyrus B.C. 557. Gitiades of Sparta and Glaucias of Ephesos hold also a distinguished rank among the earliest metal-casters. Theophrastus (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 propylaeum of the Acropolis, with an appropriate inscription. The antients 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 the best specimens are some pieces of a great horse, in the manner in which the ringlets of hair, worked separately, are fastened on: many of these are of large size. Bronze-casting seems to have reached its perfection in Greece about the time of Alexander the Great, 330 B.C. The accounts given of the casting of bronze are always of great credit. After Lysippus, the favourite sculptor of Alexander, who executed, according to Pliny (xxiv. 8), above 600 works, the art declined.

The arts seem 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; Polyclitus preferring that of Ephesus, while Myron always used that of Delos. The antients 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 cultivated art. The most remarkable piece by Myron also is described, in which he painted or varnished their bronze with the same view of more closely imitating nature. (Callist. Stat.; Plin. xxxiiii. 9; Plut. Symp. lib. v.; and others; see also Fourcroy de Quincy, J. Olym.) The story of the accidental mixture of the metals by a goldsmith, who was engaged by the Athenian, 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 candiainum, received its name from Candia, a place on Crete, which was the country of the work, the second had a greater proportion of gold; the third, Pliny says, was composed of equal quantities of the different metals. The antients writers mention several of the bronzes that were used: amongst them we find As Hepos, or liver-coloured; and As Silver, and As Gold; and As 622. The 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 Ateus at Myccenae, an antient Corinthian coin, and a large and beautiful statue of a horse are described by the antient writers, also in the British Museum, affords about 87 or 88 parts copper to about 12 or 20 of tin per cent. The experiments of Xipholus and others give nearly the same results as to ingredients; the quantities sometimes differ slightly. It is well known that the tin is indispensable to give it the quality necessary for producing what is called a true cast. It was engaged on his fine group of Perseus and Medusa, during which, by the jealousy of rivals and the ill-employ-ment of his workmen, he had been subjected to every kind of annoyance and distress, though his labours seemed to be nearly at an end: his mould was lowered into the pit, the furnace heated, and the metal thrown in. At this time, while a violent storm raged without, the roof of his study, as if to increase the confusion, caught fire; but, though ill and harassed, he still directed the works and art.
couraged his assistants, till overcome by anxiety and fatigues
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 tongs. He had not been recuperated 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 fright-
eningly alarmed, found him in one of those paroxysms of
reasonable fury that he had 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 would not run. He had ordered all his tools, hammers,
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 added that he fell down on his knees, and poured forth a
fervent supplication, that the art might, he was sure made
that 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 moulds. The statue of Louis
XIV., by Girardon, one of the most celebrated sculptors of
France, and certainly of Europe, was cast in this manner.
A few observations on the mode practised in Mr. Westma-
cott'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
clay and brick dust, are made 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 sold
with a mixture of plaster and breccy, &c.; this is equal
to 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 iroms and keys to preserve it in its just
position during the administration of the fluxes, the 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 from any humidity (as important
points of power the 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 to enter 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 imme-
diately under the force of gravity. The casting of 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 mass; the model, however, which are of very rare occurrence, there is an advantage in
being able to repair parts; and the process of burning,
successfully adopted by Westmacott and others in the largest
works (and which is found a great improvement in the an-
tient method of soldiering) renders the joined 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. In Farnborough, for instance, it
consisted of 100 parts of copper and 11 tin. Bronze for cymbals and tamb presets
composed of 78 copper and 22 tin; its spe-
cifie gravity is 8.815. Some cymbals yielded however 80
per cent. of copper.

<table>
<thead>
<tr>
<th>Metal</th>
<th>Value (per cent)</th>
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<tbody>
<tr>
<td>Tin</td>
<td>80</td>
</tr>
<tr>
<td>Zinc</td>
<td>56</td>
</tr>
<tr>
<td>Lead</td>
<td>43</td>
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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 160 copper and 7 to 11 of
iron 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 moulding, coreting, melting, casting, &c. &c.
are omitted, as belonging more properly to foundling
and casting.

Brooke, Henry, is one of the occasionally recur-
ing instances of men of letters who having, from ancien-
tal 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 un-
derstood, were not mediocrity in belles lettres, especially in
poetry, alighted on him with worthier stress. Dr. Brooke
published his first poem, 'Universal Beauty,' with the appro-
valation and sanction, and even with the direct encouragement
and under the patronage of Pope; he was received by him
in the house of Swift, if not as the latter's friend,
in one of their casts, and his tragedy of 'The Earl of Essex'
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' was classed among the worst of his works as
incorrectness of language, admitted for the sake of metre
and rhyme, displays considerable imagination and descrip-
tive 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, when
he began to publish his attempts, and was finally
recommended by the latter to the notice of the poet
he had written his tragedy of 'Gustavianus,' not merely
with a view of exciting and fostering a spirit of liberty,
but in order to vituperate the premier, Sir Robert Walpole,
brother of the noted Frenchman, whose name, perhaps,
has been enough repelled by Brooke's admirers; but
several writer at the time that the stage licence 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
least success upon the stage, to wit, 1000l.

Ill health and the persuasions of his wife, who dared
and sought to withdraw him from his political connexions,
induced Brooke to return to Ireland, where he spent the
remainder of his days, and obtained the post of Chesterfield
(post of barrack-master, which he held till his death. He
had a large family, and though possessing,
itis believed, no means beyond his official salary and
his literary earnings, he generously supported a brother
with an equally large family. He thus involved himself
in pecuniary 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 under too much
after the decay of his faculties had become too apparent.
He wrote in all 13 tragedies, of which only 'Gustavianus'
and 'The Earl of Essex' could boast any success, many
small poems, many pamphlets, of which 'An Appeal to the
Liberals.' His novel of 'The Fool of Quality' was
much admired in its day; and his 'Farmer's Letters,' ad-

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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 Brooke's enlightened judgment and to his candid heart, be forgotten, 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 Specimen of English Poets.)

BROOKLYN. [See New York.]

BROSCUS, a genus of coleopterous insects, according to Latreille belonging to the section of the Carabidae called Simplelimani. In Latreille's work, however, this genus retains the name of Cephalotes (given to it by Bonelli, from the circumstance of the species possessing an unusually large head), which has been subsequently termed 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 segmented stridulating elytra, generally 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 cephalotes trigonipalpis, with all its joints of nearly equal thickness, the terminal joint of the maxillary palpi rather short and truncated: the antennae if extended backwards reaching to the base of the thorax: mandibles unidentate internally: labrum anterior: tarsi of the meso- and metapodomes with the three basal joints distinct.

The species are generally found under stones, and often accompanied by fragments of numerous other insects devoured by them. When taken in the hand they will often pretend to be dead, extending their limbs stiffly, and it is the almost impossible to prevent their escape.

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 elongated; the head is nearly equal to the thorax: in both sexes the mandibles have a subterminal seta, being scarcely discernible. It seems to be confined to the east 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. i., and par., on the Severn, in the extensive district called Wenlock Franchise, Shropshire, 13 m. S.E. from Shrewsbury, 9 m. N. from Bridgenorth, and 130 m. N.W. from London. Its area contains 1550 English statute acres. It was in 1831, of 2158 males, and 1541 females. 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 £90.

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 pop. of Broseley has experienced a decrease of pop. (513 persons), ascribed to the cessation of five iron blast furnaces; 126 persons are employed in mines." The par. is divided from Coal-Brooke Dale to the Severn. Broseley contains three daily schools, four day and boarding 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 1809 the produce was about 15 gallons a day, and it was, a few miles from Broseley, is a coarse-grained sandstone, highly impregnated 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 Pit.


BROKSMUS, a genus of Uricaeidae, one species of which is believed to be the cow-pano, or Palo de Vacas of South America. As this however is not certainly ascertained, we refer for an account of that remarkable vegetable production to the article Cow-Flax.

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But one species of brosnius vulgaris has been found on our coasts, and that appears to be confined to the northern parts; it is the H. vulgaris of Cuvier, commonly called the Torso, and in the Shetlands the Tusk and the Brismak; in this was found a large abundance, and it is, a few miles from Broseley, a considerable article of commerce. In Yarrall's History of British Fishes we are informed that this species also occurs 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 small and rounded: two only: we can hardly think that this description can agree well with the characters of the fish as given by other authors. For further information we refer our readers to Mr. Yarrall'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.

Richard Brothers held for several years the rank of lieutenant in the British navy, which he quitted in 1789. A controversy with the lords of the Admiralty about his half-pay first developed that character of his mind, which, ultimately, plunged him 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 folly of compelling a man 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 Clitham had the word 'voluntarily' erased from the form of oath. This, however, did not prevent him from afterwards enduring, 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.

The papers, as a book which he published in two parts, entitled 'The History of the Universe,' which appeared in London, printed in the year of Christ 1794, (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, said he, is the true, a prophet, a devil, or am I 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 1st. July 1793 he obtained the great forerunner of the monarchical estate, and speaker of the House of Commons, stating that he was commanded by God to go to the parliament house on the 17th, and inform the members, for their safety, that the time was come for the fulfilment of the 7th chapter of Daniel. Accordingly, on the 17th, he presented himself at the door of the House of Commons, and, according to his own account, met with a very severe reception.

Having some time after prophesied the death of the king, the destruction of the monarchy, and that the crown should be withdrawn from the king, and given to another. He shewed that the king was not mad, and an impostor, but a devil, or am I out of my senses, constitutes the dangerous sin of blasphemy.

It was from visions and revelations, and through the Holy Ghost, that I write this book for the benefit of all men; this book, said he, is the true, a prophet, a devil, or am I out of my senses, constitutes the dangerous sin of blasphemy.

And so the story of Brothers and his delusions goes on, but it is a story of no further interest to us.
BROUGHTON ARCHIPELAGO is a cluster of rocky islands in the Pacific Ocean to the E. of New Zealand, between 44° and 45° S. lat., and 160° and 182° E. long.; it consists of a great number of small islands and rocks, and a few of moderate size. The largest is Chatham Island, and next to it Pitt's Island and Cornwallis Island.

BRONCKER, or BRONCKER, WILLIAM, Viscount Brouncker, of Castle-Lyons in Ireland (which title was created for his father who had held it in 1662), was born about 1620. In 1646 he was made Doctor of Physic at Oxford. In 1650, having then succeeded his father, who died in 1645, he subscribed the dedication issued in April by the friends of the restoration. In 1652 and 1653 he was a member of the council, and in 1654 he assisted 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 Brouncker 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 him for assistance in the question; and the latter arrived at the following conclusion—if \( x \) represent the ratio of the circumference to the diameter, then

\[
\frac{4}{\pi} = 1 + \frac{1}{2 + \frac{2 + 22}{2 + 2 + \ldots}}.
\]

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 Brouncker's. Montucla states the first in one place, and consists 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 pulp consisting of a sweetish taste.

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. Its leaves areingularly flat, and in a many others 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 paper accidentally obtained was to be obtained. Sir 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 being cut off a yard long, are boiled till the bark slinks 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 stems and pieces are selected, and 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 destroyed. He then removes the remains of the body and its downy fibres are separated by a touch of the finger. The pulp so produced is then agitated in water till it resembles tuffs of tow. If not sufficiently boiled, the paper will be coarse though strong; if too much, it will be brittle, in- necessary ventriloquism. To There strength and the flowers of their preparations of tissue catkins, wood, into its pulp. He is known Brouncker's. another with Relative to the discovery of the Nellian quadrature, and politics. His first work was 'Alcune, a wild series of speculations on the fancied evils of marriage; for which, however, he found himself unable to devise a remedy. 'Wieland,' his first novel, appeared in 1798. It was followed by 'Fond l'amour,--' 'Anacreon,'--'The Merry Manners of Mr. Howard,' before 1801; and by 'Jane Talbot,' in 1804. 'Carvin,' and some other unfinished pieces, were published after his death, in 1822. He established two literary journals: 'The Monthly Magazine and American Review,' published in April, 1801, and continued to the end of 1806; 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 5 vols. The published also some poems in the ›popular and sedentary life, acting on a delicate constitution, brought on consumption, of which he died, February 22, 1810. He is described as having been a man of romantic temper, benevolent heart, great invention, extensive at- tention to the church, and prodigious industry; and of most delicate and stainless morality

Brown's novels, after being long unknown or forgotten, acquired a sudden popularity in England about 15 or 16 years ago. In style they bear some resemblance to those of De Quincey. Brown grew up in the wilds of the Urswick, and there, we concur in the criticism of the Encyclopedia Americana.

'Their leading traits are rich and correct diction, variety of incident, vivid scenes of joy and sorrow; a minute de- velopment and strong display of emotion; and a powerful use of the phenomena in the physical faculties, and habits of man. Almost all is new and strange in his machinery and situations, but he deals too much in the horrible and criminal. Extravagant and consume depravity saturates the manuscripts of his characters. His scenes may rivet attention, and his plots excite the imagination, yet they pain the heart beyond the privilege of fiction, and leave in the imagination only a crowd of terrificphantoms.'

We may remark, in illustration of this passage, that in 'Vielé-Duc' the reader is presented with the proposition to insanity, produced by the spontaneous combination of a parent upon an excitable mind, which is at last driven to crime, despair, and suicide, by the persecution of an extraordinary being—Carwin, the Biloquist, of the late fragment—possessed of an amazing and frightful variety. In 'Edgar Huntley,' the whole history of the story is founded on somnambulism. 'Arthur Merryn,' deserves notice in an historical light, as presenting a fearfully true picture of the ravages formerly made by the yellow-fever in the Ame-

BROWN, JOHN, founder of the system of medicine termed Bronsonian. It is unnecessary to trace minutely
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 of the 8th, drew 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 into Latin, he was induced to pay some attention to medicine, and in the year 1755 he was elected a fellow of the medical professors of the University, among others, those of Dr. Cullen, who having discovered his knowledge of Latin, made bid tutor to his sons. Having completed the usual course of medical studies, he obtained a degree of doctor of medicine, at the University of St. Andrews. His improbable 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 might have done, and he conceived a dislike to his former professor, which was 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, unless it were the whole of a Cullenian system, simplicity 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, and only sustained by the action of external agents operating upon the body, every part of which 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 accumulated in the body, and produced diseases which he termed athenic; 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. So great was the acuteness of his observation, and so accurate his perception of the facts, that 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 apoplexy in 1758. This man, the first of his name that had been a member of the Academies of Geneva, London, and Paris, which he expected. His system never found much favour in this country, except among a few whose minds inclined them to the adoption of dry generalizations, such as Dr. Beddoes, who edited an edition of the Elements of Medicine, 2 vols. 8vo. London, 1755, under the names of William Brown, professed. His whole works, with a mere ample life, were published by his son William Cullen Brown, 3 vols. 8vo. London. 1804.

Brown's doctrines met with a more general reception in Germany and Italy; in the former country they were propagated by Dr. Johann Jacob Bachhoffer, who translated them made 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 Rev. Samuel Brown, was born in London, 9th of January, 1726, in the tenure of the parish of Kirkaabock, in the Stevarty of Kirkculbt. About a year after her husband's death Mrs. Brown removed with her family to Edinburgh. Before he was three years old Thomas prevailed on her to teach him to read; thus enabling him to complete his fourth year he could read in the most distinct manner any book he met with. The Bible was his lesson book. When between four and five years of age, a lady observing him along sitting on the floor with a large family of books before him, who were divided into different parts with one of his hands, asked him if he was going to preach, as she saw he was looking for a text? 'No;' said he, 'I only wishing to see what the Evangelists differ in, for they don't all give the same account of Christ.' Once when ill, about this time, he could not be made to remain at rest in bed until they brought him an immense volume of old ballads, which kept him quiet with delight until he got most of them by heart. The boy though tall was firm, and no beating could make him ask pardon.

About his eighth year he was removed to a school at Chiswick, in which the present Lord Lyndhurst was one of his classmates. His last school, which he left in his twelfth year, was the Edinburgh Academy, under Dr. Ferrie. In this school, the quickness of his memory made him disregard the task of committing a passage of an author to heart; and in order to gratify his insatiable thirst for reading, he got the books of the village circulating library put under the door of the play-ground until he read them all. On his vacation visit to his uncle at Kew, he regularly read Shakepse through.

Soon after the death of his uncle, in 1792, he was returned to Edinburgh; and in the session of 1793-4 studied logic in the University of Edinburgh, under Dr. Finlayson. Spending a part of the ensuing summer in Liverpool, he became acquainted with Dr. Currie, who put into his hands a copy of Stewart's Elements of the Philosophy of the Human Mind. Brown was struck with an inconsostruct in the doctrines of Stewart: be pointed it out to Dr. Currie, and next winter, when attending Stewart's class, he was bold enough to state it to him at the close of one of his lectures. Stewart heard him patiently, and read a letter to him from M. Prebois, of Geneva, in which he held that in sleep the operations of the mind which depend on the will are suspended, along with the doctrine that memory depends on attention, the creature of the will; the objection is obvious, why then do we remember our dreams? He answered them in the same manner he had in seeing it through the glasses and colouring under which it was hid, than in the objection itself. The professor invited his pupil to his house, but never disputed with him.

For several years Brown attended the lectures of Stewart, Robert Black; and, in 1798-9, he generally spent in conversational discussions on all sorts of subjects with his friends Horner, Leyden, Reddie, and Erskine.

When little more than eighteen years of age, the remarks he had made in reading Darwin's Zoophyta had swelled from a few notes, for an article in a periodical, to the size of a book. Before printing it, by the advice of Professor Stewart, he sent his MS. to Darwin, who received it very dryly, and answered it with little asperity. In the beginning, in the beginning, it was called Darwin's "system," from the Zoonomia of Erasmus Darwin, M.D., by Thomas Brown, Esq. The book was highly esteemed by his friends, and an able review of it appeared in the Monthly Review;* by Dr. Duncan, who never suspected that it was a false theory with weapons equally fallacious, and the errors and excellencies of his book have the same source,—the delight of a young and acute mind in the discovery of a multitude of distinct beings.

* Monthly Review [Revised], vol. xxix. pp. 161, 324. In 1796 he studied law for a year, a profession in which his friends augured success from his acuteness. Becoming convinced however that astuteness and not subtlety of intellect was the secret of real quickness, he began to pursue the joint pursuit of legal and literary knowledge incompatible with his health, he began, in 1798, to study for the profession of medicine. In 1803, when he took his diploma as M.D., his thesis 'De Sonno' excited the admiration of his examiners.

About 1796 Brown joined a debating society in the University, in which he argued against atheism; a circumstance which was used against him in after life. A few of the members of the Literary Society formed themselves in 1797 into the Academy of Philosophy, a society devoted to the discussion of nature, the laws by which her phenomena are regulated, and the history of opinions concerning those laws. Two names of Erskine, Brongham, Reddie, Brown, Rogerson, Birkbeck, Logan, and Leyden were immediately enrolled.
and they were soon after joined by Lord Webbey Seymour, Hornet, 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 other engagements, he published nothing more in connexion with it. 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 criticisms, 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 pleased; but praise on 'the Sun,' 'the Moon,' 'Love,' and 'War Friends,' 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 Philosophy 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 Hume's 'treatise of causation was made the ground of a charge of infidelity. Brown published a pamphlet on the occasion, in which he proved that no such consequence flowed from the doctrine. The 'Edinburgh Review' alluded to the pamphlet in the most flattering manner, and Brown in another instance was accused that he had received from it much pleasure and much instruction. 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 was published in 1835. The question of the true

... 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 been always and will be always immediately followed by a similar change. Isaacs, or 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 only in a certain constant manner. In opposition to this difference, that property and quality as commonly used comprehend both the powers and susceptibility of substances—the powers of producing changes and the susceptibilities of being changed,—and with this difference only, is a popular and vague idea of causality included in terms of these 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 signify precisely the same thing—that when water is poured upon salt the snow will take the form of a liquid, and its particles be diffused in combined connection through the mass. When we speak of all the processes of a body we consider it as existing in a variety of circumstances, and consider at the same time all the changes that are or may be the effect of circumstances. 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.

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 1795 he was a candidate for the Rhetorical chair; but on the recommendation of Professor Brough, he declined himself completely convinced by his arguments.

In 1808 Dr. Brown became the partner of the eminent Dr. Gregory in his large practice. But his bias was to a literary life. In 1795 he was a candidate for the Rhetorical chair; but on the recommendation of Professor Brough, he declined himself completely convinced by his arguments.
The intellectual states he divides into two generic capacities, simple and relative suggestion. Simple suggestion is the name he gives 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 their co-existence; 2nd, degree of liveliness; 3rd, frequency of alternation; 4th, accordance with the 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 supposed faculties of conception, memory, imagination, and emotion, he reduces to simple suggestion. 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 antecedence to the present time; conceptions and suggestion are in some manner united; the relation of recollection to suggestion on success, 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 in the present universal state. 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, since 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, when the words divide into relations of co-existence and succession. The states 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 the part, which includes the same. The relation of 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.

Dr. BRB, who finished his 'Paradise of Coquettes,' which he had begun six years before, 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 reprinted, and he received the voluntary subscription 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, and his 'Perpetual Spring' in the autumn of 1816. In 1817 he gave his opinion, in 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 manse of Belmoe, he wrote his 'Rinciples.' This was published in 1818. 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 ardour. After Christmas he felt unwell, and was obliged to write them by hand. The name 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 for the possession of its most 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 chaste taste; but its very exuberance has given such a degree of popularity to his lectures that they have passed in the hands of eminently judicious people that a man who ever did in the same time; and thus the most sublime and analytic has also become the most popular and stimulating of metaphysical writers. (Welsh's Life of Brown.)

BROWNE, THOMAS, a learned and able antiquary and miscellaneous writer, who has given rise to a good deal of talk in Dr. Johnson's, whose memoir we shall do little more than compress. Browne was born in St. Michael's, Chesapeake, October 19, 1665: 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 Physic at Padua in 1700. In 1703, having obtained considerable practice was in the next year incorporated Doctor of Physic at Oxford. Notwithstanding very ungentle opinions advanced in 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, French, and Latin, in 1715 and 1716. In the same year, the having obtained considerable practice was in the next year incorporated Doctor of Physic at Oxford. Notwithstanding very ungentle opinions advanced in the 'Religio Medici,' he married a lady who is described as both beautiful and amiable, and bore her ten children, of whom a son and three daughters survived their parents. In 1646 he published with his name a work evincing most extensive reading and observation, and on which his fame is principally founded: 'Inqui- states into the nature of Plants, or Physic Cures, in the six editions in 27 years. A reply to it was attempted by Alex- ander Ross, a great lover of the marvellous. It was immedi- ately translated into Dutch and German, and in later years into French. In 1648 appeared 'Hydrostatics, Univ- ersal, or a Discourse on the Laws of Nature and the Picnic with antiquarian knowledge, and occasioned by the discovery of some antiquities in Norfolk. To this was added a much more fanciful essay, entitled 'The Garden of Cyrus, or the Querumentum Arvus,' or New Plantations of the Plants, artificially, excellently, and singularly consid- ered.' So imbued was Browne with respect for his fa- favoured figure, that an incautious reader (to use the powerful language of Johnson) 'would imagine that decauscacy was the great business of his world, and that the art had no other purpose than to exasperate and imitate a quincey.' 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:

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 into the Fortunes of Birds and Insects.'
5. 'A Letter to Hawks and Falconry, Antient and Modern.'
6. 'Of the Cymbals of the Hebrews.'
7. 'Of Opal or graduation.'
8. 'On Languages, and particularly the Saxon Tongue.'
9. 'Of artificial Hills, Mounts, and Barrows in England.'
10. 'Of the Oracle of Apollo at Delphos to Cresus King of Lydia.'
12. 'A Prophecy concerning the future State of several Nations.'
13. 'Museum clasius sive Bibliotheca ab- scendens.'

The above were published in one volume folio, together with works acknowledged by Browne himself, by Arch- bishop Tunney in 1684; to which were added in 1722 in Stov. 'Reperoktorium, or some Account of the Tombs and Monuments in the Cathedral of Norwich.' Other pieces by Browne published in his lifetime are: a Letter to the Earl of Pembroke, which was printed in 1719, and a Letter to Sir William Dugdale's 'Inquiries about the Fens.' 2. 'A Letter concerning Ireland.' 3. 'A Letter concerning the Urns newly discovered.' 4. 'Short Strictures on different Subjects.' 5. 'A Letter to a Friend on the death of his Master Browne.'

In 1665 Browne was chosen honorary member of the College of Physicians, being, as his brethren expressed it, 'a man of singular learning and vast erudition, one of the most eminent that ever dwelt in this country.' Charles II knighted him in 1671 at Norwich, where, after a short illness, he expired on his birthday, 1682. He was buried in the church of St. Peter Mancroft, in that city, and a short and unpretentious inscription on the tablet 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 subsequently to the reign of George II.

The Life of Brown 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. The Anglo-Latin Miscellanies of Thomas Browne have had some influence on the style of Dr. Johnson. It is a style too peculiar and idiomatic 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 fixed character. . . .

BROWNE, WILLIAM GEORGE, was born on Great Tower-Hill, London, on the 25th of July, 1768. His father, a respectable wine-merchant in London, sent him to Oriel College, Oxford, where, as the traveller frequently lamented in after-life, he met with no encouragement and little assistance in his academic studies. After leaving the University he kept a few terms in the Temple, and attended the courts of law; but he had never any love for his profession, and while he possessed, no doubt, a great deal of ability, he was by no means a possessed of a competence, he devoted himself altogether to general literature, to the acquiring of modern languages, and the general principles of chemistry, botany, and mineralogy, which were afterwards very useful to him in his travels. 

In the month of January, 1792, he embarked at Trieste, and set sail the 25th of January. He died at Assouan, Upper Egypt, and was buried there; but his body was then burnt, and his remains, which were afterwards recovered by the military, are still preserved in Upper Egypt, and Formosa, and in the island of Borneo. . . .

In September, 1792, he started for Abyssinia, but a Mam-lük, the priests of which are in Upper Egypt, prevented him from getting farther than Sennar (Shyam), on the banks of the Nile. On his return down the Nile he turned off at Kaffa, and visited the immense quarries near Cas-erir, on the Red Sea.

In the month of July, 1793, Mr. Browne set out from Egypt with the great Soudan Caravan (Caravan of the country of the Negroes), whose destination was Dar-Fûr, a Mohammedan country west of Abyssinia and north of the great western branch of the Nile—the Bahr-el-abiad, sometimes called the White River. He hoped to penetrate in this direction into Abyssinia; and the novelty of this route into Africa, and the circumstance that Dar-Fûr had never yet been visited by a European traveller, were in themselves very strong inducements. After many hardships and difficulties, however, he reached Dar-Fûr in August; and there remained two winters. He then proceeded through the interior of Asia Minor, arrived at Constant-
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 printed in Walpole's (Sir W. Browne's own Book of Travels; and Memoirs relating to European and Asiatic Turkey, edited by the Rev. Robert Walpole, 1829.)

BROWNISTS, a name given to a religious party which arose in the 16th century. This movement recognized the principles of independent judgment and a particular way of life, 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 a diversity of opinions. In the 16th century contests were perpetually recurring between parties who desired a more complete reformation than had 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 Adamson's Dictionary of all Religious Sects it is stated that the sentiments 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 founder of the sect, and as bringing the various sects 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 practice. They thought that the Church of 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 every one should be free to act and to be con- fined 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 in- dible privilege merely because he had received from him an officer, and gave him authority to preach and ad- minister 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 Christians, they were of opinion, was a body corporate, 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, convictions, synods, councils, or any jurisdiction whatsoever.' (Vol. l. 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 sometimes on the churches, and sometimes in his own house, by the use of his delivery gained him reputation with the people. He was subsequently a schoolmaster, and afterwards a lecturer at leisington. Neal terms him 'a fiery, hot-headed young man;' and Mosheim, 'an insinuating man, but very un- settled and inconsistent in his views and notions of things.' He went about the country inveighing against the disci- pline 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 for uttering the false and scandalous assertion that the pope was released. In 1582 he published a book entitled 'The Life and Manners of True Christians;' to which was pre- fixed 'A Treatise of Reformation without tarrying for any; and of the wickedness of those preachers who will not reform themselves.' After this the Brownists were suppressed, and the magistrates commanded and compel them.' He was again taken into custody, but released on the intercession of his rela- tive 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 could not see his hand at noon-day. At length he formed a separate congregation in his own principles; but 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 handful of people were delivered from the bishops they had no scaffold to stand on. In 1582 Brown was now in charge of his father's office, returned into England in the year 1589, and having renounced his principles of separation, became rector of a church in Northamptonshire. Here he lived an idle and dissolute life (according to Fuller) and became a great favourite with the Brownists. It is afterwards stated that he was expelled from this, and other churches near London, by the rigour of Clarendon. 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 of him, and was arrested by nobody, and officer pronounced him before Sir Rowland and 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 91st 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 Inde- pendents.

BRUCE, EDWARD, second son of Edward Bruce of Blairholm, in the county of Elgin, was born about the year 1559; and having passed advocate at the Scotch bar, was early appointed one of the judges of the Commissary Court of Edinburgh—a court instituted soon after the Reforma- tion. In 1576 he was one of the commissioners appointed to visit the Kirk of Scotland. In 1577 he published an essay, in which he attacked the Edict of Nantes. In 1583 he published a letter to the Lord President, and in the same year he became a member of the Lords of Session. He was in 1585 elected to the General Assembly of the Kirk. In 1587 he published a letter to the Marquis of Douglas, in which he complained of the want of order in the Kirk. In 1589 he was nominated to the office of President, and in the same year he was chosen one of the deputes of the Lord General of Scotland. In 1597 the general assembly of the Scottish church having sent commissioners to Parliament to demand the removal of the prelates from that house, as having no autho- rity from the Kirk, the said commissioners moved that charge whatever in it, Bruce rose, and directing himself to the king who was present, made a long discourse of the right they had to sit and give voice for the church in these meet- ings, complaining at the same time that the Presbyterian clergy had most improperly shut them forth of 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 arrogancy. Mr. Robert Pont, a Presbyterian minister, and one of the parties against whom the commissioners were stopped in his reply by the king, who called them to 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 de- volved upon the judges of the court of session or other super- ior courts of justice—to complain of the secret assurance given by the minister to Bothwell, and to deliver the corsairs 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 a committee of the Scotch 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
ambassador to England. He failed in securing the main object of his mission, which was to obtain the queen's recognition of James as her successor in the throne; but by skill and address he secured many of Bruce's friends for his master's service. He was once more sent to England in 1601, in company with the Earl of Mar, to intercede for the Earl of Essex; but arriving too late for their purpose, the ambassadors readily converted their message into a complaint against the Earl of Essex for having harbored Bruce during the conspiracy. On this occasion Bruce had the good fortune to settle a correspondence between the kingdoms, which contributed not a little to James's peaceable accession to the English crown. 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 bench. He continued to hold the rolls, in which office he died, 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 Balmain, 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 Kinnaird, in Stirlingshire, the 6th of March, 1663. He was the eldest son of David Bruce, Esq., of Kinnaird, 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 1746. At Harrow he became acquainted with Dr. Priestley, and with their common friend, Dr. Wilberforce. 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 followed his first studies, and engaged in the field, and made a good marksmann. In 1758 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 after marriage he spent the greater part of four months in his marriage house, which he purchased in a small street in the West End of the city, where he lived in comparative poverty 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 1738, and Bruce returned to England to succeed to the family estate, with a moderate income, which, however, was considerably increased in consequence of the additional income obtained from his land and houses.

In 1761 Bruce dissolved his partnership in the wine trade. He had for some time past applied himself to the study of Arabic, and had likewise turned his attention to the Ethiopic in Egypt. He also improved himself in the study of other aboriginal languages, and in the schools 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. Wood, appointed Bruce Consul-General at Algiers, with the understanding that he was to visit the interior of Barbary, and make sketches of the antiques which, according to Shaw, existed there. In a conversation which Bruce had with Wood, he gave him no small warning about the

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Bruce's sketches of the antiques of the Nile, and of the glory that would accrue to any bold traveller who should explore them, had a very considerable effect on Sir Robert Pigot, who was then ambassador to France, and by whose influence he was encouraged to make a journey to Egypt. He at first thought of going to Egypt by way of Italy, but on arriving at Genoa he was seized by an intermittent fever, which retarded occasionally during his subsequent travels. From Candia he went to Syria, visited Baalbec and Palmyra, and resided for some time at Aleppo with Dr. Patrick Russel, physician to the factory, from whom he received further instructions in
the medical art. After spending about one year in Syria he proceeded to Alexandria in 1768. At Cairo he was introduced to All Bey, the Mameluke chief, whose Coptic minister, Muslem Rish, had conceived a high opinion of Bruce, whom he fancied to be a great astrologer. Bruce had now fixed his plan of going to Abyssinia. He met at Cairo with the Sheik of Pasha, and such of his companions as had come from 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 Ali Bey for the shereef of Mecca, the ruler of Mosawa, and the king of Shoa. The present plan was for him to sail 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 lost much of its value. It is well worth remarking that he corrected several common errors; he confirmed Pococke in fixing upon Metechrathy as the site of Memphis, and he visited some of the painted tombs at Thebes. From the Nile he crossed the desert to Consela, from whence he sailed for Jidda in April, 1769; but instead of going direct to Jidda he went, according to his own statements, up the gulf to Tor, and thence along the Arabian coast to Jidda. He gives his observations on the hydrography of his courses, the position and bearing of the towns and harbours, &c. &c. He had no idea that the straits of Bab el Mandeb, have by some been 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 has been dowager. Bruce had been aware of the coasts 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 Jidda Bruce received every encouragement for his project, and, in due time, engaged his Jidda, and especially Captain Price of the Low East Indianman, kindly exerted their influence with the authorities of that place. Metwel Aga, the minister of the shereef of Mecca, originally an Abyssinian slave, was well acquainted with Ras Michael, the Prince of Shoa, and at that time the most powerful chief in Abyssinia. At Captain Price's suggestion Metwel Aga agreed to send one of his confidential servants, Mahomet Gibberti, a native of Abyssinia, to accompany Bruce in his journey, and he wrote to Ras Michael, recommending the traveller as an English physician to his protection against the naff of Mosawa, a kind of independent chief, whose cruelty and avarice were the dread of strangers. This precaution of Metwel Aga proved very useful to Bruce. He sailed with Gibberti for Mosawa in September, 1769. Gibberti was a man of much courage, and communicated the secret by which he obtained the shereef's nephew, and a better man than his uncle, for whom Bruce had brought a letter from Mecca. At last messengers came to Mosawa from the interior, bearing letters from Ras Michael and from Jann, his deputy. Aga then directed the request to the shereef's nephew, and his uncle, in the name of Michael, through whom he generally communicated. He spoke however Arabic with some of the Musulman inhabitants. Bruce never commanded a body of horse, as he states; the king had no body-guard, though he had a body-guard of horsemen. He was conducted by Idris, a Musulman. Bruce was not actually engaged in war, but he was present at one battle, probably the second battle of Serbraxos, and this is confirmed by Bruce's original journals, quoted by Dr. Murray as the best authority, and the letter to Lord Clive from Bruce's text in the narrative. No shummant or district was ever given to Bruce, though he said he had to frequent the government of Ras el Feel, which was held at one time by Ayto Gozah. Dofer Esther said that the king of Shoa was privately as well as publicly friendly to Bruce's time, all connexion between Shoa and Gondar having been broken off long before. It may be observed here also that in Bruce's original memoranda (see Appendix, vol. ii.) pages 102-107, this visit is stated in the narrative. The description of the Gallia chief Guinougal, Dofer Esther said was strongly misrepresented; he remembered his visit to Gondar, when
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King classic march Catholicism, the Gobat Franciscan, on of Balugani high March, ped among him and is accounted of Dofter (vol. Hall's Ptolemy Evergetes, to the Balugani's of the Amhara A postoli, and the Abyssinian e of the Jesuits present of the Balugani has been executed, as a ch. of the late Emperor Josse both of Balugani and the Portuguese and Abyssinian accounts are blended together, the whole does not merit the title of an accurate narrative. Bruce often committed blunders in an unaccountable manner, and his narrative is always discredited, as he was not qualified by literary habits to balance and collate. (Hall's Life of Salt.)

With these numerous defects, Bruce will always rank high among African travellers, as it is evident that his object was the narrative of one of the most civilized nations, for he may be said to have re-discovered a country of which no account 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 companion Beach, and by the Ethnographic MSS. with 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, 1809.

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 person. Bruce was now in the most dangerous situation of his life. Having obtained the king's leave, after much difficulty, he set off from Kocem in December, 1771, attended by three Greeks and a few common servants. He arrived at Teherkin in January, 1772, where he found that Polety had been seized at Sumatra, and returned to his friends. Taking leave of them, he proceeded by Ras el Feel, Teawa, 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 barbarous country. He proceeded northward by Herbagi, Halafy, Shendi, and across the Athbara or Taccazo to Gooz, in the Barabara country, and then plunged into the desert, which he was a forlorn in crossing to Assouan, and in which he was near losing his life through thirst and fatigue. He arrived in Cairo, 3rd of January, 1825, where he remained for some time at Cairo, proceeded to Alexandria, where he embarked, in March, 1773, 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 his own country in England in June, 1774, after an absence of twelve years.

Bruce was presented 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 he had made of the country. Having found no use for the stories he told in company about the Abyssinians and the Gallas interested his hearers, but at the same time excited envy and ill-natured stricures. Some even went so far as to pretend that he had never been in Abyssinia. Bruce's humility and disdained manner was not calculated to soothe the 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 Dundas, with whom he lived in quiet retirement till 1785, when he moved to Kirkos, both with financial means of his 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 1769-73." The attractions of the work are due to several causes. In the first place, 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 Joas in 1769 (Arnot, p. 405, note). In the next place, the story is adapted and into German by J. Volkmann, with notes by J. F. Blumenbach.

Bruce died on the 27th of April, 1794, at Kinmaird, 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. The book has since been consulted, and the character of Ras Michael has remained prominent. Consulting these journals, 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 volumes are more than a repetition of Murray's, and in my 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 1813, shows that he has added a few notes, and it is in the time of the previous edition. The preface by Dr. Murray, in which he adverts to Salt's correction of several of Bruce's statements, is deserving of attention.

BRUCE, MICHAEL, was born at Kinnesswood, in the parish of Kirkos and the 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 character and 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, though the parish where Michael was born was a free one, there 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 his piety and domestic habits, they imagined they saw in him all the Every one of his most ardent wishes. Accordingly, after bestowing on him such instruction as their humble roof and the village school could afford, his parents sent him to the schools in the neighbouring town of Kinross, and thence, in the year 1762, to Edinburgh where he equipped himself to the best of his ability and success, for some years to literature and philosophy, and to the learning more peculiarly necessary for the profession which he had in view.

Of the last noted for the cultivation of his mental powers, Mr. David Arnot, a farmer on the banks of Lochielven, 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 close and intimate friend of his. His son, David Pearson, of Easter Beldie, a village in the neighbourhood of Kinnesswood, 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 August, 1765, of these two individuals he made a visit to those parts 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 eulogist 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 as to food and clothing, increased, and his de-
Edward could not but see that his determination had

disappointed the powerful lords of the house of Brus; but
he had already experienced their friendship, as he had no
reason to suppose that his own popularity in Scotland had
decreased. He now came across a large number of English crown, and he was now anxious to foster the sub-
mission 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 the castle of Carlisle. During the next year, in 1296, he
was made subject to Edward, and in 1299 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
they were indeed only too anxious to avoid a renewal of the
struggle. Edward, however, was act of violence committed,
when he abandoned the English party and joined the national
standard, expressing at the same time his hope of aboli-
tion 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 poor
parts of the kingdom with a few adherents.

The signal victory gained by Wallace at Stirling on the
12th September 1297, when he defeated the whole English
army of the Earl of Warwick and the Earl of Pembroke,
prove 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 Ay Castle, where
indeed, by preserving the communication open between
Carlisle and Scotland, he rendered them a very great
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
willing army to renew the assault. Bruce had taken possession
of Lochmaben Castle, and wasted the estates of its lord: but among the confiscations of property which
followed, the lands of Annandale and Carrick remained unali-
etiated; a favour probably accorded to the house of Bruce
for political reasons, for the battle of Falkirk was fought
shortly at the battle of Falkirk destroyed much of the confidence
reposed in Wallace; and in 1299 the bishop of St. Andrew's,
Bruce, and Comyn were appointed guardians of Scotland
in the name and place of Baliol. It was perhaps to destroy
the authority of Wallace that Bruce was willing to be associ-
ated for a time with his great rival Comyn; and having
attained this end, he no less willingly resumed his former
inactive course of policy, and relinquished to Comyn the
direction of the new-created power. The following year
Edward's restoration had formed the resolution of the
first districts of Annandale and Carrick. Bruce suffered much
on this occasion; but he cautiously avoided every act of retal-
iation, and we find that prior to the advantage gained by
the Scots at Roslin he had surrendered himself to St. John,
the English warden of the western Marches. The title of
duke of Edinburgh in 1294, which ended in a more complete
subjugation of Scotland than he had before been able to
effect, justified the prudence of Bruce; for on the death
of his father he was not only allowed to inherit the extensive
powers of the earldom of Carrick, but he was confirmed in
his country to Independence. Accordingly while actually
engaged in assisting Edward in the settlement of the Scott-
ish government, he entered into a secret bond of associa-
tion with the bishop of St. Andrew's, as head of the Scottish
Church, by which he promised to enter into a mutual
contract with the king to assist each other against all persons whatsoever, and neither
to undertake any business of importance without the other. He
had also a conference with Comyn, at which, after re-
presenting to him the miserable effects of civil discord, he
urged him to join Edward's cause, in order that they might
each other feelings of amity and friendship. Support (says he) my title to the crown, and I will give you all my lands;
or bestow on me your lands, and I will support your
claim. Comyn accepted the former alternative; and an
agreement being drawn up in form of indenture, it was

in them, not the occasional displays of opening genius, but
the sustained dignity and polish of mature life.

Soon after Bruce's death his works were submitted to the
request of his friend Lewis, who gave a collection of them to
the world in a small duodecimo volume; but unfortunately
they were not only una accompanied with any account of
the state in which they came into his possession, or of
the process observed in preparing them for publication, but
they were not even to be regarded, without any explanation by which they might be distinguished. This error was in some degree corrected by the labours of Dr. Anderson, who gave the poems of Bruce a place, for the first time, in a collection of his works, but without much success, as it appeared to many among his descendants to be an act of piracy.

And, finally, a new edition, including several of Bruce's unpublished pieces, was brought out by subscription, in 1807, under the care of the venerable Dr. Baird, for the benefit of the poet's mother, then aged 80, in her eighty-third year! The name and fame of Bruce, says Dr. Anderson, 'was truly amiable and respectable. In his manners he was modest,
gentle and mild; and in his disposition friendly, affectionate
and ingenuous. Tenderness, in every sense of the word,
and piety, equally remote from enthusiasm and superstition,
was one of the chief characteristics of his character. Of all the youthful sons of genius, there is none whose fate excites so tender
a regret. And, as Logan observes, "If images of nature, that
are beautiful and new; if sentiments, warm from the heart,
and interesting and genuine: if a voice, harmonious and
sweet, with simplicity; if these and many other beauties
of nature and art are allowed to constitute true poetic
merit, the poems of Bruce will stand high in the judgment
of men of taste."

The ROBERT, king of Scots, was born on the 21st
March, 1274. He was descended from Robert de Brus,
who being brought up at the court of England with Earl
David, afterwards King David I. of Scotland, became
an intimate of that monarch, and received from his bounty
a grant of the lordship of Annandale. His grandfather,
Robert de Brus, the seventh lord of Annandale, had, on
the death of his mother Isabel, second daughter of David,
cart of Huntingdon, livery of her lands in England, and shortly
afterwards was constituted sheriff of Cumberland and constable
of Carlisle. He died in 1232, and was painted one of the fifteen
regents of Scotland; and in 1264, with Comyn and Baliol, led the Scottish auxiliaries to the
assistance of King Henry III. at the battle of Lewes.

Robert de Brus, the son of this baron, accompanied King
Edward I. of England in his expeditions in Scotland, and was ever after greatly regarded by that monarch. In 1271 he married Margaret,
countess 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 Edward's reign. He received his education with the other
noblest of the realm in a solemn acknowledgment to King Alexander III. that his granddaughters Margaret, the maid of Norway, was heir presumptive to the
Scottish throne. Two years afterwards the king died, and a contest ensued for the charge, which was determined in September, 1296, partie 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 Turriff Castle, the seat of his father, and declared that he intended to support any
one or bond to support the person who should be found the true
heir to the throne. The chief competitors were Robert de
Brus, the grandfather, and John Baliol [BAILIO]. King
Edward I. of England having obtained the office of umpire
in this contest, on the 16th Nov, pronounced for
Baliol, 'as, in all indissoluble heritages, the more remote in
degree of the first line of descent is preferable to the nearer
in degree of the second.' It was accordingly ordered 'that
John Baliol should have the kingdom of Scotland, and he being given, Baliol did not only receive the kingdom of
Scotland, and the dominion of the same, but in September,
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 certain of his adherents. The earl of Gloucester, a kinsman of Bruce, had notice of his friend's danger, and anxious to save him, yet afraid in so serious a matter to rashly compromise his own safety, sent him a piece of money and a pair of gilded spurs. Bruce understood the signal thus symbolically communicated, and left off for London contrived 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. From some inward misgiving too deeply rooted in his character, he was deterred from inducing the earl to make a joint stand with Scotland in the cause of the Holy See. 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 called for his attendants, who seeing him pale and agitated inquired the cause. 'I doubt,' cried Kirkpatrick fiercely; 'I'm mak sicker,' and rushing towards Comyn despatched him on the spot. Almost at the same moment Sir Robert Comyn, the uncle, who came in search of his order, hurried from the scene of the fatal. 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 walls and with a power of men vastly superior to those pellled those therein. He soon advanced proceeded to Scone, the antient seat of Scottish inauguration, and was there crowned King of Scots on the 27th March, 1306. Edward had earned the respect of Westminster, but his was a short-lived triumph. His energy was soon 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. Andrews set his on his head. The bishop of Glasgow also presented to the new king a piece of plate which he had concealed in his treasury, and under it Robert received the homage of those who devoted themselves to his service. The earls of Fifeshire 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 the young monarch's head. 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 ample evidence at once of his integrity 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 guards upon the Marches to be strengthened; and nominating the earl of Pembroke guardian of Scotland, he ordered an instant levy of troops for that kingdom. Proceeding to London, he selected the 398 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 urged them to remember their promises made 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 no command of any troops. The Stuarts had not yet rallied to the support of the Comyns, and Lochmalin and Kildrumin. 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- quarters at Perth, defying him to battle. Pembroke returned for answer he would meet him on the morrow. Satisfied with this acceptance Bruce drew off his little band to the neighbouring wood of Methven, with a view to encompass there for some time, but either from want of a means to thwart the words of Pembroke, the custom of the times being omitted or insufficiently attended to. Pembroke having intelligence of this, called out his forces towards the close of the day, and gaining the unguarded encampment with difficulty by throwing the whole body of the Scots into complete disorder.

From the defeat of Methven Bruce retired with the remains of his army to the mountains of Atholl, whence however they were at length compelled by want and the rigour of the season, to retire into the low country of Aberdeenshire; but on the advance of Spring they again placed themselves, and they took refuge in the mountainous district of Breckland. But was the party safe from attack even here. The Lord of Lorn, who was an adherent of Edward, and closely connected by marriage with the family of the murdered Comyn, hearing of the approach of Bruce, collected his dependents to the number of about 1000, and having beset the passes, obliged the Scots to come to battle in a narrow defile where the horse of the party were an incumbrance rather than a service. The consequence was inevitable; and had not the Scots been strengthened by fresh reinforcements from the rear, by desperate courage, strength, and activity, succeeded in checking the fury of the pursuers, and extirpating men, they would have been utterly exterminated.

The king having at last rallied his men used every means in their power to turn the tide of fortune, and secured a passage to the English coast from the island of Rathlin, and thence crossed over into the north of Ireland, with the hope, as has been supposed, of receiving assistance from the earl of Ulster, or at least of eluding for a time the hot pursuit of his enemies. On arriving at the banks of Loch Lomond he met with a reception so hospitable, that he was induced, after such search, Sir James Douglas discovered a small crazy boat, by means of which they effected a passage. The party were a night and a day in getting over, the boat being able to carry only three persons at a time; but Robert beguiled the tediousness by his talk about the siege of Egremont from the romance of Perembra.

The king soon afterwards fell in with the earl of Lennox, ignorant till then of the fate of his sovereign, of whom he had received no intelligence since the defeat of Methven; and the party formed a league, and proceeded to distant parts, and appeared in a few months as the head of the rebels, and political party. The king and a few of his most faithful adherents passed over to the small island of Arran, on the west coast of Scotland, which they maintained during the winter. In this remote situation Bruce was long happily ignorant of the unrelenting cruelty showed by Edward to his queen, family, and friends; the confiscation of all his estates; and the solemn excommunication of himself and his adherents by the pope's legate at Carlisle. Fordun indeed relates that in derision of his forlorn and unknown condition, a sort of ribald proclamation was made after him in all the towns of Scotland as lost, stolen, or strayed.

The approach of spring, Sir James Douglas and Sir Robert Boyd left the king and passed over to Arran, where they were joined in a few days by Bruce, from Rathlin, with a fleet of 33 small galleys. The party made a descent upon the opposite coast of Carrick, which was in the possession of the English, and finding the troops under Percy carelessly cantoned, they rushed in among them and put nearly the whole body, consisting of about 200 men, to the sword. When the news of this enterprise became known, a detachment of about 1000 men, under Sir John Douglas, the great-grandson of Sir John Douglas, marched from Ayr to the relief of Turnberry, when Bruce, unable to oppose such a force, retired into the mountainous district of Carrick. The effect of his success was still further countenanced by the fatal miscarriage of his brothers Thomas and Alexander, in their attempt to secure a landing at Loch Rok, in Galloway, where the whole party were routed, several persons of note slain, and the two brothers of Bruce taken.
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, was it no more, that it is thought 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 effect the entire destruction of Bruce and his party, collected about 200 men, with bloodhounds to track the fugitives through the forests and morasses. Notwithstanding the secrecy of their preparations, Bruce had notice of his danger, and towards night withdrew his men to a post of 14 men, and established a watch on the outmost verge 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 yel of a blood-hound soon fell upon his ears, followed by the voices, and, after dismissing in this way his 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 Galloways, finding that the king had but one party stationed 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 other followers, in the course of which Bruce has been 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 vengeful 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 body of 6,000 men, a force so superior to that of Bruce, that the strong confident upon which the bound had proceeded, turned into the adjoining thicket, whence he regained in safety the rendezvous of his followers. Here, having learnt the state of security into which the English had fallen, an idea of combination thereupon his followers dispersed, Pembroke collected a few men, and dashed upon a detachment of about 200 of the enemy, put the greater part of them to the sword. Pembroke shortly afterward retired with his whole forces 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 King's, Carberry, Bannockburn, and Cambus, thereupon 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 London 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 Montmuran at the head of a considerable body of English, whom he also defeated with great slaughter. These successes proved of the greatest consequence to Bruce's cause, which was still further strengthened by the death of Edward, who died at Angiers, in Normandy, 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, disregarding the injunction, had his father's remains deposited at Westminster. The son indeed was incapable of conducting the enterprise which had devolved upon him; and after a useless and inglorious campaign he retired from the contest. For three years after this Bruce had to contend with the go-

* Incorrectly stated to be July 34 in the article BANNOCKBURN.
and came into the possession of the grand dukes of Baden in 1811. It is surrounded by a wall, is well built, and consists of the Old Town, which is defended by several ramparts, 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 gardens. The gardens command a magnificent prospect over the valley of the Rhine. The palace is noted for its elegant architecture, the spacious arcades and statuary, 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-appointed hospital for 70 patients, conducted by the confraternity of pious brothers, and provided with an astronomical theatre and a lecture-room, and a general house of correction for the circle of the Middle-Rhine. There are several public baths, the town has 837 houses, and a population of about 7,478, 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, 1,274 families, and 7,129 inh., whose principal occupation is making and selling wine, and mechanical labour. In 1824 the pop. was 6,686, and in 1817 5,447. 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 Tettigamia and family Rhynchophora. Technical characters:—head slightly produced, and forming a short and broad rostrum; labrum distinct; antennae eleven-jointed, either filiform, serrated, or emarginated; labium is emarginated; mouthparts are fixed before than behind, anteriorly rounded, posteriorly furnished with a lobe near the scutellum: elyta somewhat oblong, not reaching to the apex of the abdomen: femora of the hinder legs thick and generally dentated.

The former deposit their eggs in the yet tender germ of various leguminous plants; the seed becoming matured 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 Spencer's Introduction to British Entomology we are told that in North America a species (Bruchus pisii) 'is most alarmingly destructive to peas, 'its ravages being at one time so universal as to put an end in some places to the cultivation of that fruit in the north of England.' The insects have a quadrangular, obscurely shaggy, somewhat hairy, body, about an inch in length, of a blackish colour, and have 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 four basal joints of the antennae, and the anterior tibia and tarsi are red. The thorax has a little tooth on each side, and the femora are also dentate.

Bruchus pisii is a native of our own country (having most probably been introduced in the seeds of the pea), but fortunately it is not sufficiently abundant to do much mischief.

Two other species of Bruchus also infest the pea, Bruchus granarius and Bruchus pectoralis: the latter is common in China and Barbary; the former is a native of this country, and is found among beans, vetches, and other similar leguminous plants, under which they do their work. It is very much resembles Bruchus pisii, but is rather less.

The true Bruch are generally of small size.

BRUCIA, a vegetable alkali, discovered by Pelletier and Caventou, in the bark of the false angustaria, which is the basis of the so-called russet comfit, and not, as was supposed when its name was given to it, of the brucia antisyner- terica. This alkali is found combined with gallic acid, in the bark and with tannic acid in the fruit of some of the different species of strychnos.

Strychnos, this alkali to be prepared by dissolving the soluble portion of the bark 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 everything but the oxide of bruciaw. The 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 this alcoholic solution of brucia, and the mixture is put to evaporate spontaneously, the brucia crystallizes in colourless transparent oblong four-sided prisms. By rapid evaporation, pearly scales or crystals, in the form of cauli-flowers, are obtained. These crystals contain water; they have a strong bitter taste, which remains for a long time, and when the hydrate is heated rather below 218° 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 cold water for boiling in small quantity, and 500 of boiling water for solution. It is readily soluble in alcohol, and even in spirit of wine of specific gravity 0.88; the volatile oils dissolve a small portion of it, but neither the fixed oils nor ether take it up. One of the distinguishing characters ofbrucia is its specific gravity, which is very nearly the same as that of water. It is imparts to it is changed to a fine violet by protocole from time. The constituents of brucia are, according to Liebig 32 equiv. Carbon 129 equiv. 70.58 18 " Hydrogen 18 " 6.61 1 " Azote 14 " 5.14 6 " Oxygen 48 " 17.67 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 supernitrate is obtained by adding a little nitric acid to the neutral one. It crystallizes in quadrilateral prisms, which, however, on the summit of a mountain, where it is formed, red, then black, and afterwards detonates with the disengagement of light.

Oxalate of brucia crystallizes in quadrilateral prisms obliquely truncated, which are sometimes as fine as hair. It does not increase in temperature, and is soluble in water, and 31.33 of water. The superoxalate of brucia crystallizes readily when a little acid is added to the neutral superoxide.

Sulphate of brucia. The neutral sulphate is very soluble in water, and crystallizes in long quadrilateral needles. 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, 82.64 of base, and 5.32 of water. The super sulphate crystallizes readily when a little acid is added to the neutral sulphate.

Oxalate of brucia crystallizes in long needles, especially when it contains excess of acid.

Moehngold's brucia is uncrystallizable, 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 of—The alkaloid above described exists in several species of Strychnos, and is known as the false angustaria; and as it is admitted on all hands that this bark is not obtained from any species of brucia, it has been proposed to change the name to Canarium (derived from Canarium, a term for the milk in which the seeds of this species are described in Rhee, Hort. Malabar. vol. i. p. 67). This name is quite unobjectionable, as it exists in the strychnos nem voxina along with strychnia; but it is far from certain that the false angustaria is the bark either of the Strychnos nem voxina or of its trio and colubrin, as conjectured by Virey. [GAILLARD.] It is most probably obtained from some undescribed South American species of strychnos.

Canarium acts on the human system as a violent poison,
and in precisely the same manner as stingliness, but more
genial, being much less powerful. Hence it has been pro-
posed to be substituted for it. The same precautions must
be observed in its use, and the same contra-indications
attended to. The cases in which it is most likely to prove
useful are mainly the non-specific fever states, the insanities,
and perhaps oblera asphyxian or Indian cholera.
It is important to bear in mind that 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
bark and
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 LL.D. in 1726. He was at the
same time the minster 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
philosophy, and his first work, 'Tentamen Introductionis
in Historiam Doctrinæ de Ideis,' was published in 1719; it
was afterwards enlarged and republished in 1723, under the
title 'Hist. Philos. Doctr. de Id.' In 1741-6 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 elsewhere.
A 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 with considerable success, for an
edition of 4000 copies was disposed of in 23 years; and in 1767
a second edition was printed, with a sixth volume, con-
sisting of supplement and corrections. Of his other works
the chief are 'Pinacotheca Scriptorum nostri extante literis
illustrum,' 2 vols. fol. 1741-52; 'Lives of German Scholars
in the 16th, 17th, and 18th centuries,' in German, 4to,
1746; 'Noblesse gynæcaea,' in Latin, 4to, folio, in 4 parts;
sparsam edita uno fascio collecta,' 8vo, 1748. He un-
dertook 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.
BRUGES, the capital city of W. Flanders, in the
kingdom of Belgium, is situated on the river Yser, 51°12'
Lat. and 3°13' E. long.; about 6 m. from the sea at
Blankenberg, and 59 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 was a very ancient place. In the 7th cent.
Brugge the work of a city. In 837 it was fortified by Baldwin,
count of Flanders (called Iron-arms), in order to form a
barrier to the progress of the Normans, who then ravaged
Flanders. The city was surrounded by walls in 1533, and
enlarged in 1570. 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 Creyce.
In order to commemorate the high degree of perfection
in which the woolen manufacture had then been carried in
Bruges, King Philip I of Spain (1311-1390) gave the
inhabitants of the city a coat of arms, which is
the flag of the Golden Fleece. While under the dominion of the dukesh
of Burgundy, Bruges became a principal emporium of the
commerce of Europe. The merchants of Venice and of
Genoa conveyed thither the produce of Italy and the La-
Berenice, directed to the port of Dunkirk, in 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-
facturing industry after the style of the Brugge tapestry,
he appointed a manufacturier 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 gave against the Archduke Max-
millian, 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.
On this occasion the people of Bruges attempted to
rebel against the French, and 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.
Bruges received its charter of incorporation in 1704. Two years
thereafter 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 so 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
appearance of grandeur mixed with a touch of former
inhabitants. The town-hall is a good specimen of
Gothic architecture. The original building was
destroyed by fire in 1250, and the present hall was built on the
same site in 1854. The tower contains a fine set of bells.
A cathedral, built by Baldwin of Flanders, and dedicated to
saint Donatus the patron saint of Bruges, was destroyed
(as some authorities state) by the French during their
occupation of the city, and a public promenade has been
planted on the spot which it occupied. The city is divided
into seven parishes, in each of which is a Roman Catholic
cathedral, 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
grandson Philip the Good, in the church of Notre Dame, 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
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, sur-
rendered. As the French, in their ships crowded with
prisoners, 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. Brus-
seas must not be confounded with Admiral Brudenel, a
minister of marine under the Directory, commanded the
forts on the Ile de Boulogne in Bonaparte’s time, and died at
Paris in 1865.
of natural history, a public library, and an academy of fine arts.

The trade of the city is facilitated by canals which connect it with various parts of Holland and Belgium. The canals can carry cargoes of goods to and from the great vessels of 200 to 300 tons burthen. There are besides a wet dock and a dock for the building and repair of vessels, and warehouses for receiving goods in entrepôt; the latter were established in 1826.

The present manufactures of Bruges consist of linens, lace, woollen and cotton goods, salt and sugar refining, earthenware, paper, distilling, and other minor branches of industry.

This, which in 1814 was 24,025, had increased on the 1st of January, 1834, to 41,514 souls. A statement published by the Dutch government gives the number of births and deaths from 1700 to 1814; the former being 126,744, and the latter 118,510, show a natural increase of the pop. in 114 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, 31 of whom received gratuitous instruction. All 62 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 easks from the canals.

BRUGMIA NSIA. To this genus belongs the plant commonly called in the gardens Datura arbores, and also the Bovacheo a garden flower from the United States, which is a native 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, Xuxana, La Huenche, Canta, and Huancos, where it grows among rubbish; it is also found near the village of La Cruz and on the banks of the river Mayo, between Almquer and Pasto in New Grenada, where it was found by Humboldt and Bonpland at nearly 7000 feet above the sea. It is a plant of a peculiar beauty; the flowers are marvellous and remarkable. Bovacheo is called Floripondio encarnado and Can- punlidas encarnadas; by the Colombians, Bovochero. Its stature varies from 10 to 12 feet, the stem being generally univalved and terminated by a roundish leafy head. The flowers are either a bright yellowish-orange colour or a deep 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. The seeds, like those of the common Calotropis procera, are commonly called the Calotropis of the Temple of the Sun, in the city of Sogorome, there is a famous oracle, the priests of which inspire themselves with the intoxicating seeds of this plant, just as the Pythons at Delphi is said to have received the influence of her God by chewing laurel leaves, and inhaling the fumes of the laurel. It is the Colombians prepare a drink called Tongo, which when weak is merely soporific, but drunk in stronger doses produces frenzy, which can only be removed by administering immediate draughts of cold water.

This plant has lately been introduced into the gardens of this country, where it proves hardy during the summer, but requires the protection of a greenhouse in winter.

BRUHL, HENRY, COUNT VON, was born in Aug., 1700. His father was a minister of the prince of Saxe-Weimar, and was page in 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, Bovacheo, was appointed keeper of the crown jewels, and has been employed in this capacity ever since. He entered the service of the 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- kowski, became chamberlain of the young monarch, whom he kept in a state of complete tutelage. Bruhl lived in great splendour: his establishment was larger than that of the king's, and he kept above 200 servants. Of all men of his age, says Frederic II. of Prussia, 'he had most watches, diamonds, large boots, sables, and slippers, and had put among the number 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 disturb his apathy, and always to supply him with money, was obliged to borrow to such a degree, that the treasury became bankrupt at last. Bruhl involved Saxony in a war against Frederic II, who made the whole Saxon army prisoners. Bruhl, however, escaped with a large force, 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 a new council dismissed him from his offices. Bruhl died in October, 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 Frederic Louis wrote several German plays, which were published at Dresden in 1755-90, 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, especially as far as regards the universality of their acquirements and the extent of their labours. It is remarkable, however, that the Jesuits are unable to claim one illustrious 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 superior to any which had ever emanated from the whole body of the Jesuits, the disciples of Loyola during the long term of their existence.

Brumoy was born at Rouen in 1689, and entered the society of the Jesuits in 1714. He was subsequently in-trusted with the education of the prince of Talomunt, and of the favourite of the king of Poland. He was afterwards introduced to the public by 'Thoughts on the Decline of Latin Poetry,' and afterwards edited 'The History of Tamerlane,' written by Margat, a brother Jesuit, and printed at Paris in 1735, 2 vols. 12mo. Shortly after his superiors came to the conclusion that Providence had selected the Angelican 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 1723 to 1736, 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 works consist of: 1. 'A Life of the Empress Eleonora,' Paris, 1723, 12mo., imitated from the Latin of Father Coevs. 2. 'An Apology for the English and French, or Re- marks upon the Language by Pierre Brumoy,' translated into the English and French.' 1726, 12mo.; 3. 'Review of the Poem upon Grace,' Brussels, Paris, 1723, 8vo.; 4. Six Volumes in 12mo., containing; 'Translations and Analyses of the Greek Tragedies, accompanied by Discourses and Remarks upon the same, by Pierre Brumoy,' of which 4 volumes, which, although highly and justly esteemed for the great learning in 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 1764-1796, 13 vols. in 8vo.; 6. '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 of the Pluribus, and Sargias. In 1745, at Bayonne, Brumoy also made a new edition of J. Morgul's 'Tractatus upon French Poetry,' Paris, 1724, 12mo. He also translated two Orations of Father Porée, one upon public exhibitions, and the other upon the question whether the Jesuits became a contributor to that learning which is best fitted for forming the heroic character.' 7. Brumoy completed, in conjunction with Father Rouillé, 'The Revolutions of Spain,' by Father d'Oreilh, Paris, 1734, 3 vols., 4to.; assisted in compiling 'The Memoirs of Trevoux;' and 'Sweden,' the History of Rienzi' of Father du Cerceau, Paris, 1733, in 12mo.

BRUN, CHARLES LE, the son of a sculptor of Scotch extraction, was born at Paris in the year 1619. The singular merit of his juvenile sketches attracted the attention of the Chancellor of France, who undertook the charge of his education, and placed him, at the age of eleven, with Vogut, and afterwards with Nicholas Poussin. He remained in Italy six years, studying the antique and the works of the
old masters. He assiduously cultivated a knowledge of history and art as his means of expression, and in 1645 was allowed 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. Michael, and became a life member 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 king, he found of change 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 pleasure. But the impression which is expressed in his countenance 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 been closely 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 entitle him to be reckoned among the most perfect pieces of painting in the world. The Gracchi, 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 blues.

His facility in drawing was such, that having procured the delay for one moment of the car which conveyed the Marquise de Brinvilliers to execution, in 'four strokes of the pencil,' says his French biographer, he sketched a likeness. With this 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 Parisotus, which he executed with equal celerity. The council of ministers, therefore, obtained from Bernini, who was not among the number of his friends, Brunck, Richard François Philibert, was born at Strasburg, December 30th, 1732. He was educated by the Jesuits in the college of Louis le Grand at Paris, and is reported to have met toilsome 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-ninth year, when, during a residence in winter-quarters at Grenoble, he received a commission to exist over to the Ionian islands from Bernini, who was not among the number of his friends.

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BRU NE. MARSHAL, was born at Brives, dep. de la Corrèze, in 1736. His father was an advocate, and Bruno was educated at Paris. When the revolution broke out he entered the army, and saved his life through the first and second years of it. 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 campaign of 1796. In the war of the first coalition, which was the peace of Campoformio, he was sent by the Directory as premier-in-ordinary of the army which invaded Switzerland. [BRN.] After the fall of Bonaparte he took the command of the army in Italy, and obliged the king of Sardinia, who was the forced ally of France, to surrender the citadel of his own capital, Turin. After having thus restored the former monarchy, he was replaced by Joubert, who finally effected it in December, 1798. Bruno was sent next into Holland, where, in 1799, he defeated the Russians on the Heider, and obliged them to retire. The latter spring, he was appointed to give instructions to the country. In the following year he returned to Italy, when, in conjunction with Macdonald, he forced the passage of the Mincio in December, 1800, and afterwards concluded an armistice with the Austrian General Belle, prepared to the peace of Vienna. In 1802, on his return to Paris, was appointed councillor of state, and was afterwards sent by Bonaparte as ambassador to Constantinople, where he succeeded in establishing new relations between France and the shah of Persia. He returned to France in 1807, and was rewarded by the marshal's post in 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 Ankara. His memoirs to have given rise to suspicions on the part of Napoleon. In the surrender of the island of Rügen by the Swedish General Toll, agreeably to a convention with Marshal Bruno, the latter happened to be in, 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 Bruno his recall, stating his conduct 'a scandal never seen since the time of Charlemagne,' he was suspender of 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, do with Sophocles notwithstanding the labours of Brunck, 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. 8vo. I little more than 600 copies were printed, and there is a third edition, under his own eye, in 4 vols. 8vo., 1786-89. He prepared a copy of Plautus for the Bispont edition of the classics in 1788. On the breaking out of the revolution he embraced the popular side with ardour; and now withholding LeBrun's return for a presentation copy of the quarto Sophocles superbly printed on vellum, had conferred on him a pension of 2000 francs, Brunck enrolled himself among the earliest members of a revolutionary society established at Strasbourg. During the Reign of Terror, he was obliged to give up the management of the obra de art, and to obtain his release till the fall of Robespierre. 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 16th. The first four of the books, of which 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, 1836, he was engaged in publishing the Latin poems of Sappho and Alcaeus. He was the 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 Aristophanes, and Apollonius at least five times. Many of these were left unfinished, together with a few other pieces which are still preserved in the Bibliotheque Royale at Paris. The margins of his books were crowded with conjectures, which in numberless instances showed the boldness rather than the judgment of his author. He was a member of the Academy of Inscriptions and Belles Lettres, and also of the French Institute.
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. He was named grand haill of the order of the Fevers. 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 seized a number of his clothes, and having left him in poverty, he was again 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 turned to the fire-place. In his body was then dragged through the streets, and thrown into the Rhône.’

(Noelles Causes Politiques et Criminelles débôres)

BRUNEHAUT, the younger daughter of Athanagilde, king of the Visigoths of Spain, married, in 565, Sigebert, the Frankish king of Metz or Austrasia. Her eldest sister Galaunduia, married Chilperic, Sigebert’s brother and king of Soissons. Galaunduia was soon after murdered by Fredegonda, the mistress of Chilperic, who then married her. Brune brought, determined to avenge her sister’s death, induced Sigebert to make war upon his brother, and Sigebert 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, was besieged in the town of Besançon, when he was assassinated by Fredegonda, murdered Sigebert in his camp, 575. Upon this Chilperic came out of Tournai, and made Brune and her son Childermond prisoners. Mero- vuls, son of Chilperic, falling in love with Brune, enabled him to escape. Merovald was in consequence murdered by Fredegonda. Sigebert himself was soon after murdered, 584, and by the order, it was believed, of Fredegonda, who remained regent and guardian of her infant son Cloturis II. The history of the Mervinian kings is a continual succession of such strifes. Brune and Chilperic being the first of these races, and having on the whole been extremely vicissitudes, of dimensions, and, on the death of Thierry, in 615, seized upon Austrasia and Burgundy, and thus united under his sceptre the whole kingdom of the Franks. Brune, being taken prisoner by Cloturis, was condemned to a mob violence, and was cut off. After all the troubles of inquests, 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, Fredegonda, had died many years before, in 597. The true character of Brune was 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 Fredegarius, Alainmo the monk, &c., lived at least a century after her. Brune was condemned without asking whether she had any intimate connection with Cloturis, and probably also to the ruin of the moments of her own dominions. Pasquier, Welley, Du Tillet, and other writers, have also taken the defence of Brune. The part of her reign against which charges have been raised is that commencing with the time of the restoration of the nobility and the 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.

Ghiberti’s bronze doors. Brune and this artist had no other claims to notice than those arising from a single work, the dome of Santa Maria del Fiore, or the cathedral at Florence, is one of those memorable achievements which suffice to perpetuate a name. Brunelleschi was born at Florence, in 1377 or 1378, and began the work of the cupola of the cathedral, which produced several eminent individuals. His father, who followed the profession of notary in that city, designed to educate his son either for the same, or for the medical science. Fipppo 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 direction of his mind was lost in the faculties of his own mind; and, he at length prevailed upon his father to place him with a goldsmith. At that period the goldsmith’s art was altogether different from what it is now: it comprised every branch of working in metals for ornamental purposes; and, besides the art of casting, and with 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 both 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 Arnolfi di Lapi shortly before his death, in 1342. Thence about the year 1526, or, as some say, 1298, in which year he left Italy for the second time, 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 roof. He 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 it was questioned; but with the exception of the dome of the cathedral at Pisa, which is 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 scheme 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 before this he had been employed 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 exact manner in which he intended to accomplish the work, was 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 inclination 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, he was not precluded, 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 chef-d’œuvre terminated before his death.

While in size this noble cupola yields very little to that of St. Peter’s (and being on an octagonal plan its diameter as measured from angle to angle is somewhat more), it is infinitely more commanding, being so very much larger in proportions and monotone of tone, and producing a sense of mass on which it is placed. It further suggests the idea of greater amplitude of space within, and has also less the appearance of being a separate and independent structure standing upon the lower one; besides which, its simplicity and beauty is not nearly equalled. It was not considered not the less striking by the fanatical and somewhat minute style of the older part of the fabric. Although this single structure was to himself personally his most memorable...
work, it was by no means the solo one of any magnitude which he executed. Among his other productions may be mentioned the church of San Lorenzo at Florence, and the celebrated stairway which afterwards continued and completed by Ammannati, 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 an ancient aqueduct; yet if it has for some time been conjectured that one of the best features, namely the use of the same stone, is also possessed of 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 was buried with much ceremony in Santa Maria del Fiore, his remnants resting within that edifice which he had consummated by his skill, and which will perpetuate his name.

Bruni, Leonardo, was born at Arezzo, of humble parentage. He 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 government, and caused the pope to go into temporary retirement in Taverno, where he 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, which had been invested for many years by the enemy. 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 Florence, and he was charged to furnish the Greeks with 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 Mannetti recited a long and learned oration at his funeral, but his friend Filibello, not being satisfied with it, composed another and more elegant panegyric. Poggio also wrote an eulogy of the minister of State. Bruni, written on his death, and he did not indulge so much as the latter in violent disputes and virulent invectives. Once, however, he quarrelled with his friend Niccolo Nicolini, and wrote a bitter libel against him, which has never been printed: the MSS. in which preserved in the public library at Florence. Bruni was commonly styled L'Artegno, 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 Areteino, who died and was buried at Venice. (Valéry, Voyages en Italie.) Bruni wrote a great number of works, many of which are now forgotten, and have never been printed. Méhul gives the titles of 63 of them in his biography of Bruni, prefixed to the edition of his 'Epistles,' 3 vols. Florence, 1741. Among his Latin works is an 'History of Florence,' which is considered a great measure from Procopius; a commentary on the Pontopodinian 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 1397, till the victory of the Florentines at Roncesvalles, in 1409; 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 Strauburg, fol. 1610, and was also translated into Italian by Donato Acciaiuoli. Vol. III. was unfinished by the sculptor, in 1425, in 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 contentions as beneath the dignity of history Bruni translated into Latin 'Plato's Epistles,' and dedicated them to Cosimo de Medici; his dedicatory address is given in Roscoe's ' Lorenzo,' vol. I. Appendix 3. He also translated the 'Ethics' of Aristotle, and the three 'Discourses of Demosthenes and Eloquence,' and made numerous other translations from the Greek. He wrote, in Italian: 1. 'Vite di Dante e del Petrarca,' Florence, 1672, which are not among the best biographies of these two illustrious men. 2. 'Vita di Vitruvio,' which was first composed in Latin, and afterwards turned into Italian; and, for the last time, by Bodoni, Parma, 1804. 3. 'Novella di Messer Lionardo d'Arezzo,' inserted among the 'Novelle di VarAutori,' and published again separately at Verona, 1817. It is founded on the story of Statonice, wife of Seleucus, and her son, Antiochus. (Memorie degli Uomini Eminentissimi, by Giambattista Vico.)

Bruni'sace, a small natural order of exogens, belonging to the abundant group, and, notwithstanding the different habit, nearly allied to the current tribe (grootace.) The species are small heart-like shrubs with minute, colorless, or yellowish, thin leaves in small compact heads. They have a superior 5-cleft calyx, 5 petals, 5 perigynous stamens, and a diocious or indifluous 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 peculiarities. This tribe is a natural of Cape Good Hope. They are of no known use.

Bruniaceae differ from Grossulaeace in their dry fruit and central placenta; from Ecauliconaceae, in the very small number of their seeds; from Rhamnaceae, in their minute embryos and large stalked, unobliterated, and pubescent, and not in umbels.

Bruning, Christian, was born in 1736 at Neckerau in the palatinate. He early applied himself to the study of humanities, and ultimately became one of the most celebrated philologists of his time. Having been appointed 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 Oderwaard, and made many extensive canals and aqueducts. He was a native of Holland having appointed him in 1769 inspector-general, and his services rendered by Brünings to Holland are enshrined upon. Brünings died in 1805. The government of the then Batavian republic proposed to erect a monument to his memory in the cathedral of Haarlem, but the proposal was not carried into execution. Several scientific essays of Brünings are inserted in the 'Memoirs of the Haarlem Society of the Sciences.' There is another Christian Brünings, a native also of the palatinate and a professor, who wrote a book on the 'Antiquities of Greece,' Frankfurt, 1724, which was published again some years after with an appendix on the Roman Triumphs.

Brunn, a circle of the Austrian Margravate of Moravia, bounded on the N.W. by Bohemia and on the S. by the district of the Archduchy of Austria in Carinthia. It contains about 1726 sq. m. It contains 30 communes (among which are Brunn, Mikulov or Nickolbaur, Boskovitz, Wissau, and Austeritz), 56 m. t. and 649 vills, and a pop. of about 330,000 souls, which shows an increase of about 25,000 since the year 1817. The districts are occupied by the Moravians, who are of some foreigners. They are natives of the S. parts, which are more level, and have a richer soil, produce large quantities of wine. The circle is watered by the Zitwota, Schwartzvart, and Lofs, and 1 fall into the Triause, a tributary of the March, which receives the Triause near Brunn, and empties itself into the Danube. The chief products of the province, are hemp, tobacco, hemp, and wool, and other minerals. The breeding outlaws are common in the extreme extent.

Brunn (in the native tongue Brno, a term which cor-
responds to our English word 'ford,' 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 Vltava and Schwarzava, which run on each side of it; is situated in the middle of a fine open region; and is defended by three strong and commands some beautiful and extensive prospects. The town is surrounded by a deep ditch and high walls, and was formerly protected by a château 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 Frankenberg, about 600 ft. in height, along one side of which the residences of the nobility and other wealthy persons are erected. Independently of the Spielberg, the town is about 15 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 about 5000. In 1641 it had 5261 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 coro-de-gare, and several fountains; in it ride the collegiate clergy 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 Gothic style 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 dedicated to the memory of Emperor Ferdinand I., erected against the Swedes in 1644. The church of the Minorites, with the adjoining sacred staircase, and house of Loretto, is of peculiarly handsome construction; and the church of the Capuchins, celebrated for Sanrati's fine altar-piece, the raising of the Cross, as well as the Gothic church of the Augustinian monastery, in the Altrbronn suburb, with Kranach's Madonna, and a large library, are well deserving of notice. Among other public buildings are the Diocesarian House, which contains the governor's residence and apartments; 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 Empty Houses, an ancient building of the late Roman period; the commanding sites in the town; the handsome mansions of the Dietrichsteins, Kaunitz, Liechtensteins, Zierotin, and others of the nobility; the military hospital, formerly a church belonging to the Premonstratensian order; and the Marie-schül, a school for females of noble birth. There are several delightful promenades in and near Brnn, the most attractive of which are the gardens on the Frankenberg, which are ornamented with an obelisk, 60 ft. high, erected in 1818 in honour of the late emperor. The French, under General Laplace, laid waste partly in the English and partly in the French style. Brnn is the seat of government for the Margraviate; and also of the high courts of judicature. It is the centre of episcopal jurisdiction, and the Protestant consistory is established here. The National Society for the encouragement of agriculture, natural history, &c., has the Fränzens Museum, with its valuable collection under its care. The academical institutions consist of an Episcopalian, a gymnasium, an academy for educating teachers, a school for the instruction of girls at moderate expense; and recently 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 1789; 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; asylums for decayed livery-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.

Brunn is the seat of some considerable manufactures, particularly of silk, as well as of leather and woolen manufactures; and of weaving, leather, cotton prints, woolen 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, Hungary, and Silesia, are accustomed to resort in considerable numbers. The trade of Brnn 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, GIORDA-NO, was born at Nola in the kingdom of Naples, about the middle of the sixteenth century. He entered the order of the Dominicans, but being 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 order of his name from the convent. Upon this he went to Geneva, where he spent two years, but soon incurring the dislike of the Calvinists, on account of his general scepticism on religious matters, he removed to Paris, where he published, in 1583, a satirical comedy, 'Il Candeletta,' which was received with great applause in society; this comedy was afterwards imitated by the French withe- nious play, 'Boniface à l'Épandant,' Paris, 1633. Bruno gave lectures on philosophy, in which he openly attacked the doctrines of the Aristotelians, which had already been combated in his 'Liber de luce.' After examining for 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 Castelnuo the French ambassador, and gained the friendship of Sir Philip Sidney, to whom he dedicated his 'Liber de luce.' He then wrote 'L'Antipante,' an allegorical work against the court of Rome, with the 'Cena delle Ceneri,' or evening conversations on Ash- Wednesday, a dialogue between fourteen interlocutors. He also wrote 'Della causa, principio et uno,' and 'Dell' infinito universo e mondi,' in which he defended the immanence of the divineAttributes of God, and his veracity in natural philosophy and metaphysics. His system is a kind of pantheism: he asserted that the universe is infinite, and that each of the worlds contained in it is animated by the universal soul, &c. Spinoza borrowed some of his theories, which have been treated in a more extended manner. Bruno gives an exposition of Bruno's system. See also Jacob's preface to the letters on the doctrine of Spinoza. In his next work, 'Cabal'a del caval Pegaso con l'appiggiatura dell' asino Ciliceno,' he contends that ignorance is the mother of errors, and by ignorance he understands a not灭 of the sources of grief. Bruno's language is symbolic and obscure; he talks much about the constellations, and his style is harsh and inelegant.

After remaining about two years in England, during which he visited Oxford, and had conferences with some of the doctors of that university, Bruno returned to Paris in 1585. In the following year he went to the university of Marburg in Germany, where he was matriculated, without however obtaining leave to give lectures. Having quarrelled with the rector, he removed to Tübingen, where he proceeded to Wittenberg, where he was received professor, and published in 1587 a treatise, 'De lampado combinatoria Lullianis.' At Witten- berg Bruno was invited to become a member of the Lutheran communion, which he seems to have declined; upon which he proceeded to Brunswick, where he was well received by the Duke Julius, who placed him at Helmstadt as teacher. On the duke's death in 1589, Bruno repaired to Frankfurt, where he wrote several Latin treatises explanatory of his metaphysics. At Frankfurt on a sudden he resolved, from motives of friendship, to make a journey to Spain, which was greatly censured by his friends. He went first to Padua in 1592, where he remained two years, and then to Venice, where he was arrested by the ecclesiastical inquisition, and transferred to Rome in 1598. He remained two years in the prisons of the holy office, all the while and the inquisitors with hopes of his recantation. At last, on the 9th February, 1600, sentence was passed upon him as a
confirmed heretic, 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. Scipiouus the Latinist, who seems to have been present at the execution, relates, in a letter to Ritterfusius, that as the monks held up the banner and led him to his execution, Scipiouus 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 become very rare, while others remained inedited, have been collected and published together by D. Wagner, with a life of the author:—

"Opere di Giordano Bruno Nolano ora per la prima volta raccolle & pubblica,

BRUNO, SAINT, born at Cologne in 1021, studied at Paris, and afterwards became a canon regular of St. Denis, and was made rector of that monastery; but being disgusted with the vexations and misconduct of the Archbishop Mannassas, he took the resolution of leaving the world and retiring to a solitude. He repaired first to Suisse Fontaine, in the diocese of Langres, and afterwards to a monastery near Grenoble, in 1084, where he was joined by several other ascetics, he built an oratory and seven cells, separate from each other, in imitation of the early hermitas of Palestine and Egypt. Bruno and his monks cultivated the ground in the neighbourhood of their cells, and lived upon the produce of their labours. Their wants were supplied with wine and provisions by the authorities, and with clothes by the bishop of Grenoble. This was the origin of the order of the Carthusians, and of the splendid convents built upon the spot, which is called La Grande Chartreuse. Bruno adopted the rules of St. Benedict, but afterwards Gille Wolfram, abbot of Ensdorf, wrote distinct regulations for it. Pope Urban II., who had studied under Bruno at Rheims, insisted upon his going to Rome, where he stood in need of his advice. Bruno after a time becoming weary of the papal court, retired to a solitude in Calabria, where he founded a monastery with the consent of the bishop of Benevento, in 1101. He was canonized in 1514. Several commentaries and treatises have been attributed to him, which were written by another St. Bruno Siguy of Asti, a contemporary of the former, and abbot of the Benedictines of Monte Cassino. Bruno the third, wrote two letters from Calabria, one of which is addressed to his brethren of the Grande Chartreuse, near Grenoble. (Bollandi, Acta Sanctorum; and Dict. Univ. Hist.),

BRUNSWICK (in Germany, BRAUNSCHWEIG).—Two distinct sovereignties have sprung from the house of Brunswick. The possessions of the elder or ducal line are confined to the grand duchy of Brunswick-Wolfenbüttel; the younger or electoral line, by whom the kingly title was assumed, consists of the kingdom of Hanover, which is also designated the Brunswick-Luneburg, or Hanoverian line. The latter line has given kings to Great Britain from the commencement of the 18th century.

The following article relates wholly to the duchy of Brunswick.

Brunswick is composed principally of three large unconnected districts, lying on the banks of the Aller, Oker, Leine, and Weser, in the N.W. part of Germany. The most southern of these districts lies wholly upon or next the Lower Harz; the eastern districts consist of the counties of Altenau, Blankenburg, and Holzminden, which are bounded upon the N. and S. by the kingdom of Hanover, on the E. and S.E. by Prussian Saxony and Anhalt, and on the W. by the Weser from the Prussian dominions. Brunswick possesses also three isolated demesnes, the towns of Blankenburg, Holzminden, and Wietzendorf upon the Weser, which is quite detached from the rest, and has the principality of Waldeck for its neighbour; the bailiwick of Thedinghausen, which is surrounded by the Hanoverian earldom of Hoya; and the bailiwick of Nedel, which is situated near Prussian Saxony. Several of these possessions are situated between 5° 10' and 11° 22' E. long., and 51° 35' and 52° 32' N. lat., and occupy about 1,225 sq. m. They were formerly constituent parts of the counties of Blankenburg and Blankenburg, the ecclesiastical bailiwicks of Walkenried, the bailiwick of Thedinghausen, and other

Isolated parcels of land, together with four-fifths of the sovereignty of the Lower Harz.

The duchy is at present divided into six circles:—

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<tr>
<th>Cir.</th>
<th>Bailiwick</th>
<th>Pop.</th>
<th>Chief Towns</th>
<th>Pop.</th>
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</thead>
<tbody>
<tr>
<td>Brunswick</td>
<td>231</td>
<td>54,400</td>
<td>Brunswick</td>
<td>35,300</td>
</tr>
<tr>
<td>Wolfenbüttel</td>
<td>54</td>
<td>9,446</td>
<td>Wolfenbüttel</td>
<td>8,300</td>
</tr>
<tr>
<td>Helmstedt</td>
<td>322</td>
<td>49,000</td>
<td>Helmstedt</td>
<td>6,300</td>
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<tr>
<td>Gandersehe</td>
<td>245</td>
<td>31,500</td>
<td>Gandersehe</td>
<td>2,360</td>
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<tr>
<td>Holzminden</td>
<td>267</td>
<td>35,460</td>
<td>Holzminden</td>
<td>3,200</td>
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<tr>
<td>Blankenburg</td>
<td>194</td>
<td>15,800</td>
<td>Blankenburg</td>
<td>3,190</td>
</tr>
</tbody>
</table>

The whole duchy contains 12 towns, 15 vill. with markets, 417 vill. and hamls., and about 28,000 houses.

The northern districts of Brunswick, particularly the principal part of the Harz mountain range, is intersected by several ranges of hills, such as the Elm, Oder, Fallenstein, and Asse; and there are also some forests: at their extremity heaths and moors occur, which are part of the great sandy levels which characterize the N. of Germany. The southern districts, including the Blankenburg territory, which lie within the limits of the Harz, are a succession of highlands and mountains, in part well wooded, and studied with wide and highly cultivated valleys. The Harz is the principal mountain range in the Brunswick dominions, which consists of it and threatens to 164,000 acres, independently of its offsets. The lowest portion of pioits on the duchy are the Wernberg, which is 2,880, the Radauerberg 2,317, the Förstertränke 2,298, and the Rammelsberg 1914 ft. high. Throughout the duchy the surface gradually declines from this range towards the N., the larger portion sloping 100 feet below the Oker and the Weser, and the remainder eastwards in the direction of the Elbe.

The soil in the N. is highly productive, with the exception of the extreme borders, which belong to the great Liineburg plain, though even here it does not degenerate into mere sand. The southern part of the country is mountainous and of a stony character, which is particularly observable of the Blankenburg districts; but in Wolfenbüttel and Scheppenstädt, and next the Weser and Leine, it admits of profitable cultivation. Thedinghausen consists of 1,226 acres, and the district of Nedel of 2,578 acres. The duchy occurs in the bailiwicks of Ottenstein, in the Holzminden districts.

The whole of that part of the Harz which is comprised within the Blankenburg territory belongs to the region of the Lower Harz; the highest point is on the N.E. edge of the most southerly districts, whence it spreads not only over the entire principality of Blankenburg, but sends out its branches, though not always in an unbroken line, over most parts of the duchy. Of these remoter branches there are a few which are mere drifts of sand and gravel. The Harz occupies 18,000 acres, the 'Hufe' next the banks of the Leine; the 'Erm,' consisting of wooded slopes, 34,000 acres in extent, lying between Wolfenbüttel and Schöningen; and a portion of the forest-covered heights of the 'Drömling,' lying between the districts of Blankenburg and Holzminden, contains the bulk of the woods and forests of Brunswick; the higher regions of the Harz are exclusively the regions of the fri and pine; the less elevated have these species of wood intermixed with underwood; and the lowest parts are covered with oak and elm.

The most considerable riv. in the duchy, the Weser, flows about 20 m. through its western territory, between Meinbren and Despe, and again through Thedinghausen. Although eleven streams run into it in the Brunswick sude, the town of Hanover is situated in the only place that derives any advantage from it in the way of navigation. Among its tributaries, the Aller traverses a small portion of the northern district of Vorsfelde only, but in its course receives the Oker, the principal riv. of the northern half of Brunswick. The Oker enters the duchy between the Blankenburg and the Harz, and flows across the principality of Wolfenbüttel in its course northwards, until it leaves the duchy at Neubrück; during its course its waters are increased by those of the Grose, Radau, Ilse, Ecker, Altenau, &c. The Oker is used as a ditch for the cultivation of the land bordering it. Other tributaries of the Aller are the Leine, which enters the N. of Brunswick from the vale of Einbeck in Hanover, divides the Harz from the Weser districts, and gives to its sandy, yellowish stream the first of those districts back into Hanover; the Fuse traverses the western extremity of Wolfenbüttel; and the Innerste, which
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. The annual revenue of the one includes the mines on the Rammelsberge, 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 yield, one year with another, according to the different relations of the various mines. The principal share consists of copper, 52 of lead, and 70 of litharge, 115 of zinc, 985 cwt. of vitriol, 354 cwt. of sulphur, and 86 cwt. of potash; which must be added 88 lasts (about 164 tons) of salt from the works at Julius-hall. These mines are under the direction of a joint board at Goslar, and consist of three, silver, three of 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-Harf" also includes a high furnace and two iron-works at the Springs of Seesen, and near the Weser. The sandstone, pentine-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 district with fuel, and alum. There are four salt-works, one of which is at Seesen, and another at Harz, with beds of two mines, the one at Scheningen (1300), Salzliebsenhall (800), and Juliushall (250); the last-mentioned forms part of the Communion-Harz. Cobalt and ochre are obtained from the Rammelsberge, and near Helmstedt.

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 184,705; in 1793, to 191,713; and in 1795, to 209,527. But we are not enabled to speak of the present pop. of Brunswick from official returns, as none have been made public since 1812 and 1820, when the number of inh. was 209,527 (101,598 males and 107,929 females) in the first-mentioned, and 245,783 in the last-mentioned year. Of families there were 41,609 in 1830. From these data, the present pop. may be safely estimated at 260,000. The surface is about 5000 ° sq. m. forming the northern, and 100,000 to the 777 sq. m. forming the southern possessions of Brunswick. Out of the 28,900 houses, about 7200 are in towns. Independently of about 140 Jews, the Brunswick is German, as is the Lower German, and the townpeople and persons of education the High German dialect. In 1830, a classification according to religious persuasions (Allgemeine Eingliederung) was compiled, from which we are unable to judge what proportion of the people are Church of Jesus Christ of Latter-day Saints, and whether in the mainly Lutheran, and the Catholics, 27,000, and in the reformed 15,000, and in the Catholic 12,000; of whom 20,000, 6000, and 12,000 respectively, were subject to the consistory at Wolfenbüttel, 6 general and 29 local superintendencies, and divided among 238 par. and 262 auxiliary flocks, in which were 396 churches and chapels. The Reformed Lutheran Church had at that time 1056 followers and one place of worship; the Roman Catholic faith, 2396 followers and three churches at (Brunswick, Wolfenbüttel, and Helmstedt); and the Jews, five synagogues. There were some families of Himmethers then resident in the district. The value of all ecclesiastical property was estimated in 1812, about 332,229 dollars, and the incomes of benefices at 17,070 (130,000 dollars). Of these benefices, the duke of Brunswick then held the patronage of 116, landowners of 44, magnates of 10, prelates of 40, parishes of 10, and foreign endowments for the reception of unmarried ladies at Stutenburg, Wolfenbüttel, Brunswick, Helmstedt, and Goslar, which had been suppressed by the Westphalian government in 1812, were reinstated in their properties in 1814, and re-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 proportion of the students' stipends. At the head of her own establishments for the purposes of education are the Lyceum, formerly the Collegium Carolinum, in Brunswick, conducted by 19 professors, and frequented by pupils from the higher classes of society. There are also the academies for the higher distribution of learning, the gymnasium, five professors and a demonstrator; the agricultural institute; an upper gymnasium, pro-gymnasium, and a real gymnasium (for youths designed for commercial and other ordinary pursuits), the whole three constituting what is called "Vereinigtes 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, Helmsstedt, Blankenburg, and Holzminden. For the poorer classes there are 3 schools of industry, 26 civil schools, and 435 country or parochial schools in the duchy. The Jews have likewise 3 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 Wolfenbüttel, containing works on natural science, amounts to 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 form of which is determined by the national compact, or public treaty, made at Vienna on the 18th 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 composed of the duke, an upper chamber consisting of 6 prelates and 16 members of the chamber of delegates, 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 landholders, who do not possess equestrian rights. No minister of state can be a representative. The upper chamber, and the president of 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 legislature must be assembled once at least every three years in the twenty-four years, and in extraordinary emergencies, a special session may be held upon the requisition of the permanent committee. The taxes are voted for periods of three years; and every point connected with the finances, and indeed with the administration of national affairs, is managed by the chamber of finance. This chamber is also the supreme authority. All Christian persuasions, if tolerated by the law, enjoy 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 emperor in the church service, a duke in the army, a chamberlain of the court, 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 duale demesnes, monopoles, &c., which yield a net income of about 54,795l. (395,000 dollars), out of which, by the settlement 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 considerable portion of the income, 215,540l. (1,800,000 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 net income of the mineral produce, the merchant marine, the dues of the post-office, 83,670l. (650,000 dollars), or rather more than 140,000l. per annum. In fact, the estimate, as sanctioned by the chambers, for the expenditure of the duchy in the triennial period, 1834 to 1836, amounted to 3,036,082 dollars, of which sum about 11,295,783 dollars are payable for the payment of the debts of the military, and about 63,870l. (464,555 dollars) to the redemption of the national debt, which amounts to about 495,000l. (3,600,000 dollars). The disbursements on account of the "church and education" are paid out of the various endowments in the shape of monasteries and scholastic endowments, which produces a net yearly sum of about 46,830l. (340,600 dollars). Estimating the pop. at 254,000, it would appear from these data, that each individual contributes on the average a sum of about 174.44d. per annum for the state every three years, or about 124.6d. per annum.

The military establishment consists of the quotas of men which the duchy is bound to furnish to the tenth corps of the army of the German confederation; namely, 1625 infantry, 299 cavalry, and 172 artillery and pioneers; making a total of 2056.

The mineral resources of Brunswick afford extensive employment 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 exported. The linen manufacture once employed above 2000 weavers, but it has greatly declined of late years. In the districts nearest the Weser, the people knit considerable quantities of stockings. They are not permitted to cut their hair. The farmers make for their own use a species of cloth, half of woollen and half of linen yarn, which is thence termed "beiderwand," or union cloth. Oil is almost wholly a product of the lowlands, and keeps 12 mills at work, from which about 300 tons 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 29. Gardners or gilders are a popular occupation. In Hainburgh there is 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 principally carried on at Brunswick; ribbons are made in Brunswick and Wolfenbüttel; soap is mainly manufactured at Holzminden.

The breweries, including the celebrated 'Mumme' brewhery at Brunswick, have very much declined; and the same remark applies to the once extensive tobacco manufactories in Brunswick, Wolfenbüttel, and Holzminden. The number of tobacco-mills is 65, and mills 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 her commerce passes through the Baltic ports, which arise 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, ichioye, madder, leather, timber, hops, and bacon, the estimated value of which does not at present exceed 150,000l. per annum. The importations are principally composed of colonial produce, raw materials, fish, butter, cheese, cattle, &c. (Vanturini's Duchi of Brunswick.)

The climate of the duchy is similar to that of the Rhine, mountainous districts being the地带 of grayer aspects. The inhabitants of this country are by some supposed to be descendants of the Saxones, or the Cherusci, the former of whom were at an early date settled on the lands which lie N. of the mouths of the Rhine and Weser, and the latter, in the time of their greatest power, spread themselves as far as the Harz mountains. Other writers, admitting this description of the Saxons, claim it also in favour of the Brereti Majoros, whose easterly settlers lay close upon the banks of the Weser, as well as of the Angrivari or Angri, who dwelt on both sides of the Weser, and thence spread to the Jutland, or the Harz mountains. Other writers, admitting this description of the Saxons, claim it also in favour of the Brereti Majoros, whose easterly settlers lay close upon the banks of the Weser, as well as of the Angrivari or Angri, who dwelt on both sides of the Weser, and thence spread to the Jutland, or the Harz mountains. Other writers, admitting this description of the Saxons, claim it also in favour of the Brereti Majoros, whose easterly settlers lay close upon the banks of the Weser, as well as of the Angrivari or Angri, who dwelt on both sides of the Weser, and thence spread to the Jutland, or the Harz mountains.
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 Drusus, a range of elevated hills, two of which are the
Wittenberg, the whole on the Brunswick and Hanoverian soil.

At a later date the Wends settled in these parts, and
traces of their name still exist in Warendell, Wendeburg,
and Wendenhausen, estates within the borders of the duchy.
The house of Brunswick, one of the oldest in Germany,
and the younger branch of the British house, derived their
throne from descent from Albert Azo I., margrave of Este in Italy, who died in 964. His great grandson,
Albert Azo II. of Este, who held the sovereignty of Milan,
Genoa, and other dominions in Lombardy, had for his first
wife the daughter of Godolph II., who died in 1030,
and was of the blood of the Altôrs, counts of Swabia.
His son by this marriage, Guelfp the First (more properly
the Fourth), became possessed of the dukedom of Bavaria
and founded the junior house of Guelp, to which the
heir of Brunswick traces its origin. This prince, who
inherited the whole of the possessions of the Guelp family
from his maternal uncle, died in 1101. Guelp II. (or V.),
his eldest son, married in 1089 the celebrated Countess
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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 incumbrancy of St. Magnus. That prince, who was its real founder, divided the town into three quarters. It became one of the Hanse towns in the 13th century. It has still the appearance of 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 levelled in 1794, and converted into parks. The royal residence is the castle of Breslau, the ducal's country seat, Castle, &cb. The Münzberg, occupies about eight sq. m.; the town itself is divided into 6 districts, contains about 101 streets, 3400 houses, and 36,000 inl. Among its 10 churches are the collegiate church, the collegiate church of St. Matthew, 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, now used for barracks, market, and other public purposes, and the university or school (Real-school); several elementary schools, two orphan asylums with schools attached, and a deaf and dumb asylum. There is a good museum of works of art, &c. In the second story of the arsenal, besides a number of private collections, Brunswick has 7 gates and 12 squares or open spaces; the park and gardens of the palace are thrown open to the public, and a fine avenue of linden trees leads from the town to the duke's seat, Richmond, the grounds of which are laid out in imitation of Richmond Park near London. The manufactures of more importance to the town are woolsen, linen, lacquered and hard ware, tobacco, chinoiserie, glazier-salts, mineral colours, china, papier maché, leather, coloured papers, brandy, and liquors. But the chief source of wealth is its trade, two great fairs, a woolmarket, and six cattle markets of the year. Brunswick 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 infirmary. Richmond, the chief seat of the Elector, is 56° 30' 13" N. lat. 10° 52' 22" E. long. 32° 45' 22" W. long. 15.9 miles in length, with a population of 25,000.

BRUNSWICK, New [New Brunswick] BRUNSTISLAND. [Brux.]

BRUSSELS, called by the Flemings 'Brussel', in Latin 'Bruxellum', and by the French 'Bruxelles', the capital of the kingdom of Belgium, in the prov. of S. Brabant, is in 50° 50' N. lat. and 4° 22' E. long.

This city is built upon the Scheldt, a rivulet which rises in the comm. of Nekem, in Hainault, and, flowing to the N.W., passes through Soignies 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, near Malines, and falls into the Dyle at Battenbroek. The Scheldt is divided into two main streams, a southern branch, 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 St. Christopher and Bon Secours. The width of the river, where its different branches unite, is not more than 50 ft., and its ordinary depth is 5 ft., which diminishes in summer, and increases considerably in winter. The river is not navigable in any part of its course. To remedy this disadvantage, the authorities of Brussels projected a canal, and have been for some time past working the course of the riv.; but this project was successfully opposed after 70 years of litigation by the city of Malines. A new plan was then adopted, and a canal was begun in 1550, which proceeded parallel to the Scheldt from Brussels to Vilvorde, on the course of the riv.; but this project was satisfactorily finished after 50 years by means of 5 locks.

Another canal has lately been constructed between Brussels and Charleroy; the fall from the latter to Brussels is 360 ft., and there are 5 locks. This can. commences at the Sambre, about 1100 yards above Charleroy, and near Hal it crosses the Senne by means of an aqueduct of three arches, and continues in a direct line towards Brussels, where, having repassed the Senne by another aqueduct of the same number of arches, it terminates in the ancient forces of the city; this can. was finished in 1564.

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 W. The town is partly built on the side of a hill, and partly on the course of the Scheldt, its appearance being of a fine amphitheatrical. Owing to the inequalities of its surface, Brussels has been compared with Genoa and Naples. It is inclosed by a brick wall, which has eight gates, bearing respectively the names of the Antwerp, Brabant, Hainault, Flanders, Luxembourg, and Walcheren, and the Canal-gates. These gates communicate with high roads, leading to different parts of the kingdom, which centre in Brussels as the capital. The Antwerp gate conducts to Malines and Antwerp; Schaerbeck gate to the village of Mannan; Neamur gate, through the forest of Soignies to Waterloo, Nimy, and Charleroy. Anderlacht gate conducts to the high road to France; and Flanders gate to the city of Ghent.

The origin of Brussels reaches back to the seventh century. The first edifices were erected in the island of St.

dominions until the Russian campaign shook Napoleon's power. The retreat of the French army from the N. of Germany and the capture of the duchy of Brunswick and of the French army from the N. of Germany and the capture of the duchy of Brunswick and of the capturer of the power of the state from the state of the state from the emperor. 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 a president; of undergraduates 155, of M.A.s, 717. The college is the oldest in connexion with the college was established in 1820, and in 1833 contained 103 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. The college was called the wrote by the students in 1826, and has since been regularly published. The town has the advantage of a considerable water-power, owing to its position near the falls of the Androscoggin, which is emulated in its industries, and is one of the 2nd rank of seats. The pop. of the town in 1820 was 2934, and at the census of 1830 was 3747.
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 tenth century, the castle so situated was inhabited by a nobleman named Otger. This castle was surrounded with walls in 1014 by Lambert Balsard, count of Louvain; but the walls were removed and the city enlarged in 1269.

Two dreadful fires occurred in 1326 and 1405. It is said that, on the first occasion, 2400, and on the second 1400 houses were burned. If these houses 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 fire-arms. The former was introduced from Bruges and Ghent; the latter, as the name of the city suggests, from France.

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, made another attempt in 1489; but the people, deprived of their city of various privileges, which were bestowed upon Malines. In 1459 Brussels was visited by the plague, which prevailed so much that the people died in the streets. By a similar visitation in 1518, more than 27,000 inhabitants perished. On the 26th of August in 1576, the duke of Alba, occasioned 10,000 artisans to leave Brussels in 1567, many of whom settled in England.

In 1655 this city was bombarded by Marshal Villeroil, who demolished upwards of 4000 buildings, including the tower of St. Nicholas, which was considered one of the loftiest in Europe. The city 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 city under heavy contributions; it was restored to Austria at the peace of Aix-la-Chapelle; but was reoccupied by the French in 1794. On the 2nd of November, 1795, the Brussels regular troops were defeated in the battle of Grand' Place, situated in the centre of the city, 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. Some other squares, the Place Royale, Place du Luxembourg, and the Place St. Michael, 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 city with water. One of these fountains, that in the Place du Sablon, containing a group in satirical marble, was erected in 1751, under the will of the earl of Aylesbury, 'as an acknowledgment of the enjoyment 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 synagogue. Among the Catholic churches is the cathedral of St. Gudule, a Gothic building in the form of a cross, with two large square towers at the angles of the building. The cathedral was built in 1010; it contains a very remarkable pulp, moulded 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 de la Chapelle was founded in 1134; it contains some fine statues by Duquesnoy, and a marble altar designed by Rubens, besides several paintings

by eminent masters. The church of Notre Dame des Victoires, built in 1626 by the first duke of Brabant to commemorate a victory obtained over the bishop of Cologne, is an ornamental Gothic building with painted windows, and contains many valuable paintings and statues. The Protestant church formerly belonged to the convent of the Augustinians.

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 authorities to be 364.5 ft. high, is surmounted by a gilded colossal statue of St. Michael, 17 ft. high, which serves as a weathervane. 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 and carvings, and the Sheriffs' library. The library, which contains nearly 100,000 volumes, 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 of Orange in 1824.

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, and walks of gravel, which are seen and not heard. The avenues, which are 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 which 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-grounds outside the walls. The first of these was established 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 have established two cemeteries, one on the road leading to the vil. of Tervueren, and the other in the same.

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, calicoes, flannel cloths, and other kinds of cloth, furniture, and hardware, and various chemical preparations used in the arts.

The pop. of the city was 84,004 in 1825, and 98,279 in 1830. The revolution which occurred in the latter year caused many mercantile men and persons attached to the former government to leave the city. A great number of persons emigrated 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 by 526,792. 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.

<table>
<thead>
<tr>
<th>Year</th>
<th>Free Inhabitants</th>
<th>Married</th>
<th>Single</th>
<th>Divorced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1824</td>
<td>3,812</td>
<td>3,029</td>
<td>691</td>
<td></td>
</tr>
<tr>
<td>1825</td>
<td>3,763</td>
<td>3,146</td>
<td>735</td>
<td></td>
</tr>
<tr>
<td>1826</td>
<td>3,923</td>
<td>3,078</td>
<td>362</td>
<td></td>
</tr>
<tr>
<td>1827</td>
<td>3,801</td>
<td>3,022</td>
<td>378</td>
<td></td>
</tr>
<tr>
<td>1828</td>
<td>3,776</td>
<td>3,057</td>
<td>347</td>
<td></td>
</tr>
<tr>
<td>1829</td>
<td>3,948</td>
<td>4,078</td>
<td>912</td>
<td></td>
</tr>
<tr>
<td>1830</td>
<td>3,988</td>
<td>4,028</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>1831</td>
<td>4,022</td>
<td>3,348</td>
<td>944</td>
<td></td>
</tr>
<tr>
<td>1832</td>
<td>3,765</td>
<td>4,676</td>
<td>658</td>
<td></td>
</tr>
<tr>
<td>1833</td>
<td>4,117</td>
<td>3,988</td>
<td>1,092</td>
<td></td>
</tr>
<tr>
<td>1834</td>
<td>4,230</td>
<td>3,863</td>
<td>1,092</td>
<td></td>
</tr>
</tbody>
</table>

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 10 to 14; 93 from 14 to 20; 283 from 20 to 30; 283 from 30 to 40; 245 from 40 to 50; 210 from 50 to 60; 282 from 60 to 70; 278 from 70 to 80; 156 from 80 to 90; 16 above 90 years; 1 age unknown; total, 3863.
common language of the pop. of Brussels, though many of the poorer classes still speak Flemish also; and some of them speak only the latter language.

The municipal taxes upon provisions and other necessary articles brought into the city makes us acquainted with the quantities consumed. During the year 1834 the consumption of the principal articles was as under:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine</td>
<td>237,880</td>
</tr>
<tr>
<td>Spirits and liqueurs</td>
<td>851,025</td>
</tr>
<tr>
<td>Beer</td>
<td>6,397,836</td>
</tr>
<tr>
<td>Oxen</td>
<td>9,281 in number.</td>
</tr>
<tr>
<td>Calves</td>
<td>16,092</td>
</tr>
<tr>
<td>Sheep</td>
<td>92,277</td>
</tr>
<tr>
<td>Pigs</td>
<td>3,136</td>
</tr>
</tbody>
</table>
| Meat (killed) | 1,703,281| lbs, making Fresh fish 20,059/l. value.
| Codfish       | 965 tons |
| Stockfish     | 641      |
| Wood for fuel | 586,165 cubic feet. |
| Charcoal      | 134,912 hubbles. |
| Coal          | 39,633 tons. |

Brussels contained, in 1832, eight communal, and 72 private schools: in the former there were 1522 male, and 1215 female scholars; and in the latter, 929 male and 1405 female scholars. There are besides several establishments for the instruction of poor children, which are supported by private contributions. Among these are a Lancasterian school, in infirmary, and a Sunday school, conducted like those in England.

The city supports several hospitals and charitable institutions. One of these, the Hospital of Saint Peter, was originally founded for the reception of crusaders returning wounded from the Holy Land; it is now appropriated to the care of persons suffering under dangerous complaints. Ophthalmic patients are also received, and young children. It is likewise used as a lying-in hospital, and one division is allotted to the reception of sick persons who pay for their support and attendance, and towards whom every possible care is extended. Attached to this hospital are very spacious and well-kept gardens and commodious halls.

There is an establishment for relieving distressed Englishmen who may be at Brussels, and for providing the means, when money is now scarce, to enable them to return to their country. 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 Observatorium, is 17° 25' Fahr. when the centigrade thermometer stood at 24.78, equal to 76° 4 Fahr.: the greatest cold occurred in January, when the centigrade thermometer stood at 3.23, or 26° Fahr. Observations on the atmospheric pressure during the same year and at the same establishment, (on the 8th January) 775.29 millimetres, or 30.322 inches. The minimum pressure was observed in September, when the mercury in the barometer stood at 726.10 millimetres, or 28.556 inches: the mean pressure for the year was 750.67 millimetres, or 29.544 inches. The number of days on which it rained was 180; there occurred 39 days of frost and 25 of fog; it hailed on 5 days and snowed 11, and there were 7 thunder-storms during the year: three of these occurred in June and the same number in July. The precipitation amounting to 743.27 millimetres, or in inches.

Brussels is the seat of the supreme court of justice and of the court of appeal. The assizes for the prov. of S. Brabant are held in the city four times in each year.

At the vil. of Lacken, 9 m. N.E. from Brussels, is the summer palace of the king, built in 1792, by the Archduke Albert. This palace stands in a fine situation, commanding fine views of Brussels and its environs. [Belgium, South Brabant.]

BRUTON. [Somerset.]

BRUTUS, LUCIUS JUNIUS, son of Marcus Junius and of Tarquinius, sister of Tarquinius Superbus (as Bayle has sufficiently proved in opposition to the assertion of Morell), having early lost his father and elder brother by the cruelty of Tarquin, signed immobility of intellect, in order to escape the penalties of the new act. Several attempts were made on the instance of Brutus, himself and his family, to remove this notorious enemy from the rulers of the state. He had become the object of public enmity, and the scene of personal violence, and the abuse both of his name and person. He was considered a public enemy by the Romans, and a public enemy by the state, and so great was the fury of the encounter, that each regarded his own safety solely the destruction of his adversary. They were mutually pierced, and each fell dead from his horse tranfixed by the lance of his enemy.
Suct is the story of Lucius Junius Brutus given by Livy (i. 56, &c. ii. 1–6). A public funeral was decreed to him; the matrons of Rome, in honour of the champion and avenger of Lucretia, were mourning for him during a year; and, according to Plutarch, a brazen statue with a drawn sword on it was set up near him, and was joined together with those of the kings. (See Niebuhr's Roman History, vol. i, 'Commentary on the Story of the last Tarquins."

Voltaire has written a tragedy on the history of Brutus, did not in the puling love of Tullia, a daughter of Tarquin, for Titus, the son of the consul; and an earlier dramatist on the same subject, Madlle. 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 Antoni, particularly Lucius Brutus, who had, with his wife Valeria, 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. 676. On his adoption by Aulus Postumius Albinus he took the name of the family into which he was received, so that he sometimes appears on medals as Albinus Bruti filius. Shakespeare has called him Decius, and both that poet and Voltaire in many particulars have confounded him with Marcus Brutus, and clearly his is the Brutus in whom 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 ideas of March, when all things were prepared for the assassination, it can hardly be doubted that he received a comman from Cæsar 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 this thought, and he, in a fit of temper, went himself and brought the soothsayers, by showing Cæsar that the senators assebled by his orders would think themselves insulted if they were dismissed on pretenses so frivolous, and above all by assuring him that it was intended on that day to nominate him, and that his presence in the senate was an indication that he might be elected except within the limits of Italy. (Plutarch, Caesar, liv.)

The affections 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. Cæsar 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 backbone of the conspirators. The more powerful part of them, supported by 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 this purpose he disguised himself in that country, 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 bandits. Having inquired of their captors to which of the Gaulish petty princes the district in which he had been taken belonged, and having heard that it was ruled by Camillus, a chieftain whom he had formerly obliged, he 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 Antonius, who was with him, and who 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 Civilibus, vol. ii. 70.)

BRUTUS, MARCUS JUNIUS, son of Marcus Junius Brutus, by Servilia, sister of Cato of Utica, was born at Rome A.D.C. 658, B.C. 86. He was traditionally descended from Marcus Junius, the expeller of the Tarquins, a descent asserted by himself in a medal commemorating the association between himself and Marco Tullio, consuls of 509 B.C. A passage in the 1st Philippic of Cicero (c. 6) corroborates this origin by stating that the expeller of kings, L. Brutus, has propagated his stock through 500 years, in order that a descendant might emulate his virtue 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 called Q. Cecpio Brutus both by Cicero and Dion Cassius, and so also Antonius, his uncle, in the speeches of Cicero. Procs. or Imp. occurs. He owed this name apparently to his adoption by his maternal uncle, Q. Servilius Cecpio. On an unjust divorce from his first wife, Appia Claudia, he married Portia, the widow of Bithynus, 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 acquainted with all the Grecian systems of philosophy, but was more particularly fond of those of Plotinus, 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 Ciclius 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 the civil war broke out between Julius Cæsar and Pompey, Brutus sacrificed his private enmity to his public interest, 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 forgave him a crime, as nearly as possible, and dismissed him from the Roman army, but granted pardon through his interference both to Cæsus, who had married his sister, and to Deiotarius, king of Galatia, for the latter of whom Brutus pleaded in a set oration. Scandal attributed these acts of grace to a remembrance of the treatise 'On the Origin of the Gallic Wars,' written by 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 Cæsar when he perceived Brutus among his assassins, 'And are you among them, my son?' were repeatedly urged to his own advantage with familiarity rather than as any acknowledgment of consanguinity. Brutus was only 15 years younger than Cæsar himself.

When Cæsus undertook his expedition into Africa against Cato, he committed to Brutus the government of Cisalpine Gaul, which was administered under the direction of a Roman, and he afterwards preferred him to Cassius in a ravishment for the post of Pretor Urbanus. Notwithstanding these distinguished favours, Brutus was one of the principal assassins on the Ideas of March. He retired to Athens, when Marcus Antonius and his friends deserted the people of Rome, where he devoted himself partly to literary pursuits and partly to preparation for war. In the end Antonius and Octavianus on one side, and Brutus and Cassius on the other, met at Philippi, in Macedonia. The battle was fiercely contested, but the latter fell in the total rout of the existing Cassius, unwillling to save his fellow, fell at the head of his own sword, 'in ending in a syllog 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 of Cassius, friends to him, whom he had declined the painful duty, he delivered the charge of his army to Cassius, and attempted to end his own life with his sword, and by piercing 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 Aldus, Cursius, and H. Stephanus. It is said to have made a kind of 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 published by M. Berkeley as 'silly barbarous stuff,' which he 'cannot read with much pleasure,' and which are not intelligible. Their authenticity on the other hand is strongly supported by Conyers Middleton in answer to an attack by Tunstall. 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...
Plutarch also remarks that there is a diversity in the statements respecting the death of Portia, that Nicolaus the philos-opher and Valerius Maximus affirm, that being prevented from suicide by the constant vigilance of friends who sur-rounded her couch, she snatched some burning embers from the fire and held them in her mouth till she was suffo-cated. If Plutarch limits himself to the account of a letter attributed to Brutus, this account must be a fabrication; for he lays it in the first fifteen years of his life, describes her dis-temper, and praises her conjugal affection.

Voltaire wrote a tragedy, "La Mort de Cesar," 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 Cesar; and although the play abounds in fine lines, it does not appear to have been as successful as expected. (Plutarch, "Brutus"; Appian, lib. 15, 16; Cicero's Letters and Orations; Dion Cassius.)

**BRUYÈRE, JEAN LA.** Notwithstanding the well-merited popularity of Bruyère's works, scarcely any-thing 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 him in himself. La Bruyère was born in 1645, near Dourdon 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 1679 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 philosopher whose happiness consisted in passing a life of tranquillity, surrounded by good wit and his own books, and in the choice of both of which he showed considerable judgment. He was polished in his manners, but reserved in his conversations, and free from pretension of every kind.

Of all La Bruyère's friends, Bossuet, to whom he had attached himself, composed a life of him after his death, and he sympathised with him the least in character. Several anecdotes con- nected 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 archly smiling at the impatience, passion, and inconsistency of the pleading characters, with 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 con- troversy, the ridiculousness of the character of 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 expedient to make to the prevailing system of the day, he 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 see the secret of his prudent dissimilation. "Satire," says he, "is shot at him who is on one side, and the mark only upon the other side." He took no other considerations into account than to suit the character of the person who had offended him. He enters upon them now and then, but so turns aside to minor subjects, to which he imparts an inter- est and an importance by his genius and his style.

Since it was the worst of fortunate 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 by no means participated in that respect for despotism which is so manifest in Tertullian, who is not, however, better than the age of Louis XIV. The persecutions which rewarded the generous and liberal principles advocated, in his 'Tele-machus,' by the amiable Archbishop of Cambrai, whose domains were respected even by invading armies, as well as those of Molard, the Vicomte de Carlisle, and the Earl of "Tartuffe," turned La Bruyère aside to less dangerous sub- jects, to the details of social, and the follies of private life. Malignity, however, assailed him, even within the narrow limits to which he had confined himself, of criticism on the moeurs and the habits of his times. Upon completing his 'Characters,' he showed the book to M. de Malfeuex, who said, 'this will procure you many readers and many ene mies,' a prediction which was fully accomplished, for while the book was read with avidity the moment it appeared, reviews which were attributed to the author of which he was wholly innocent. The originals of La Bruyère's portraits were dis-covered, 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 de-nounced, instead of being complained that their character was calumniated, though they were held up to public ridicule.

La Bruyère is, perhaps, the only French moralist fami- liarly read in his own country. His observation, though rarely profound, is always judicious, natural, and nicely calculated to receive. If his views of human nature are very extensive, he amply compensates for the deficiency by the closeness of his inspection. He places the most try- ing 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 un-doubtedly be referred to him. It is 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 attributed to the Greek author. But to compare, as some have done, the charac- ters 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

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* * Hieronymus of Benevento published in France the first translation of the "Characters of La Bruyère" in 1613. The work has been translated into many languages, and its author has been forgotten since the appearance of that by La Bruyère in 1688. There are three other French translations of "Tartuffe," one by P. C. Leroux, 1678; another by Belia de Ballei, 1700; another by Cans, 1799.
people whose features they represented. Voltaire showed his want of this kind of knowledge when he said that Aristophanes was neither a poet nor a humorist. Shakespeare and Molière necessarily require commentators (at least, to be thoroughly understood). If we are to avoid rash decisions and ill-founded judgments. If we compare for a moment only the political and social position of the Athenians and Persians, Louis XIV and Louis XVI, we shall be able to form a just opinion of to what extent the moth embattled Persia, and the Levant, and the Indies, were already, in the year 1715, and ever afterwards 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 Stapton, afterwards to the Marquis of Blandford 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 a pension of 300ducats a year. In the latter part of his life he continued 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 circumstance and studies enabled him to cultivate the polite literature, and twice refused an office which has frequently been much coveted by others—the Mastership of the Charterhouse.

The history of his life is embraced in that of his publication; all his works are distinguished by the sound judgment and good-natured satire, of his friends whom we always consult with pleasure and advantage. It anticipates our knowledge of the world and perfectly; and although the manners and characters therein delineated may undergo changes and modifications, its interest and value in illustrating the principles which take nature as their basis, will always be true. BRUYN, BRUN, BRUN, or LE BRUN, CORNELLIUS, for his name is printed in different books in all these ways, was a painter and traveller of some eminence. He was born in France, and lived in Italy for many years, 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 1714. It relates some of his travels thus: He arrived at Ecosse, arrived at Cyprus, Scio, and Asia Minor, and was 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 spot by Charles. He remarks that 'it is a work of trust 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 390 engravings, and is also in folio. Many of these plates, representing eastern ceremonies, ancient edifices, 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 published in 1740. In 1740, he was published in London in 1742, and he was invested with the honour of knighthood by King Louis XV.

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 Darby, arrived there from Ternate, after a most extensive voyage and series of adventures. [DAMPIER.] The value of Brun's second work is further increased by an account of the route taken by M. Isbault, the ambassador of Muscovy, through Russia and the Turkish Dominions. In 1714, the year in which he published his first great work, Brun put forth in Holland a very small disputable treatise, entitled Remarks on the engravings of old Persepsia, formerly given by Messieurs Chardin and Kämpfer, and the mistakes and errors in them clearly pointed out. In this pamphlet he defends himself against the differences 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 English, and published in an appendix to his second great work in 1718.

The compilers of cyclopædias 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, Brun is in elegant in his style, and not always exact in his facts. Now in reality his style, though exceedingly simple, and somewhat in warmth and picturesque beauty, is very far from being elegant, and his exactness, 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 countries he visited, and the accuracy of his statements, we must refer to his own personal observation. He was not credulous himself, and he several times censures the credulity of explorers who had preceded him.

BRYCE, a name sometimes given to the natural order Muscidae.

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, and began his musical career. Notwithstanding that, he 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 Stapton, afterwards to the Marquis of Blandford 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 a pension of 300ducats a year. In the latter part of his life he continued 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 circumstance and studies enabled him to cultivate the polite literature, and twice refused an office which has frequently been much coveted by others—the Mastership of the Charterhouse.

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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 volumes containing "The Evidence of the True Author." 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, sva., executed at the request of the dowager Lady Pembroke; and two years afterwards, in sva., 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 open letter than any other which he produced, was suggested by M. Le Chevallier'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 successively answered by Wakefield, and it provoked far more honourable replies from Mr. Morritt and Dr. Vincent. In the following year appeared a tract in sra., entitled "The Sentiments of Philo-Judeus concerning the Greek Astrology." Besides these Bryant also wrote "Observations on famous controverted 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 subjects. Of the thirty or forty dissertations on the Prophecies of Balaam, the Standing still of the Sun in the time of Joshua, the Jawbone of the Ass with which Samson slew the Philistines, and the History of Jonah and the Whale. In the 7th vol. of the "Cabinet Library," he published three large treatises on the Zingara 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 "Apokesis of a Cat." 

His exemplary and protracted life was closed at his own residence at Copenham, near Windsor, on the 14th of November, 1804, in consequence of a hurt which he received in the leg by a chair slipping under him while taking down a book from an upper shelf. Such a death, as has been well remarked by a French biographer, was a literary man to expire on the field of honour. His merits are very justly eulogized in a note on the second "Dialogue of Telestes and Homer." Bryant bequeathed a large library to King's College, Cambridge, 2000£ to the Society for the Propagation of the Gospel, and half that sum to the superannuated collages of Eton, at the discretion of the provost and fellows.

The genus of coleopterous insects belonging to the family Paepalidae, which by some authors is arranged with the Brachelytra, but according to Latreille forms the third family of the section Trimeria. Technical characters:—antennae long, from the third to the terminal joint gradually increasing in size. The three terminal joints forming a large knob; the last joint much larger than the rest, and somewhat conical in shape; the two basal joints large; maxillary palpi distinct, the apical joints robust; head rather large; thorax rounded at the sides; elytra very broad, the first three joints of the basal side with sexual organs. The species of this and allied genera, though minute, are perhaps among the most remarkable of the Coleoptera; in the short wing-cases they appear to evince an affinity to the Brachelytra, but in the number of joints in the tarsi, a character generally considered of importance, they differ. They likewise differ from that tribe in having the terminal joints of the antennae immensely large, and in many other characters. They are generally found during the winter and early part of the spring in moss. Nine or ten species live there. (p. 602.)

BRYON'IA, the wild bryony of our hedges, Bryonia dioica, 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 axils of the leaves spring a hairy branching stem, which climbs among bushes by means of its tendrils, in the manner of a cucumber, to which it is botanically allied, both belonging to the natural order Cucurbitaceae. The leaves are palmate, and rough on both sides with callous 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 account of the juice, which is to be seen upon the French call, from that circumstance, Navet 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 on account of the principle called bryonine, analogous to cathartine, which exists in about the proportion of 2 per cent of the root.

Bryon-root should be gathered in the autumn, after the stem has turned yellow; it is cut into slices, which are strong upon a thread, and burnt to dry northwards.

BRYOPHYSIS, a succulent exogenous genus, belonging to the natural order Crassulaeaceae, and remarkable for the singular property possessed by its leaves of budding from their margin. These leaves are of a succulent texture, and sometimes pinnate; they or their leaflets are of an elongated figure, with a deeply-crenellated border; when placed in a damp and shady warm spot they sprout from the crenels and form young plants, a property unknown in the same degree in any other vegetable production. Physiologists, however, consider that these are a similar power, exercised in another way, exist in all plants in their carpellary leaves, from whose edges, forming placem, orules, which are theoretically young buds, are constantly produced.

The only species is Bryophyllum calycinum, a shrub found in the mountains of Morocco. It is a large pulvini-greenish-yellow young. In this country it is a green-house plant; but is apt to be eaten by mice.

BRZESE LITEWSKY. [Grodno.]

BURBALUS. [Arentzop, species 61. Ox.]

BURBEO. [Bucco, 26. E., large, grass, square, with ridges, cut by Bur- bey, and characterized by a small concha or ear aperture, and a facetal disk, less perfect than in the subgenus Synarium (cha'te-huan of the French). Two tufts of feathered buds of considerable size adorn the head, and the legs are feathered down to the toes.

EUROPEAN SPECIES.

Bubo maximus* Strix Bubo of Linnaeus; Le grand Esculeau de France; Gufo Gufo grande, and Gufo reale of the Italians; Schufit, Ubu, Grosse obole de l'Abbé de Paris; Bubu of the Lower Austrians; Great Owl, or Eagle Owl, of Willughby, Ray, and Pemnannt.

This, the largest of the Nocturnal Birds, is, there can be little doubt, the same as the Bubo (Byas) of Aristotle (Hist. Anim. vii. c. 3), and the Bubo funebris mentioned by Pliny in his chapter de Inauspicatis Avibus (lib. x. c. 12 and 13), on account of whose advent Rome twice underwent lustration. Upon one of these occasions the bird of ill omen penetrated into the city. This is the case of the Capped Owl.

Geographical distribution.—Temminck places its habitat in great forests, and says that it is very common in Hungary, Russia, Germany, and Switzerland, less common in France and England, and never seen in Holland. He says, that it is found at the Cape; Good Hope. Willughby observes that about Bologna, and elsewhere in Italy, it is frequent. Bonaparte notes it as rare in the neighbourhood of Rome, and says that it is only seen in mountainous situations. It is said to extend eastward as far as Kamchta.

Penman states that it has been shot in Scotland, and in Yorkshire, from which country it was sent to Willughby. Latham adds Kent and Sussex as localities where it has been found. It is said to have been seen in Orchney; and four are stated to have been shot on the coast of Donegal in Ireland. The eagle owl can then be only considered as a rare visitant to our islands.

This is Temminck's description:—Upper part of the body variegated and undulated with black and ochreous; lower parts white, but with black and ochreous. Throat and breast white. Feet covered to the nails with plumes of a reddish yellow. Iris bright orange. Length two feet. The female is larger than the male: but the tints of her plumage are less bright, and she is without the white on the throat.

It is sometimes very pale in the colors less lively, and in being of inferior dimensions.

- Bonaparte, Prince of Muranay, places it under an ambiguous Culis. † Specchio Comparativo.
Food. Young roes and fawns, hares, moles, rats, mice, winged game, frogs, lizards, and beetles.

Next. 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 Sudermannia, 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 moor-fowl was brought still warm under the wings, and at another time a piece of lamb in a patriarch 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 caterers, 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.

Belon gives an account of the use which falconers made of this bird to entrap 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 be 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 macular segment of the eye, which assumes in consequence a tubular form. The horned 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 dilating membrane and their muscles, with the external eye-lids and Harderian gland.

American Species.

Bubo Virginianus, The Virginian Horned Owl. Strix Virginiana of Vieillot; Duo de Virginie of Buffon; Neckyoneeuse of the Cree Indians, according to Mr. Hutesh; Oneauxe-cho of the Cree, on 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 very distinct species.

It is now considered, as Dr. Richardson observes, that this night-bird, peculiar to America, inhabitants that extend from end to end. Cuvier gives his opinion that the Strix Megallanica of the Planches Entumuses differs merely in having browner tints of colour; and Dr. Richardson mentions the result of Mr. Swainson's comparison of this northern specimen 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 specimen. 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 age, 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 superstitious terror of the owl, which they carry so far as to be highly displeased at any one who mentions its nocturnal visitations.' Lawson, evidently speaking of these birds, says 'They make a fearful hallooing 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 favourite 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 mankind 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 deep 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 sudden Waugh! Waugh! sufficient to have alarmed 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 screeching and that of Nuttall (Ornithology of the United States), we shall cease to wonder at the well-told tale in "Fauna boreali-Americana" of the winter night of agony endured by a party of Scottish Highlanders who, according to Dr. Richardson, had made their bivouac 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 unearthly a voice must be the mourning of the spirit of the departed, whose repose 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 Chepewyan:

"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 back and posteriorly of yellowish brown with 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. Ereghts composed of tooth with 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 undulate 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 medial 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 yellowish-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.

Bubo virginianus

Dr. Richardson adds, that another specimen killed by Mr. Drummond on the Rocky Mountains measured two inches less in length, and differed generally from the preceding, in being of a darker hue above, with finer and less conspicuous white mottling. The yellowish-brown color 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 presented, according to Dr. Richardson, on the American shore, Hudson's Bay squirrel, mice, wood-grouse, &c., 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 wander about the region of Macfadyen's adventures from remote. '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, hens and chickens have disappeared one by one, in an unaccountable manner, till in eight or ten days very few were left remaining. The fox, the minx, and weasel, were alternately the reputed authors of this mischief; until one morning the old lady herself rising before day to bake, in passing towards the oven surprised her last prisoner regaling himself on the body of a newly-killed hen! The thief instantly made for his hole under the house, from which the enraged matron soon dislodged him with the brush handle, and without mercy dispatched him. In this snug retreat were found the greater part of the feathers, and many large fragments of her whole family of chieckers.'

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 figure and 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 take its description from a painting of Rhodius, from which its name of 'sibiricus' is derived, and adds 'the advertisement in the first part of Dr. Temminck's paper on this bird be read with a French edition of Drontheim' but Temminck considered this Scandinavian eared owl to be merely a snowy owl, on which two fictitious eagretta had been placed.

The specimen of Bubo Arcticus described by Dr. Richardson was observed flying at mid-day in the immediate vicinity of Carlton House, and was brought down with an arrow by an Indian boy.

BUBON [Galbanum].

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 'Fibustiers.' The term Buccaneer is of curious derivation. The Caribbeo 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 Bucuru from Caribbeo: from bucuran the French made the verb bouciner, which the 'Dictionnaire de Trevoux' explains to be 'to dry red, without salt.' Hence comes the noun Bouciner, and our Buccaneer.

The term Fibustier is supposed to be nothing but the French sailors' corruption of our word 'freedower'; 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 libustiers, or freedowers.

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 1524 was entirely owing to the jealousy of the Spaniards, who would not allow any other nations to trade or settle in the West Indies, and who pursued the English or French like wild beasts, murdering 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. embracing the whole of the New World as theatre of war, was lawfully and exclusively 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 seafaring adventurers 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 reported by the governor to his overbearing and uncomprehending government, he sent out a sharp remonstrance 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
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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 that was to cross the ocean. The mariners of Europe, moreover, still dreamed of the New World as an El Dorado 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 to the English, 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 were not long time before they commenced the ingenious phrase, "es desdommager d'avençe," 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, not 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 the places, and seized and settled the territories of the 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 efforts they must needs break the Spanish chain, which involved all the world, 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 there was a vast surplus, but they began the latter occupation until several years after their first appearance in the Caribbean seas. At a still later date many of them became logwood cutters in the bay of Campeche, and as both these occupations soon became very profitable, and as they had no griefs at home, they began to play numbers for their hides, suet, dried meat, wood, &c., there is good reason for supposing that if the Spaniards had left them in peace they would gradually have settled down into quiet industrious communities. But instead of this, the Spaniards continued to murder them whenever they could surprise them, to burn their log-huts, to burn them from place to place, and even to kill the shipwrecked mariners who were thrown by misfortune upon their coasts. The effect of all this was, that the buccaneers became as sanguinary as they were enterprising on account of the numbers in their operations, and soon considered everything Spanish as fair prize, and every Spaniard's life a forfeit to them. Some home-returning filibusters brought accounts of the barbarities of the Spaniards into Europe, where they soon got into fashion with the most wealthy people, who paid numbers for them, and obtained commissions in an immense sensation. A Frenchman of the name of Montbars on reading one of these stories conceived such a deadly hatred of the Spaniards that he became a buccaneer, and killed many of that nation in the West Indies that he obtained the title of "The Exterminator." Other men joined the brethren of the coast from less ferocious motives. Ravenneau de Lussan took up the trade of buccaneering and robbing because he was in debt, and wished, as every honest seaman used to do, to cast off his creditors. By degrees many men of respectable birth joined the associations, on which it was customary for them to drop their family name and assume a new one. Some of the buccaneers were of a religious temperament. A French captain, for instance, was a man of deep pious convictions, and behaving irreverently during the celebration of mass, Captain Richard Sawkins, an Englishman, threw the dice overboard on finding them in use on the Sunday; and the first thing Captain John Walling did was to order his men to laugh at theMass.

In 1622 the English and French conjointly took pos-
session of the island of St. Christopher, and five years later of Tortugas, which islands became the head-quarters of the buccaneers, who, whenever the countries of which they were natives were objected to, as in Spain, France, or the Indies, or they were obliged to turn pirates from lack of employment in Europe, acted as regular privateers in the West Indies and on the Spanish Main. This latter custom gave a colour of legitimacy and honour to their calling, and confirmed the notions of right and wrong in their ignorant minds. The governors of the first English colonies in the West Indies, or at least the majority of them, were great robbers, and on condition of sharing spoils with the buccaneers they let them do pretty much as they chose, even when they went against Spain.

In 1638 the Spaniards in force reoccupied Tortugas, while most of the adventurers were absent in Hispaniola hunting cattle, and they massacred all the English and French buccaneers that fell into their hands. The buccaneers had never so much as reoccupied the centre of their hunting and ravaging as before. These same associations were held together by a very simple code of laws. It is said that every member of it had his chosen and declared chum or comrade, between whom and himself perpetuated one code of conduct, and when either of the two died the survivor succeeded to the other's possessions, as he would have been possessed; but as buccaneers were known at times to bequeath property by will to their friends in Europe, this cannot have been a compulsory regulation. What, however, was in fact, was that whenever they arrived at a town, there should be a general participation in certain essentials, among which were enumerated meat for present consumption and other necessities of life. It has been said that every ship was equipped, by the name of all these men was eclipsed by the name of Henry Morgan, a Welshman, who succeeded Mansvelt in a sort of general command. He took and plundered the town of Puerto del Principe in Cuba, attacked Puerto Bello, and got possession of it in that part of the island; he took and sacked Maracaibo and Gibraltar. Morgan displayed not only infinite bravery, but the highest qualities of a great commander; unappalling, however, like most of his predecessors, he was treacherous, cruel, and bloodthirsty. He was in the habit of torturing and murder- ing his captives in order to make them confess where he 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 Atlantic to the Pacific ocean. His object was merely to plunder the capital city of Panama, 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 ocean. In December, 1670, Morgan and eighty-six of his followers, in twenty-eight boats, rendezvoused at Cape Jiburon 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 strong garrison to take possession of the island in the next turn, and then returned to the main, where he, 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 but 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 Santa Catalina, he was engaged in a combat with the Spaniards, who had 2000 foot and 400 horse, took and plundered the rich city of Panama, which then counted about 7000 houses. Here again his cruelties were abominable. He returned in twenty days, and having found all his ships undisturbed, 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 governor of the island of the same name in Jamaica, and deputy gov- ernor of that island.

In 1673 the Spaniards murdered 300 French filibusters, who had been shipwrecked at Puerto Rico—a barbarous act which provoked universal reprobation.

The short way to the South Seas had been shown by Morgan, and, in 1680, about 330 English buccaneers started from the shores of the Atlantic to cross the Isthmus. The route they pursued varied slightly from that followed by

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Morgan; but they had men with them more capable of describing what they saw. These were Basil Ringrove, Barty Sharp, William Dampier, and Lionel Wafer, each of whom, in after years, published an account of his adventures, with descriptions 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 number of large canoes, and others the use of several Bucaneras, or large women's dugout canoes, they joined the seven ships, and at last attacked three large armed ships, took two of them, and began cruising in these. These fellows had even some diplomatic skill. Ringrove tells us that the governor of Panama sent a demand to Sawkins their captain, 'Why do you trouble them?' when Ensign Peron, one of the men, should 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 the island of Anseas.'

The adventurers then proceeded to capture and plunder the towns along the coast, and some of them remained a long time in the South Seas, and made many discoveries.

During another expedition, in which also the skillful 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 hardy adventurers explored the New World, finding its coast of Peru, its 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.]

In 1670 a solemn treaty of peace was made by the captain of the Bucaneras, which provided for the entire suppression of the buccaneer warfare, was concluded between Grant Britain and Spain; but, as far as the buccaneers were concerned, this was a bit of waste paper, for by far the greater part 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 beligers were those ancient allies and comrades, the filibusters of one nation and the buccaneers of the other, who were now called privateers, and duly commissioned. The bonds of affinity were broken; they met upon each other some of the cruelties which 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 the help of the Spanish, have possessed a portion of the West Indies—they might at once have established an independent state among the islands of the Pacific. Henry Morgan, in fact, at one time entertained this magnificent idea.

The treaty of Ryswick, in 1697, and the years that succeeded, were favourable to the pirates, or, rather, buccaneers, of the Spanish Main, 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 waging of war against the Spaniards, and against them alone, and now this was lost.

'After the suppression of the buccaneers,' says Captain Burnet, 'and partly 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 coast, from the mouth of the Paragua down, and, it may be said, exterminated.' Within the few last years, however, many dreadful piracyes have been committed in the Mexican Gulf.

Clashes of the Spaniards, the Barbary, and the Bucaneers of America, by James Burney, F.R.S.; Lives of Bunditi and Robbers, by C. MacFarlane; The Bucaneers of America, by an old anony- mous author; Dampier's Voyages; Lionel Wafes, by Basil Ringrove's and Barty Sharp's Narratives; and, in French, the marvellous voyage of the Bucaneer Jean-François de Beaulieu.

BUCINA, a military instrument of the shrill horn, or cornet, kind, in use among the ancients, 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 buccinum, a fish. Vegetius (De Re Military) says that it was made of the shell of the buccinum, of one sort only, but which he describes as 'fossilculus', and which is properly a shell of a fish. The above author 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 Blanchinus, and says that it was made of the shell of the Buccinum, or rather the Littoria, a species of shell, and of 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. [Entomostomata.]

BUCCONEER.

BUCENTUR (IL BUCENTO/RO), the state-galley of the republic of Venice, for the name of which many very unsatisfactory derivations have been proposed. We do not recollect ever to have seen mentioned the legitimate Bucen
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BUCCONEER.
this dispensation of the Medicean, and Foscarini (Della Letteratura 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 as to the claim established by the visitation of Alexander III, when he recollected the answer which the Venetian ambassador Donati 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 Bucentaur having been conducted, on the eve of the feast of Ascension, from the arsenal to 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 cascina of the archbishop, a great fire in the fashion of a ring into the bosom of the Adriatic, betrothing her with 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 psalm at the lofty altar and for three days sustained his coridoge 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. Casabon (in Avorum, xii. 9), who has been followed by Darb, notices the Venetian authorities granting to him of an offering made to the sea by the Syracusan of an earthen vessel filled with honey, flowers, and frankincense.

BUCE R, MARTIN, was born in 1491, at Scheelstadt, near the mouth of the River Main, in the county of Lower Rhine. He had given promise to Bucer, a real name of Cowhorn (Cawhorn), which, according to the pedestrian fashion of his times, he changed into a Greek synonym, calling himself Bucer. Having entered the order of Saint Dominic, he received his licence to travel to France and England, and was presented with others, and, yet more, some by Luther which fell in his way, induced him to adopt the opinions of the latter in 1519. About eleven years afterwards, he appears to have preferred the profession of Zuinglius, but he was ever a strenuous promoter of the use of the Mass, the doctrine of which he formed, according to whose doctrine he taught divinity for twenty years at Strasburg. At the diet of Augsburg, in 1540, he vehemently opposed the system of doctrine called the Interim, which the Emperor Charles V. had drawn up for the accommodation of the various reformation in Germany 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 doctrine of the Augsburg Confession, which had been equally by the Romanists and by the Reformed; hit 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, and to reside there as a preacher for the space of three years, until a general council could be held. On the same time he wrote a book against Gardiner, chiefly relating to the cebry 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 against this false and absurd opinion; and this appeared in the form of a Prayer Book, he expressed his opinions at large, that he found all things in the service and daily prayers clearly according to the Scriptures. He wished for a stricter discipline to exclude scandalous lives from the Lord's Supper. He objected to that reception which united the people to receive it at least once a year (a practice still retained by the Presbyterians), and would have them pressed to it much more frequently. He wished the bread to be placed in the hands, not put into the mouth 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 recommended frequent catechising. 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 the winter from the cold, and Master Fagius strongly urged him to send him 26l. 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, and the suppression of the Roman mass, as the means of bringing about a more careful search of the Scripture, 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 he regarded, and which he held strongly against the custom of fasting, or non-resistance and pluralities, the true remnants of Popery.

Bucer died at Cambridge in the close of February, 1550, and was buried in St. Mary's with great honour, his remains being attended by full 3000 persons jointly from the universities of Cambridge and Oxford. It was, however, 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 pathetic and urgent letter that he might have his last remainder for a matter of 20l. Seven days after his death, 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 divine grace, so that Strype ranks him among 'his enemies.' But Bucer, in the most fortunate manner of his temper, and added, that as Bucer 'had satisfied him in some things, so he believed, if he had lived, he would have satisfied him in more; and that he being dead, he knew none alive from whom he could learn so much in England.'

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 with them, it appeared that Bucer was a model of virtue and caution 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 seen fasting in his own field. The report was not so much that was read in the schools. On hearing this rumour, he be 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 have learned to farm livestock to O'thers; 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 inquirers were sent to Cambridge, the corpses of Bucer and of Fagius were dug up, and by the order of the Lord Inquisition burnt with great ceremony, a most interesting collection of tracts relative to the life, death, burial, condemnation, exhumation, burning, and restoration of Martin Bucer, was published at Strasburg, in 1629, by Conrad Usener. Among other matters, the Greek and Latin Epitomina which the members of the university, according to custom, placed on his coffin; and also the Encomia, written when he and Fagius were posthumously reinstated in their academic honours. Excerpts of these testimonies of honour fills more 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 ninefolio volumes. He was thrice married, and his first wife, by whom he had two sons, a nun, perhaps selected by him, not very judiciously, in imitation of Martin Luther. It is by no means easy to decide regarding the contents of the books on which he lived with that great reformer, but it seems, from an anecdote which Beza has preserved (Civilis, lib. i. cap. 209), that Luther thrice hinted...
with either unmannerly rudeness or with a bluffed familiarity which no intimacy could be close enough to justify. On one occasion, when Bucer and Goc·lancipadus paid him a visit, the old man was in a good-humoured manner with the latter, and when the former addressed him, he replied with a sort of smile (subridens aliquantum), 'You are a rogue and a knave' (Tu es nequam et nebulo). Jortin, from whom we derive the story (Life of Erasmus, i. 399), underlines the familiarity with 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 good-humouredly attempting to soothe and console Venus. The term was used both in a serious and in an inexpensive manner, for 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 accused him of speaking of them otherwise than as a 'sly fox.'

BUCEROS. (See Bucer.)

BUCHE, a district of the Borderlois, in France, extending along the coast of the Bay of Biscay. Its capital was La Teste or Tete de Buch (now generally known by the simpler designation of Toulon); it was in former times called also Grand Baie and Ancrac.

Pop. in 1532, 2295 for the town; 2840 for the whole commune. This district is now included in the dep. of Gironde. Its first lords bore the title of Capitai, and their lordship gave to them several rights and privileges in the town. They were a sort of parliaments from the town and passed successively to the houses of Grailly, Nogaret-Epernon, Fox-Randant, and Contaut. A Captal de Buch, of the house of Grailly, distinguished himself in the wars in France in the fourteenth century; he served in the armies of Edward I in Devon, of Black Prince in Hungary, and of Charles de Luxe, 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 in general, 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 Cormorant near Strichen is its principal elevation, which by a figure of a whale, formed while white horses and an elephant has become conspicuous at a distance and a good sea-mark. The Ythan (the riv. which divides Buchan from Formartine) after a course of about 22 m. falls into the sea at Newburgh; it was noted in former times for its head-fairy, and almost 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 Bulls of Buchan, a nearly round basin about 360 ft. in diameter; and the northernmost point of 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.

Aberdeenshire, is proverbially keen; but Professor Playfair of St. Andrew's, in his description of Scotland, describes it as mild, and affirms from experience that when snow is one foot deep at Aberdeen it is two at Newcastle-upon-Tyne. The winters, he says, are less severe and the summer less warm than in the southern counties, but easterly winds, fogs, and rain make the spring late and the autumn stormy.

On a peninsular rock of the coast stands Slains Castle, a ruin, the former residence of the Earls of Buchan, and the site of the 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 Slains; and the judgments are given in the district, and the cases decided for five years before 1821 was 33 a month.

BUCHANAN, GEORGE, was born poor parents, in the parish of Killearn, and county of Stirling, about the beginning of February, 1506. He was the third of eight children, and the sole survivor of the family. His grandfather, and the 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- terior, he was sent to the university of Paris; where, however, he had not been two years, when his uncle dying, he was left in a state of utter destitution that in order to get to his native country he was forced to join the corps then being raised as auxiliares to the Duke of Albany in Scotland. After a twelve-month spent at home in the recovery of his impaired health, he again joined the troops and marched with them to the latter, and when the former addressed him, he replied with a sort of smile (subridens aliquantum), 'You are a rogue and a knave' (Tu es nequam et nebulo). Jortin, from whom we derive the story (Life of Erasmus, i. 399), underlines the familiarity with 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 good-humouredly attempting to soothe and console Venus. The term was used both in a serious and in an inexpensive manner, for 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 accused him of speaking of them otherwise than as a 'sly fox.'

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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 being an unfavourable one, he quietly 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 commemorated that event in a Latin poem. He was soon afterwards created a regius professor of Greek at St. Andrews, but in the year 1555 he gave up that charge for the place of domestic tutor to Timoleon de Cosse, son of the celebrated Maréchal de Brissac. During his connexion with this family, which lasted till the year 1560, he published several poetical compositions which are now esteemed the rarest of Alcestis 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 within a year of 1562, Scott 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 'Franciscana,' presented him with the place of principal of St. Andrews University at St. Andrews. The following year he was chosen Moderator of the General Assembly of the church of Scotland, which was a still more extraordinary homage to his character and various abilities.

In 1570 he resigned the office of principal of St. Salvator college, and became a sort of preceptor 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. The latter was a highly honourable and 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 Tbert. In the same year, 1578, he was joined in several poetical compositions by his son and ecclesiastical; 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 brought forth his celebrated treatise 'De Jure Regni apud Scotia.'

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 at his house by the coroners' commission, he was seated in his chair teaching the boy that served him in the chambers 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 was laid in his native soil, of which he 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 unexceptionable character, he was within a year of 1579, the age of 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 deserves to be remembered by all lovers of learning as a man of universal knowledge in the most unfavourable circumstances, amidst poverty and disease, religious persecution and civil discord.

There are two collective editions of the works of Buchan.

Buchan's importance as a writer is almost entirely in his Latin verses. His 'Life of Alexander the Great' is still read, and his 'History of Scotland' is a valuable work. His 'Psalms' are highly prized, and his 'History of Scotland' is a valuable work. His 'Psalms' are highly praised, and his 'History of Scotland' is a valuable work.
inhabitants carry on an extensive trade in grain, wool, honey, wax, tallow, and cattle. It possesses nine or ten distinct harvests of which that of Sherman-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 outward display, and of public festivals. In the month of May, they have a Cinque, 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 Dumbovita. 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.

BUCKINGHAM, a par., bor., and the co. of Buckingham, lies 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 the Mayor, the bailiffs, four 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, and one into which the other bor. is divided, in 1831 the pop. of the par. was 1672 males, and 1938 females; of those there were—males 20 years of age, 883; occupiers and labourers employed in agriculture, 295; employed in manufactures, or in making machinery, 125; servants, &c. 5; for in all, 1050 males, 200; capitalists, bankers, &c. 47; labourers not agricultural, 138; male servants, &c. 117; female servants, 139.

Buckingham is an antient bor., and is described as such at the time of the Domesday survey, in which it is said to have been barony, or barony under the foreign war. But it does not appear that the town sent members to parliament before 1644. From the circumstance of Edward III. having fixed one of the staples for wool at Buckingham, it is supposed to have been in his reign a flourishing town. The charter of John II. was granted in the first year of the reign of Mary (1554), in consequence of services rendered by the inhabitants in the suppression of the duke of Northumberland's rebellion on the queen's accession to the throne. It was originally, having nearest water granaries in the thirty-sixth of Charles II. (1684). The corporation acted upon this latter charter for several years, but in consequence of a dispute with James II. in 1668, during which the king successively removed three mayors elected by them in three months, the charter was rescinded by some persons; but 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 had three members for the county and borough; but in the ensuing year, the two members for the bor. were returned by the corporation, and the greatest number of electors which had been polled for thirty years before 1833, was eleven.

In June 1644, Buckingham was for a few days the head-quarters of Charles I.; the neighbouring towns of Aylesbury and Newport Pagnell being garnisoned for the parliament. A fire broke out on the 15th of March, 1725, which consumed 138 dwelling-houses, being more than half the 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 is erected on the site of the castle, under an act of parliament, by which the inhabitants were thereby relieved from some impositions, and 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 had three members for the county and borough; but in the ensuing year the two members for the bor. were returned by the corporation, and the greatest number of electors which had been polled for thirty years before 1833, was eleven.

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which he laboured. One of these, which perhaps may be considered most doubtful (for there might be his fault), was 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 kingdom, but that he had been thus approached by the mediators 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, which he would 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 justice to the earl, who had been much injured by 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 marques, set out on the 15th of February, 1622, from New Hall in Essex, 'with disguised beards, and with borrowed names of Thomas and John Smith.' On foraying over the river near Gravensend, they found themselves without silver; and arrived with a party to the castle of Deal, by which they presented the boatman, created so much suspicion, 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 seized their online pass. They had booked a passage 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 taking a convenient side-path; and to the Hải of this time the mayor of Canterbury had received information, and he sturdily detained them, till the marques 'thought it best to dissemble his beard, and so told him he was going covertly to take a secret view, being admiral, of the French king's preparations. As this was not true, he was in preparation on the narrow seas.' On the way afterwards, the baggage post-boy, who had been at court, 'got a glimmering who they were, but his mouth was easily shut;' so that 'through bad horses and those petty 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 masquing dance then in preparation.' We have no room for some other adventures pertinent, but a noble answer made by Buckingham to the Comte d'Olivares, who told him of a report that the prince was secretly designing his departure from Madrid. To this Buckingham replied, this The Hague, the 2nd of August, 1623, 'If you of course, 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 hailed by the country as '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, the capture of Bristol, the defeat of the earl of Bristol, are sufficient proofs of Buckingham's continued ascendency. Charles succeeded to his father's throne in 1625, and the duke still retained the high honours which he had enjoyed in the former reign, and the intimate connexion he had with the king. He could be trusted, and was always regarded as an honest man, even in the private affairs of him. He had been appointed ambassador to promote the war against France. It has been said that when he was despatched as ambassador to receive the Princess Henrietta, he had the audacity to make advances to the Duke of Savoy, the brother of Queen Henrietta of Austria, the queen of Louis XIII. Cardinal Richelieu, a supposititious envoy, and was wrung from him, and warned him of his peril; nevertheless Buckingham, while still on his homeward route, returned to Paris in disguise, and had a stolen interview with the object of his passion, and, though his intentions were not unobserved, he was unreturned. When however he afterwards solicited the post of ambassador to the court of France, the appointment was formally interdicted by Louis, who had been informed of his conduct; and Buckingham replied in pique, that he 'would see the queen of France again in Spain, and bring the kingdom into which the French challenge to oppose. This story appears to have originated with some gossiping French reporters of secret history; but as it seems to have been believed by Clarendon, and is adopted by many writers of authority, it is not to be entirely rejected.

The war with Spain, although undertaken without due grounds, had been popular at first; perhaps on account of the long peace which had preceded it. But the ill success which attended an expedition against Cadiz rendered Buckingham odious to the Commons, who then erected his impeachment, from which he escaped chiefly through the interference of the king.

The spirit which in the end overthrew the kingly power was already awakened, and the nation submitted with impatience to the exactions to which the French war was a pretext. The duke of Buckingham appears never to have possessed much knowledge of the art of war; yet he rashly sailed with 100 ships and 7000 soldiers for the occupation of La Rochelle, at that time in possession of the French, and its possession could have been easily obtained. It was undertaken, that the Rochelais were alarmed at the appearance of this huge fleet in their harbour, and being ignorant of its intentions, and ill-prepared at the moment for a general rising, they closed their gates and rejected the English. This expedition was finally surrendered, December 1624, and a penalty of 30000 guilders of gold was inflicted upon the neighbouring isle of Rade, and after unskilful operations during three months, and a defeat which cost him 2000 men in attempting re-embarkation, he returned, according to the language of Hume, 'totally discredited both as an admiral and a general, and bringing no profit with him but the vulgar one of valour and personal bravery.' It must however be remembered that letters are still extant from the king to his minister, in which the former throws the blame of the failure of this expedition upon the inadequacy of his supplies, and the conduct of 'them at home.'

A large force was entrusted to Buckingham for another attempt to relieve La Rochelle, and he went to Portsmouth to superintend the preparations. 'There were many stories,' says Clarendon, 'of the large prophecies and the palpable prophecies and predictions of the duke's untimely and violent death. Amongst the rest there was one which was upon a better foundation of credit than such discourses usually have,' which he proceeds to relate at some length.

The duke had just been married to Miss Newport, who was staying at the court at the time. He was at his house at Malton, in Yorkshire, where he was interrupted in his studies by an only child. At this moment pulling out the knife himself, stabbed dead, the weapon having pierced his heart.'

As neither the blow itself nor the assassin had been seen, suspicion fell at first on the French, but it was removed in a short time were in considerable danger. A hat however was soon picked up, into the crown of which had been sewed a paper, containing part of the declaration of the House of Commons, in which the duke was styled 'an enemy to the nation, and to the Protestantism of the kingdom,' and which were two apparently belonging to a prayer. About the same time, a man was seen walking before the door, very comically, without a hat, who on being taxed with the assassination,
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, gloomy melancholy, slow with language, and from the army in consequence of disappointment in promotion, and to have afterwards fed his irritation against Buckingham on this account, by listening to the many invectives which passion and prejudice suggested. He might not be very acute, and perhaps not very deep in politics; and it is said to the full enormity of his crime before his execution. The news of the duke’s murder was announced by Sir John Hippeley to the king shortly after its occurrence, while he was adminiring the royal casket. Charles continued his devotions, unmoved as it would appear, by any interest 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, rending his hair and weeping and screaming by providing him with a ‘good and learned man;’ but so light of purpose and frivolous was he that the ascendancy which he might thus have secured has been lost by his total neglect of the afterwards Duchess of Portsmouth, immediately upon her embarkation. Oliver had succeeded in an attempt purely subterfuge, by being introduced by 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 you;’ and assuredly no one had ever 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 intermeddle with the political events then in his mind, he replied, ‘I have an admirable design to remove her 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 goodness, and sometimes in that of ‘foulness.’

Already, in 1666, Buckingham had manifested symptoms of his fickleness, and had forfeited all his high offices, to which however he was subsequently restored through his own submission and the king’s extreme facility. The duke of Buckingham was not a man of single or determined character; his actions were always governed by his present occasions, 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 nobleman by Col. Blood. The transaction was not inquired into, but the earl of Ossory, eldest son of the duke of Ormond, could not forbear 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:—

‘My lord, I know well that you are at the bottom of this affair, and that you have been attentive to it; and whatever 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 look upon you, though you may stand behind the king’s chair; and I tell you in his Majesty’s presence that you may be sure I shall not fail of performance.’

_Carte, Life of the Duke of Ormond, ii. p. 225._

Notwithstanding his public and private crimes, Buckingham still retained the king’s favour, was made one of the most 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 weaned himself from the court. In 1674 he resigned the chancellorship of Cambridge University, and supported 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 connection with the intrigues of Shaftesbury.
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 Curll 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 Shyffeld 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 the previous year. At the age of 20, in the following year he was summoned by writ to take his seat, but was excluded on account of monage on a motion of the earl of Northumberland. In an encounter with the elderly earl of Rochester, which occurred about this time, he fought the nobleman and his son, who 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 design was frustrated by the death of Lord Sunderland. Murgrave'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 without delay. The offer of the throne to me has been added, that he was far from being displeased with this answer. Murgrave 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 was met with his advancement, nor did his advancement silence his opposition. In 1694 he was created marquis 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 1703 he was created duke of Northumberland, and of Buckinghamshire, 'there 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, the Prince of Wales was permitted by the late king to support the queen by 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, and in painting for Queen Anne. In 1708 his solicitude for the crown. 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 lordship of Northumberland and of Buckinghamshire, the poet has said:

'...there 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.

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 Reesom, from Colney, and from Mr. John Beverley (in his elegant Abbey), and from Pope. Dryden perhaps received his ten guineas for the eulogy in the dedication to 'Aurengzbe,' in which it is remarkable that he extols rather the political than the literary merits of his patron; but the character given in 'Abaloom and Achipheel,' which is more to our purpose, was probably altogether gratuitous.

*Natural science'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 light and graceful, and although now perhaps forgotten, they deserve much higher estimation than his poetical works.

His remains lie under a sumptuous monument erected by his widow in Westminster Abbey. More, her in his article 'Buckingham,' confounds John Sheffield with the second George Villiers, and makes a strongMEDLEY of the two, ascribing the 'Rebusral' 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 Chandos, 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 which are found in this county, and 'buck' is the general term for wood. Buckingham, and then the co. received their designation. It lies between 51° 26' and 53° 19' N. lat., and 0° 28' and 1° 9' W. 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 Hertfordshire. The greatest length measured nearly N. and S. from the neighbourhood of Olney to the river Thames above Staines is 53 miles. Its breadth varies much, the greatest being about 27 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 35½ m.; or 49m. by Uxbridge, Amersham, and the erection.

The area of the co. is 738 sq. m. (472,320 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.Z. direction and enters Bedfordshire near Dunstable; and the chalk hills of Eton, and thence of its tributary the Thame, 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 Wendover is 909 ft. Muzzle Hill near Brill is 744 ft., and the summit of the Thame basin is 718 ft.

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. There are considerable open spaces, and the country is wooded. 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 antiquitarians the Chilterns and the S.E. part of the co. was once one of the with woods, on the confines of which it is to be almost impassable, till an aubrt of St. Alban's had several of them cut down because they afforded harbour to thieves. The name Chiltern is derived by Camden from an old English word (British, i.e., Celtic, we presume) Cilt or Cilt, 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 Thame, also 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., then to the S.E. and then parallel to the Ouse, to 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 Wick, which passes High Wycombe, joins it below Thame; one or two small streams flow into it 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 this riv., it passes through the towns of Colnbrook, and receives a considerable stream, the Mabourn, from Amersham. It is not navigable. It produces trout and other fish.

The Thame is formed by the junction of several small streams; the greatest of which is the Coln, to which the name of Thame is assigned, rises near the vil. of Stewkley, 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 Quarrendon (W. of Aylesbury) with another stream which rises near Ting (Hertfordshire), and flows directly 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 beats. Their united stream flows to the S.W. 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 the fertile vale of the Thames, and near the most to Dorchester. 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 m., making its whole course 42 miles. This riv. abounds with fish (chiefly by breeding), and produces pike, perch, chub, roach, and gudgeon.

The length of the Ouse, and the extent of surface which it drains, gives it a high place among the English rivers; but it is only in the upper part of its course that it is copious; for, below Horsham瑜the confluence of the riv. 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. through this co., the town of Buckingham again 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 Ouzel), Weston, Underwood, and Olney. After dividing Bucks into 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 junction with the Thames is 46 m.; increase of length by its sinuosities 20 miles.

The Ouzel 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 Bucks near Leighton Buzzard. It divides 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 pike, perch, and chub; and Buckingham is tolerably well furnished with canals.

The Grand Junction enters this co. from Herts not far from Vininghoe and runs N. to Newport Pagnell, following the valley of the Ouse. From thence it follows the valley of the Ouse and that of the Lea, and flows E. through Leighton Buzzard, and from thence in a more due N. E. direction through Newport Pagnell. In the S. part of the co. there is the Oxford road through Beaconsfield and High Wycombe, and the great W. (Bath and Bristol) road between Cowley and Maidenhead. There is also a road to Bingley through Aylesbury, Winslow, and Buckingham.

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 the N. boundary of the county and 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 W. (Bath and Bristol) road between Cowley and Maidenhead. There is also a road to Birmingham through Aylesbury, Winslow, and Buckingham.

Geological Character.—The general direction of the outcrops of the different geological formations which cross this county is N.S. and S.W.; and the formations present themselves successively to the eye as he travels N.W. The S.E. part of the county, included between the Thames and the Coln, is occupied by the plastic clay which skirts the London clay. Only a very small portion of the London clay is in this part; the soil above is chiefly sandy clay of 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, gravel, and chalky earth are skirted by the river beneath it, and is in turn succeeded by what is termed Tetsworth clay, or sometimes, from its being favourable to the growth of the oak, oaks to rise, but this last designation is objected to, as tending to confound this with another stratum, which, from the same cause, has received a like designation. Sandstone, more or less ferruginous, crops out from beneath this clay, and is succeeded by the limestone which is known by the name of Aylesbury stone. These formations were formerly beneficial, but are now restricted and concealed and destroyed by the debris of the chalk hills. The chalk marl and the succeeding Tetsworth 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 colitic series of formations succeeds those which we have already noticed, and occupies the N.W. part of the county. Of the two, the chalk is the most extensive, and there are formations of this series upon the downs. The Oxford or chalk marl rises from under the Aylesbury limestone, and extends to the town of Buckingham and to the N.W. of Stony Stratford and Newport Pagnell. To this formation succeeds that which is composed of the cornish, forest marble, great colite, 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 fevers and the rest. The county is one of the least wooded in England; with the exception of the downs, which, though extending 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 ranges, extending from the coasts of the counties of Berks and Oxfordshire, 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, which, by the richness of the soil and the climate, is well adapted to the wants of the rich county. Here the mixed crops are the most generally cultivated; whereas, to the E., on the chalk marl, with which the county is much more perfectly converted, the wheat and barley crops are the greatest. In the vicinity of the downs, the strong clay, which yields a fertile soil, is especially cultivated for beans, and the small crops of beans and peas are most extensively grown. The downs are generally a place of rapid drainage, and afford little rent, and scarcely a bare existence to the husbandman. 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 eastern slope of the chalk. The soil of this part is, in general, sandy. The mixture of clay with the chalk forms a soil well suited to wheat and beans, which, with the help of moderate manuring and good tillage, produces abundant crops. Farther E. the chalk hills are various undulations of the surface; the chalk marl is broken, and 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 with the hop. The land in this part of the county is moderately fertile, and comparatively fertile 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 an estimate made in the Agricultural Report of 1868, the county of Buckingham contains about 390,000 acres of land. Later calculations and measurements of the survey made for the Board of Ordnance make the surface considerably larger; but the statistics of woods 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 often the poor land that yields the best grain, 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, and 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 much greater than was the case when no doubt still no 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 canals and reservoirs which intersect the county, and 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, called yard land; in the law books styled virgata terra. The somewhat resembled the run rig and run dale in Scotland. [BARRICKER'S.] It consisted of various narrow and unconnected strips about a pole wide, which, taken together, amounted to 30 or 40 acres, and in the management of common lands where the occupants 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 enclosure.

Buckinghamshire being of a good quality, 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 lessened, it will be higher, if not the same, which includes 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 20s. 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 rent and cultivate the land in a proper manner.

The improvements on farms have probably 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 stouter farms, and occasionally crossed furrows are still better implement drawn by fewer horses. In very wet stiff 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 towards the middle, these lands became at last so high and rough that the ploughman would sometimes, when ploughing down 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, and in leavelling, have been buried in the furrows, leaving a barren subsoil exposed where the crow was been. The mode in which these lands are now ploughed over may be best understood by supposing the large lands into smaller, throwing the crown of a narrow stitch into the furrow, or where the baulk had been, is the narrow strip of ground which was generally left unbroken between the furrows as a hedge, and that each furrow as 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 bred inclined. The object of high ridges where the soil is wet and impervious, is evidently to let the water run off; but a better method is to underdrain the land up each furrow, which will take off the superfluous water more effectually. Narrow ridges, properly laid up, will keep any soil sufficiently dry when the under-drainage is made. Sometimes the furrows are 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, by which any soil may be kept in a dry and firm state.

Buckinghamshire contained, according to the Report, about 150,000 acres of meadows and pastures, the management of which was then, as it is now, superior to that of the arable land. In the dairy districts are extensive pastures, which would be much improved if they may be obtained. 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 cattle frequently shifted thrive better than when they are kept a long time on the same pasture. In very large pastures there are always spots where the grass is sweeter, 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. The smaller pastures are numbered with advantage, and when eaten off; and the grass, not being bitten so close to the root, when left untouched for a time by the cattle being removed, grows better and of a finer quality. It is supposed that Buckinghamshire feeds about 20,000 milk cows, each giving on the average 200 pounds of milk. All these 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 in the manner of being raised 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 stall, will generally find it most advantageous to rear their own stock at home, so as not to be indebted to the pastures; 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 or turned off. But if great 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 be raised off from the base to the excellent.

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, is much cheaper in proportion to the home and offal, than a smaller, supposing both to be equally good. But it is by no means proved that this flesh is produced by the same proportion of food. 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 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 breeds. The small Scotch oxen, which fatten so readily in English pastures, are much more in demand in the London 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 hand causes him to be preferred in spite of the pretended economy in the use of oxen. They are 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 cannot be removed, but there is a change to a weak one-third part of warm water to the new milk, and putting a small piece of saltpetre in the cream.

No great quantity of cheese is made in this county, except for 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 flat, which hold from
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Ancient Hundreds.  Modern Hundreds.

Boneston (Dunstable) | nearly coincident with  Census.
Bosworth (Sigul) | ditto
Moleson (Mulso) | ditto
Elleserie (Aylesbury) | ditto
Stones (Stan) | ditto
Riseberie (Ribborough) | ditto
Cotilas (Cotulose) | ditto
Mureselie (Mureley) | ditto
Erlai | ditto
Essedene (Ashendon) | ditto
Vokesdon (Waddensee) | ditto
Trichelles | ditto
Dustenburgh | ditto
Stoche | ditto
Burnham | ditto
Desborough, Stoke, and Burnham | ditto
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 185; Messrs. Lyons (Magno Britton) say, 201, as nearly as can be ascertained; including 8 which have parochial chapels dependent on other churches, and 2 whose churches were pulled down by Cornelius Holland, one of King Charles's judges, and have never been rebuilt. The totals of the several counties are as follows; Buckinghamshire, 36; Hertfordshire, 39; Oxfordshire 502; and Berkshire, 525. These numbers are compiled from the Returns, and the parishes are classed with the dioceses of Bath and Wells, a mode of denomination which is worse than useless, and is only to be endured because of the illegibility of the other. The house of parishioners is usually called the circuit, and is considered as a sufficient indication of the extent of the church property. The number of parishes given by Camden is 185; Messrs. Lyons, viz. 201; but the chapels are not distinguished. Several parishes are indeed noticed in that return, but all as combined with or dependent upon one or other of the 201 other parishes. Some of the latter, e.g. the Church of St. Mary, in 1832, 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.

Bucks has a population of 198,201. 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. The most remarkable fact is the great increase of this town in 1832. The returns for this co. are as follows; Buckingham, 95,051; Hertfordshire, 75,626; Oxon, 53,800; and Berkshire, 72,263. The return for Aylesbury road, not far from Amersham; Prince's Rideborough (pr. 2112) to the left of the Aylesbury road, not far from Wendover; Wendover (pr. 2006) on the road from Buckingham to Aylesbury, and Aylesbury's Beauford (pr. 1763) between Uxbridge and Wycombe; Stony Stratford (pr. 1619) on the Ouse; Wineloo (pr. 1290) between Aylesbury and Buckingham; and Tivings (pr. 578) between Dunstable and Wendover. The town is in a pleasant and fertile valley, watered by the Chess, a branch of the Coln; it consists of three streets. The pop. of the par. in 1831 was 5388; but from the vast extent of the par. (11,850 acres, 18 to 19 sq. m.), little furnishes little clue to the pop. of the town itself. The
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 plat. There are some paper-mills in the neighbourhood. Formerly considerable business was done in the manufacture of turnery and coarse wooden ware, but the demand for these seems to have become less. Of the 540 or 504 were employed in manufacture, trade, or handcraft.

Olney or Oulney is a m. t. on the N. bank of the Ouse, in the hund. and deaneery of Newport; it is to the right of the great road from London to Chester and Holyhead, and is probably one of the earliest towns in the country. It is a market and a parish church, and is a station on some of our authorities, or Thursday according to others; and there are, on Easter Monday, one on June 29th, and one on October 21st. The living is a vic., in the parr. rectory of St. Mary's, and in the adv. of St. Giles, on the N. side of the town; the houses are built of stone, and the older of them are 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 brick 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 is a bridge over the Ouse of four arches, besides some 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' yer tender bridge,
There with the waters run a lovely sheet of blazing light,
Sheer as the morning dew, and longer than the blue
Of the wintry world.
"

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 the chief employment of the inb.; of late silk weaving and the manufacture of hats have been introduced.

Olney was the residence of the poet Cowper. Moses Browne, author of 'Piscatory Elocogues,' 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 hund. 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 inb., a residence here. A spacious moat, now dry, in a field adjoined to the church, is thought to have surrounded the site of this house. The living is a perpetual curacy. The church, dedicated to St. Mary, contains some curious monuments; it has been lately enlarged. There are places of worship for Baptists, Methodists, and Congregationalists.

Wendover, in the hund. of Aylesbury, a parliamentary bor., disfranchised by the Reform Bill, is 35 or 36 m. from London, on the road to Aylesbury. It has a small weekly market, and two fairs, May 13 and October 2. The living is a vic., and is held by the earl of Chester.

The pop. in 1831, was 2008 for the whole par., which is large, viz. 5250 acres. Lace-making and straw-plaiting furnish the chief occupation of the inb. The church, dedicated to St. Mary, is a little out of the town. There is here a parish school, with a charity school, and a grammar school, and the town is now a long disused. 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 hund. of Newport, 52 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 cut stone, and the inb. is a large and pleasant one. In Camden's 'Britannia,' 1695, the town is called Cavershaw, 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. (Lysons's Mag. Brit.) On the N.E. side of the town is the tower of the former church of St. Mary Magdalen; 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 cross erected by Edward the Confessor stood at the place 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, and there are independent, Baptist, and Wesleyan meeting-houses in the town, or very near it. There are a 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 Lactodorum or Lactorodum of the Itinerary of Antoninus is Stony Stratford, and that Camden's oppidum S. Stratfordi, and his Lactorodum are the same. Dr. Lardner was of the same opinion by urging the similarity of the meaning of Lactorodum (from the Celtic Lact, a stone, and ri and rvd, a ford) to that of Stratford. In the map of Antient Britain, published by B. Jakman, in 1675, the town and market is marked, and the Lactorodum is fixed at Towcester. 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 fair fourth, held in April, but this has been discontinued. The only manufacture is that of lace. Carisle ('Top. Dict. of Engl.') fixes the October fair on the 2nd of the month, and the other on the Friday after.

Winlows is in Cotsow hund., on the road from Aylesbury to Buckingham, 49 m. by the road through Tring, and 31 through Amersham. It is a neat town on the brow of a hill, commanding several fine prospects. It consists chiefly of trees, and is ornamented with a very handsome church, dedicated to St. Lawrence, is a large pile of building, with a square embattled tower at the W. end. The living is a vic., in the gift of the crown. The market is very well known, and is held on Thursday, the 2nd of the month, and at the beginning of the month, March 30th, Holy Thursday, August 21st, September 22nd, and the Thursday before October 11th. There are Baptist, Independent, and Wesleyan meeting-houses, and a small endowed school for 20 boys. (Rep. of Commits. Ch'ty.)

Ivinghoe is in Cotsow hund., 33 m. N.W. of London, just under the N.W. slope of the chalk range. It has a town, now a market, on Saturday; and two fairs, March 6th 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 house of the lord of the manor is 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 1631, 1545. Berrysted house, in the parish, 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 dispossessed of the manor, and by way of fine or composition. The lines which embody the tradition are thus given: by Gough in his Additions to Camden.

(Handen of Hampden did forge)
(More of Tris, Wizz, and Ivinghe,)
(For striking the Black Prince a blow.)

Messrs. Lyons have set aside this tradition, by finding that neither of these three manors 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 from Stony Stratford. It is a chapelry dependent upon the parish of Watlington. The church, formerly belonging to a priory, was pulled down 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 1st, and Christmas. 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 chappel, in 1831, 533.

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 brick-built hill.

Some fix the Magistvatum of Antoninus at Fenny Stratford.

Colnbrook is on the high western road, 17 m. from London, in the Hundred of Stoke, and in the three parishes of Langley, Horton, and Iver, and except a small part which is in the parish of Stanwell, Spelthorne hund., co. of Middlesex. The town consists of one long street of respectable-looking houses. The Coin here flows in four channels, crossed by stone bridges; and such 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 Antiquity, published by the Society for the Diffusion of Useful Knowledge between the years 1816 and 1819, the 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 on the south side of the church.

There are still two fairs, on the 5th 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 since been demised:

Baildon, near Leeds, in the manor of Iver, co. Buckingham.

Brickhill, near Hertford, in the manor of Elvedon, co. of Northamptonshire.

Bull Brickhill, near Henley, co. of Oxford.

Borlstone, near Wiltshire.

Bottel, near Beverley, co. of York.

Brackley, near Northants.

Bostal, near St. Albans.

Brickehill, near Lichfield.

Brentford, near Middlesex.

Brompton, near Scarborough.

Burghley, near Lincoln.

Bullingham, near Huntingdon.

Burley, near Peterborough.

Bury, near Middlesex.

Bures, near Ipswich.

Bury St. Edmunds, in Suffolk.

Bury, near Lancashire.

Bury, near Derby.

Bury, near Guildford.

Bury, near Manchester.

Bury, near Kent.

Bury, near London.

Bury, near Essex.

Bury, near Worcestershire.

Bury, near Hereford.

Bury, near Hampshire.

Bury, near Suffolk.

Bury, near Lincoln.

Bury, near Middlesex.

Bury, near Berkshire.

Bury, near Sussex.

Bury, near Kent.

Bury, near Lancashire.

Bury, near Yorkshire.

Bury, near Norfolk.

Bury, near Devon.

Bury, near Stafford.

Bury, near Shropshire.

Bury, near Worcestershire.

Bury, near Hampshire.

Bury, near Hereford.

Bury, near Kent.

Bury, near Essex.

Bury, near Suffolk.

Bury, near Lincoln.

Bury, near Middlesex.

Bury, near Berkshire.

Bury, near Worcestershire.

Bury, near Hereford.

Bury, near Lancashire.

Bury, near Yorkshire.

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Bury, near Norfolk.

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Taplow Court, the seat of the marquess of Thonord; and the former mansion of Clesden House, destroyed by fire in 1795. This magnificent house was begun by the witty and prolific poet Cowper, and was for some time the residence of Frederick Prince of Wales, grandfather of the present king.

Slough, near Windsor, was for many years the residence of Sir William Herschel, and the place where he constructed his telescope. His son, who was born in 1732, was a great astronomer.

Wotton 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.

Some for Ecclesiastical and Legal purposes.—Of the 201 pars. 79 are vies, and 29 curates or donatives. The co. is for the most part in the diocese of Lincoln, and in the archdeaconry of Buckingham. Two parties, according to Browne Willis (History and Antiquities of the Town, Hundred, and Borough of Buckingham), four according to Missrs. 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 pars. of the co. are divided into the several tens. It seems they consider they are identical with Burnham, Muresley, Newport, Waddesdon, Wendover, and Wycombe.

Buckinghamshire is in the Norfolk circuit: the Lent assizes are held at Aylesbury, the summer assizes at Buckingham, and 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 town of the co., and the county town. It is of the first in size, 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 the same, and the same being thrown open to the freeholders of the hun.), 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 its eleven. It lost four members by the Reform Bill, Amaresley and West Wycombe, each returning two members, having been disfranchised.

Civil History and Antiquities.—Cadm and most other antiquaries have included Buckinghamshire, and probably with good reason, in the territory of the Catuvexulani or Catuvexi, and the empire of Cassii, and to have been the subjects of Cassivellaunus, who headed the confederate forces of the Britons against Julius Caesar. It may be justly doubted, we think, whether the Cassi or Catuvexi were the same people. [BRITANNIA]

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 crossed the Severn at the site of Worcester, and began a battle within its borders, Togodunum, one of the British chieftains, was slain. It is not unlikely that this co. was crossed by the Britons in their retreat towards the Severn, and by those pursuing Romans; but we have no data for fixing any conflict of importance within its borders. The death of Togodunum 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 provs., Buckinghamshire was included in the prov. of Cambridge. Since the time of Lysons, the co. of Buckingham and Renesse, it has ceased to be considered this county. The 'Watling Street' coincides with the parliamentary and mail road to Holyhead in that part of it which runs from Bricket to Stony Stratford through this county. No trace of the old turnpike-road of the Watling Street itself remains, although the line of its direction is undisputed. The 'Iken' or 'Icknel 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 Aicknell way.' The 'Aicknell Street' is a road called this, but its direction is uncertain. A Roman road, coinciding with part of the turnpike-road from Bicester (Oxon) to Aylesbury, may be part of a road leading from Alester to Londinium (London), or Verulamium; and another Roman road is thought to be part of a road leading from Alderton to Aylesbury, viz. Watling Street, to Stony Stratford, and so by Buckden to Towcester. Of Roman stations some notice has already been taken. The 'Magnavintum' of Antoninus may be at Fenny Stratford; Laetodorum, which Camden fixes at Stony Stratford, and Pontes, which be fixes at Colnbrook, are placed by more modern antiquaries at stations beyond the limits of Buckinghamshire, viz. Laetodorum, 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-works near Ivinghoe, where remains of an old Roman road runs along the top of the corner of which a high circular mound or keep, 80 paces in circumference, called 'Castle Hill,' or 'Kimbale Castle.' The name of the adjacent vills, of Kimble (Great and Little) was written in ancient records Kenneb and Cunobed. In the reign of John, Buckinghamshire was the scene of contest, but not of any marked event. Hanaplace castle, near Stony Stratford, held for the barons against John by its owner, was taken by the king's favourite, Fulk de Brem, a.d. 1215 or 1216.

In the great Civil war we know well, 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 held by the king. In 1643 the par. circuit by surprise their quarters at Wycombe and another place, and took several prisoners, with which he retired to Oxford. It is probable the country was originally pursued by 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 Borsall house was taken by Parliament. Buckingham was about this time a seat of the Earls of Essex, and the home of Sir John Clarendon, was abandoned by the royalist party, who thought it right to withdraw those garrisons that were too far distant from Oxford.

This county is not by any means rich in antiquities. Of the few that exist, Roman remains, some notice has been already taken. Of the baronial castles of the feudal age there are no remains; some earth-works alone serve to mark the site of those at Lavendon, near Olney, and Whitchurch, between Aylesbury and Buckingham; and of Hanaplace, Castlefield, and Aynho, near Stony Stratford. The remains of the buildings belonging to the various religious establishments are but scanty. There are some very small remains of Burnham abbey and Middleham abbey. Of Missenden abbey, part of the cloisters and some remains, belonging among the ruins of the abbey, or standing, with enriched capitals in the latest Saxon (or Norman) style. Some part of the cloisters of Ashridge monastery escaped destruction by accident, when the other conventual buildings were destroyed. The remains of the priory of Aylesbury, the humble 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, 66 ft. long by 24 ft. (nearly) wide, now used as a barn; the style of this building is Saxon, and the entrance, though much modernized, is not altered. The other buildings of the farm-house, in the later English style; some part was probably built after the dissolution. Part of the monastery of Muresley (or St. Margaret), in the par. of Ivinghoe, 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 (Bedfordshire), is the most remarkable. It has usually been cited as a Saxon church, although there does not appear to be any real evidence of its erection before Consul. It is a cruciform building, and stands on the site of another church, and it has been 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 remains of the south 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 Bicester; and High Wycombe, 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. Near the church is Chetwode manor, one of the most antient and elegant specimens of stained glass to be found in the kingdom. Hillesdon church, rebuilt 1495,
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:

<table>
<thead>
<tr>
<th>Description</th>
<th>Schools</th>
<th>Scholars</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant Schools</td>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Children 2 to 7 yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>161</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>158</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex not specified</td>
<td>450</td>
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<td>6660</td>
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**Daily Schools**

<table>
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<tr>
<th>Description</th>
<th>Schools</th>
<th>Scholars</th>
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<tbody>
<tr>
<td>Number of Children 4 to 14 yrs</td>
<td>386</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>4888</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>3187</td>
<td></td>
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<tr>
<td>Sex not specified</td>
<td>1989</td>
<td></td>
<td>10,065</td>
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**Total of Children under daily instruction**

<table>
<thead>
<tr>
<th>Description</th>
<th>Schools</th>
<th>Scholars</th>
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<tbody>
<tr>
<td>Number of Children 4 to 15 yrs</td>
<td>310</td>
<td></td>
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<tr>
<td>Males</td>
<td>7198</td>
<td></td>
<td></td>
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<tr>
<td>Females</td>
<td>8566</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex not specified</td>
<td>4964</td>
<td></td>
<td>20,728</td>
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<table>
<thead>
<tr>
<th>Description</th>
<th>By endowment</th>
<th>By subscription</th>
<th>By other sources</th>
<th>Total</th>
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<tbody>
<tr>
<td>Infant Schools</td>
<td>48</td>
<td>3</td>
<td>29</td>
<td>70</td>
</tr>
<tr>
<td>Daily Schools</td>
<td>1717</td>
<td>36</td>
<td>1,066</td>
<td>2,819</td>
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<tr>
<td>Sunday Schools</td>
<td>8271</td>
<td>9</td>
<td>292</td>
<td>8,604</td>
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**Maintenace of Schools.**

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<thead>
<tr>
<th>Description</th>
<th>School.</th>
<th>Scholar.</th>
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<tbody>
<tr>
<td>Ashendon Hundred</td>
<td>2,556</td>
<td>2,819</td>
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<tr>
<td>Aylesbury</td>
<td>3,516</td>
<td>3,797</td>
</tr>
<tr>
<td>Buckingham</td>
<td>2,065</td>
<td>2,394</td>
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<tr>
<td>Burnham</td>
<td>3,547</td>
<td>4,148</td>
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<tr>
<td>Cottesloe</td>
<td>3,262</td>
<td>3,774</td>
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<tr>
<td>Desborough</td>
<td>3,553</td>
<td>4,443</td>
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<tr>
<td>Newport</td>
<td>5,155</td>
<td>5,716</td>
</tr>
<tr>
<td>Stoke</td>
<td>2,342</td>
<td>2,922</td>
</tr>
<tr>
<td>Aylesbury Borough</td>
<td>990</td>
<td>999</td>
</tr>
<tr>
<td>Buckingham</td>
<td>710</td>
<td>780</td>
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**Total**

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<th>School.</th>
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<tr>
<td>Total</td>
<td>28,159</td>
<td>31,549</td>
</tr>
<tr>
<td>Houses</td>
<td>134</td>
<td>807</td>
</tr>
<tr>
<td>Unhoused</td>
<td>16,893</td>
<td>8,395</td>
</tr>
<tr>
<td>Unhoused</td>
<td>5,651</td>
<td>71,734</td>
</tr>
<tr>
<td>Persons</td>
<td>2,471</td>
<td>2,850</td>
</tr>
<tr>
<td>Total</td>
<td>2,871</td>
<td>23,345</td>
</tr>
<tr>
<td>Males</td>
<td>1,787</td>
<td>10,062</td>
</tr>
<tr>
<td>Females</td>
<td>1,084</td>
<td>13,283</td>
</tr>
</tbody>
</table>

**Agriculture.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Classing</th>
<th>Classing</th>
<th>Classing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashendon Hundred</td>
<td>349</td>
<td>37</td>
<td>2,025</td>
<td></td>
</tr>
<tr>
<td>Aylesbury</td>
<td>360</td>
<td>129</td>
<td>2,299</td>
<td></td>
</tr>
<tr>
<td>Buckingham</td>
<td>251</td>
<td>23</td>
<td>1,635</td>
<td></td>
</tr>
<tr>
<td>Burnham</td>
<td>185</td>
<td>37</td>
<td>1,892</td>
<td></td>
</tr>
<tr>
<td>Cottesloe</td>
<td>373</td>
<td>66</td>
<td>2,578</td>
<td></td>
</tr>
<tr>
<td>Desborough</td>
<td>165</td>
<td>58</td>
<td>1,717</td>
<td></td>
</tr>
<tr>
<td>Newport</td>
<td>362</td>
<td>69</td>
<td>2,831</td>
<td></td>
</tr>
<tr>
<td>Stoke</td>
<td>97</td>
<td>38</td>
<td>1,300</td>
<td></td>
</tr>
<tr>
<td>Aylesbury Borough</td>
<td>7</td>
<td>209</td>
<td>2,090</td>
<td></td>
</tr>
<tr>
<td>Buckingham</td>
<td>23</td>
<td>5</td>
<td>197</td>
<td></td>
</tr>
</tbody>
</table>

**Total**

|                   | 2,152    | 453      | 16,743   |       |
|                   | 369      |          | 8,604    | 1,176  |
|                   |          |          | 3,213    | 1,820  |
|                   |          |          | 975      | 702    |
|                   |          |          | 34       | 139    |

**Statistics.**—Population. As an agricultural county, Buckinghamshire ranks the seventh among the English counties. Of 33,504 males, 30 years of age and upwards, residing within the county in 1831, the large proportion of 13,349 were engaged in cultivating the soil. Only 369 were employed in manufactures or in making machinery, out of which number 76 were occupied in paper-making, 131 in tanning at the town of Buckingham; the remainder were engaged in making agricultural implements, in silk-weaving, and other works upon a small scale. The centesimal proportions as to occupations into which the inhabitants of the county were divided at the enumerations of 1811, 1821, and 1831, were as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>1811</th>
<th>1821</th>
<th>1831</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families in 100.</td>
<td>55.3</td>
<td>57.6</td>
<td>53.0</td>
</tr>
<tr>
<td>Employed in Agriculture</td>
<td>53.3</td>
<td>57.6</td>
<td>53.0</td>
</tr>
<tr>
<td>Trade, manufactures, &amp;c.</td>
<td>32.4</td>
<td>28.8</td>
<td>26.4</td>
</tr>
<tr>
<td>Other Classes</td>
<td>11.3</td>
<td>13.6</td>
<td>20.6</td>
</tr>
</tbody>
</table>

The following summary, containing an abstract of the answers obtained under the Act for taking an account of the Population in 1831, will exhibit the situation, in that respect, of each hundred, &c., in the county, in the month of May in that year:

<table>
<thead>
<tr>
<th>Description</th>
<th>100.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males two years of age and upwards</td>
<td>12,933</td>
</tr>
<tr>
<td>Females two years of age and upwards</td>
<td>14,066</td>
</tr>
</tbody>
</table>

**No. 337. [The Penny Cyclopaedia.]**

Vol. V—3 X

Digitized by Google.
The population of this county at each of the deanery 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>52,094</td>
<td>55,530</td>
<td>107,624</td>
<td></td>
</tr>
<tr>
<td>1811</td>
<td>56,208</td>
<td>61,442</td>
<td>117,650</td>
<td>9.7%</td>
</tr>
<tr>
<td>1821</td>
<td>64,867</td>
<td>69,001</td>
<td>133,868</td>
<td>13.95%</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 39,085 persons, or 36.5 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 age of more than 98 in 100 of the inhabitants having been returned: they were as follows:

- **Under 5 years of age**: Males = 9,573, Females = 9,538, Total = 19,111
- **From 5 to 10**: Males = 8,522, Females = 8,763, Total = 17,285
- **10 to 15**: Males = 7,622, Females = 7,533, Total = 15,155
- **15 to 20**: Males = 6,649, Females = 6,710, Total = 13,359
- **20 to 30**: Males = 8,861, Females = 11,206, Total = 20,067
- **30 to 40**: Males = 6,690, Females = 7,889, Total = 14,579
- **40 to 50**: Males = 5,625, Females = 6,579, Total = 12,404
- **50 to 60**: Males = 4,468, Females = 4,717, Total = 9,185
- **60 to 70**: Males = 3,198, Females = 3,247, Total = 6,445
- **70 to 80**: Males = 1,713, Females = 1,825, Total = 3,538
- **80 to 90**: Males = 446, Females = 478, Total = 924
- **90 to 100**: Males = 30, Females = 32, Total = 62
- **100 and upwards**: Males = 67, Females = 131, Total = 198

Total of ages ascertainment 63,617, 68,137 = 131,754

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 21,002 as the pop. of the four boroughs. The proportion of the electors for co. to the gross pop. of the co. were, in 1831, 1 to 23.65, and in 1833, 1 to 25.36. 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 23 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 deanery years of enumeration, and in each of the three years following were:—

<table>
<thead>
<tr>
<th>Year</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1801</td>
<td>86,152</td>
<td>92,664</td>
<td>178,816</td>
</tr>
<tr>
<td>1811</td>
<td>133,944</td>
<td>142,944</td>
<td>276,888</td>
</tr>
<tr>
<td>1821</td>
<td>117,477</td>
<td>123,753</td>
<td>241,230</td>
</tr>
<tr>
<td>1831</td>
<td>137,356</td>
<td>123,753</td>
<td>261,109</td>
</tr>
<tr>
<td>1833</td>
<td>144,583</td>
<td>152,375</td>
<td>296,958</td>
</tr>
<tr>
<td>1834</td>
<td>129,337</td>
<td>123,753</td>
<td>253,090</td>
</tr>
</tbody>
</table>

**Real Property.**—The estimated annual value of real property within the county assessed for the property-tax in 1815, was 64,128l.

**Local Rates.**—The total sum raised within the county for local purposes in the year ending 25th March, 1834, was 153,040l. 6s. The expenditure was—

For the relief of the poor: £124,200 4 0
In suits of law, removal of paupers, &c.: 3,140 8 0
For other purposes: 23,665 19 0

Total: £159,986 11 0

The sum raised and expended in the two previous years ending 25th March were—

- 1833: £173,399 1 0
- 1832: £159,766 11 0

**Expended.**—

- Relief of the poor: 144,877 17 0
- For labour in repairing roads, &c.: 15,623 4 0
- In suits of law, &c.: 3,515 0 0
- For other purposes: 12,074 0 0

Total: £172,260 5 0

The county expenditure for various purposes in the year 1833, the latest of which any return has yet been made, was:

- Bridges and roads leading to them: £3,622 9 3
- Expenses of criminals tried at quarter sessions: 944 7 4
- Expenses of coroners: 142 4 5
- 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 548, 906, and 1536 respectively, being an annual average of 72 for the first, of 129 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 293. Of these, 29 were accused of crimes against the person, 122 of offences against property committed with violence, 133 of offences against property without violence, 7 of malicious offences against property, 3 of uttering base 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>11</td>
<td>0</td>
</tr>
<tr>
<td>16 to 20</td>
<td>55</td>
<td>6</td>
</tr>
<tr>
<td>21 to 30</td>
<td>74</td>
<td>2</td>
</tr>
<tr>
<td>30 to 40</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>40 to 50</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>50 to 60</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Above 60</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Age not ascertained</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Total: 218 14

The proportion of offenders to the population was 1 in 632. 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: 3.08
- Forgeries and offences against the currency: 1.39
- Other offences: 14.23

The number of persons committed to the county gaol in the course of 1834 was 702, 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 deposits in each of the three years ending 20th November, 1833, 1834, and 1835 were as under:

<table>
<thead>
<tr>
<th>Year</th>
<th>Depositors</th>
<th>Amount Deposited</th>
</tr>
</thead>
<tbody>
<tr>
<td>1833</td>
<td>23</td>
<td>£6,469</td>
</tr>
<tr>
<td>1834</td>
<td>28</td>
<td>£7,889</td>
</tr>
<tr>
<td>1835</td>
<td>30</td>
<td>£9,111</td>
</tr>
</tbody>
</table>

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:

- Land: £135,925 18 0
- Dwelling-houses: 20,429 6 0
- Mills, factories, &c.: 2,502 6 0
- Manorial profits, navigations, &c.: 829 18 0

Total: £159,786 11 0
BUCKS-HORN. [Rhus.]
BUCKTHORN. [Rhamnus.]

BUCK-WHEAT (Polygonum fagopyrum) is said to be found wild in Persia. The use of it, according to various authorities, was to prepare bread for the Crusaders; according to others, the Moors introduced it into Spain from Africa; and hence it has in France the name of blest sarrasin. The name of buck-wheat is a corruption of the German buchweizen, which signifies beech-wheat, from the resemblance of the seed to that of the beech-tree. It is called wheat, because, when grown, it produces a fine farina, which resembles that of wheat in appearance. The botanical names of the genus, Polygonum, is taken from the resemblance of the seed, and the specific name, fagopyrum, from its resemblance to beech. Buck-wheat grows with a strong herbaceous, cylindrical, and branching stem of a reddish colour, about 2 feet height. The leaves, which are iry-shaped, are placed alternately on the stems. The flowers, in spikes, are attached in the upper part of the stem when young, and succeeded by black angular seeds, formed of four triangles, being thus nearly regular tetrahedrons. The plant is an annual, and the flowers appear very soon after it is out of the ground. They continue to blow and bear seed in succession till the frost destroys it. Buck-wheat is 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 danger of frost is over, which in many parts of England is not till the middle of May; but its growth is so rapid, that it may 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 abundant; 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 wet soils as to warm sands; nor is it so certain in yield as barley, but its early ripeness is a great recommendation. It is sown either in the fallow or waste land, after which portion of the soil 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 branck. 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. While which makes it a good manure; a small patch of a rotation, it is generally after the land has been considerably exhausted by former grain crops, and manure cannot be had in sufficient abundance to recruit it. It will produce a better return than oats, and leave the land in a better state, 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; and in this respect, as well as being hot and dry, a good tillage 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 seeds sown with it will probably produce more grass or clover than they would if sown with barley; for buck-wheat, sown in early spring 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, clear, dry land, after which portion of the soil may be ploughed off by sheep or cut green for horses. By this means, the root seeds, 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 shade and heat from the least effective weeds will prevent 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, and strongly recommended. Rich of manure may be ploughed into the ground in a green state. For this purpose, it is sown tolerably thick, and when the plants is in its greatest vigour and in full blossom, a roller is passed over the crop to lay it level with the ground. The plough, with the addition of a skim of manure, may be run over it as soon as it is fully ripe, 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.

In poor,仰in reclaimed soils, especially if they are attacked 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, which are sown on them, will enrich and consolidate the surface of the soil, if the frost is not too severe. The decaying stems leave it very loose and hollow; but if the soil is porous the air which is let in mollows it and makes it crumbliness, which is a great advantage. Provided the soil be stirred to a considerable depth, so that the roots of the buck-wheat may by ploughed in search of moisture, for the decaying manure is still in the humus, and if there be poor or light, it may be, or otherwise dry 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. It continues to put forth blossoms for a long time, and if the first-formed seeds should not put forth early, it is hoped, 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. In this it is possible by any management to have all the flowers come to seed in due time to fill the seed instead, or it may be that the probable 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 is sown, but it is added to moderately extant at present and in the fallow or waste land, after which portion of the soil 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 branck. 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. While which makes it a good manure; a small patch of a rotation, it is generally after the land has been considerably exhausted by former grain crops, and manure cannot be had in sufficient abundance to recruit it. It will produce a better return than oats, and leave the land in a better state, 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; and in this respect, as well as being hot and dry, a good tillage may produce nearly all the advantage of a summer fallow. Buck-wheat, on good land, will produce
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 depreciating it. It is said, for instance, 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 varieties of 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 by some, as with the scythe the seed when shed is dry; whether 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 mixed in 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 however for pastry and cakes; crumpets made of buck-wheat flour eaten with butter are a favourite dainty in some parts. A nutty 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 in our northern climates, it appears certain that the reasons in favor are quite 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 grainaceous plants. It may impart to the soil, or abstract from it, some 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 it contains and which in its presence in this manure is indisputable; the only thing required is an accurate calculation of the comparative expense of its application, with that of bones or any other purchased manure, taking quality and quantity into consideration. A few experiments on an extensive scale would doubtless give us our home 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 modem; 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 Sibbstone have been its principal ornaments. Those who deem this subject worthy of a better induction would do well to read the following: Moschus, 'Salmassus; on Solums,' pp. 851, 867; and the dissertation prefixed by Heyne to his edition of the Eclogues of Virgil.

BUC. [DOIMAS.]

BUCOLIC, from the Greek Bucolikos (Bucolicus), signifying literally, poems on the tending of oxen or herds; properly, poetry for diversion, as is the case with those exercises in verse, in which the interlocutors are shepherds, husbandmen, and their mistresses. Great antiquity is claimed for its invention. Some have babbled about the Golden Age and Arcadis; and some have attributed it to the Sicilians, perhaps for no better reason than because the island exhibits abundance of pastoral scenery. Others have said, that on the invasion of Greece by the Persians, when the festivals of Dionysus were suspended, the country people thongued the temples and sang hymns to that goddess concerning their rural occupations, which thence were called Bucolics. There has been equal difference about the name of the inventor, and Diomus and Daphnis, whoever they may be, Stesichorus and Theocritus, has each bad his supporters; for the critics have forgotten that it is one thing to sing as the shepherds do while tending their flocks, and quite another thing to sing as poets do when relating the life of shepherds. Theocritus, Moschens, and Bion, have written Bucolics in Greek, and Virgil has copied them in his Eclogues. Calvus, a later poet, has given us an heur 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 modem; 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 Sibbstone have been its principal ornaments. Those who deem this subject worthy of a better induction would do well to read the following: Moschus, 'Salmassus; on Solums,' pp. 851, 867; and the dissertation prefixed by Heyne to his edition of the Eclogues of Virgil.

BUCOLIC. [DOIMAS.]

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, many of them may cease to grow and become insignificant. These buds, as well as others, either 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 resins 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 bud consists of one or more small cells, the rays or branches of which extend in all directions. The rays of the part which is 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 leaves in the axil of which one or more buds are not formed. If not for further growth the bud as it is called the Polygymnun Tartaricum. Yuart, in his excellent article 'Succession de Culture,' in the 'Cours Complet d'Agriculture,' Paris, 1820, speaks highly of the Tartarum fruit, which is yellow and conical. A smaller seed, but much harder, is yellow, and is called the Cassia. It remains alive during the winter, grows out in spring, and produces 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 both small and thin. Yuart mentions it in the Department de l'Ise 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, Thayer, who has repeatedly tried it, says that its produce is small and insignificant. This may be the case, (vol. iv. p. 629). 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 occasional successes but fallacious results.

BUCOWINE, The, now forms the Galician circle of Czernowice. [GALICIA.]

BUCCOLIC, from the Greek Bucolikos (Bucolicus), signifying literally, poems on the tending of oxen or herds; properly, poetry for diversion, as is the case with those exercises in verse, in which the interlocutors are shepherds, husbandmen, and their mistresses. Great antiquity is claimed for its invention. Some have babbled about the Golden Age and Arcadis; and some have attributed it to the Sicilians, perhaps for no better reason than because the island exhibits abundance of pastoral scenery. Others have said, that on the invasion of Greece by the Persians, when the festivals of Dionysus were suspended, the country people thongued the temples and sang hymns to that goddess concerning their rural occupations, which thence were called Bucolics. There has been equal difference about the name of the inventor, and Diomus and Daphnis, whoever they may be, Stesichorus and Theocritus, has each had his supporters; for the critics have forgotten that it is one thing to sing as the shepherds do while tending their flocks, and quite another thing to sing as poets do when relating the life of shepherds. Theocritus, Moschens, and Bion, have written Bucolics in Greek, and Virgil has copied them in his Eclogues. Calvus, a later poet, has given us a
tissue is present; for they occur not only at the end of the medullary processes of the root and stem of *Eucalyptus*, but on the margins of leaves, as in *Bryophyllum*, Malaisia paludosus, and many others; and occasionally on the surface of leaves, as in the case of an *Ornithogalum* published by Turpin, and not very uncommonly in forms. 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 of growing into a whorl of buds; it may be eventually destined for. In effecting this it acts as a bud, as a flower, or as a fruit; first by increasing its cellular extensity, 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 leaves of the bud itself and those of the side-leaves. As soon as growth 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 is, it draws the sap into 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, is capable of producing branches, and even flowers or hairs. Although it is usually called into 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 may be observed as a curious instance of the principle of development by the two ways: one of these will be well understood when we see how certain parts of the same organ develop independent of all others. Every one knows that leaves are arranged with great symmetry upon young branches; as buds are axillary to leaves, the branches they produce ought of course to be in the same manner arched, and not, as we see, none. We may account for the first 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 partial or general 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 few branches. In the Water-tow, the side buds of a cedar of Lebanon they lengthen a little, bear a cluster of leaves at their points, and resemble short spurs; in the sloe, the whitethorn, and many other plants, they lengthen more, produce no leaves except at their very base, and grow into leaf-like staminodes or stigmas. In the leaf-buds, with unusually flat 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 Schavonian ‘Budin,’ being that by which it is known in the country itself), a city on the right bank of the Danube, in the Carpathian Gate, 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 2000 ft. in length; the two towns constitute the metropolis of Hungary, with a population (in 1846) of 421,948; and derived 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 place of considerable disadvantage, the head-quarters of the Romans, and was by them called Scicambria. 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 also where the modern Huns or Magyars, after their establishment in the midst of the Roman empire, had their capital; it was raised 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 inappropriately 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 enclosed by vineyards and forests on the other three sides; it is about 9 m., in circuit, and according to Blumenthal contained three years ago 3089 houses and 32,457 inh., independently of the garrison and strangers. These numbers exhibit an increase of 2009 since the year 1804, when the population was 2928 families, or 15,545 in all. The chief part of Buda is comprehended in what is called the Fortress, and rising on all sides round the acclivities of the Schlossberg is inclosed at its foot by walls and bastions; thence it spreads out into five suburbs, the most considerable as follows: The Hande is a well-peopled suburb, intersected by a long narrow street with remarkably high houses; and further to the E. of both stands the New-town (or Neustadt), a more cheerful quarter than either, 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 "Taban" or the 'Raihen-town,' which skirts the Schlossberg on the S., and is the largest and most populous of any quarter outside of the city. North of the Raihen-town, and between this and the Via Regia, lies 'Christina-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, the Blackberg, or Buda, to which 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 military advantages and splendid fortifications; several palaces; among them are the royal palace, a quadrangular structure, the front of which looks upon the Danube, is 364 ft. in length, and contains 203 apartments; in the left wing is the chapel royal, where the regalia are kept; the outer court is called the Regia, and the residence and for the royal library. An extensive garden surrounds the palace on three of its sides. The other edifices of note in this quarter are the Church of the Ascension of the Virgin, with a vast and spacious church erected in the court of assembly for the states, the arsenal, the town-hall, and the several buildings for the military, post-office, commissariat, judicial, and other public departments, and the university press and type-foundery. This, the finest part of the town, is inhabited almost wholly by the officers and servants of the crown, but it is dull and lifeless in comparison with the quarters without the walls, where the mechanic, manufacturer, and trader live. The most remarkable objects of the town are the three churches of the Franciscans, the Church of the Capuchins, of the Virgin Mary, and two sets of water-works, driven by horses, from which the fortress is supplied. In the Via Regia are the church of the Franciscans, a monastery, and the primates' palace. The N. suburb is divided by a broad street into two parts, one of which is dedicated to the Holy Trinity, in commemoration of the plague of 1710, which is 52 ft. in height; and the Raihen-town, the Roman Catholic church of St. Catherine, a Greek church, and the residence of a Greek bishop. Buda contains altogether twelve Roman Catholic churches, one Greek church, and a synagogue. It possesses a royal arch-gymnasium (with about 600 pupils), a Roman Catholic high school, several schools for the middle and inferior classes, three monasteries, and a number of hospitals, on which the observatory stands is about 515 ft. above the level of the Mediterranean, and close upon the banks of the Danube, which is 216 ft. above the same level. The observatory itself, in 47° 59' 13'' N. lat., and 19° 2' 45'' E. long., built to the very top of the mountain, is within two stone building and two towers, both of which are ascended by staircases carefully disconnected from the walls. No expense has been spared to supply this establishment with the finest instruments, although the top of the buildings and parts of the suburbs are particularly deserving of attention. Buda contains two public hospitals, and one for females, an asylum for indigent townsmen, a lazaretto and infirmary, a refuge for navigators, and other healthful institutions. Buda is by no means a manufacturing town; there is one silk and velvet factory, the annual returns of which do not exceed 12,000£; a manufacturer of leather, to the extent of about 23,000£ a year; a cannon-foundery, several copper-smith's works, and a gunpowder manufactory; besides one
spinning-mill for silk thread, and an eartheware and a tobacco manufactory. A few woollens 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 gallons (2,100,000 to 2,500,000 gallons). In very favorable seasons, as was once on 400,000 gallons, and 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 ‘Owen-Wine,’ comes from the extensive vineyards belonging to the town itself, which account for about 70,000 gallons.

Independently of a theatre, Buda possesses within its walls a variety of places for public amusement, and without them, an inexhaustible fund of attractions in the beauty and diversity of the surrounding country. Buda was explored by Pococke in 1754, and remained in its possession until the year 1686.

Buddha, Buddhism. Among the religions of Asia, that of Buddha is one of the most remarkable, partly for the peculiar character of its doctrine, and partly on account of its rapid and extensive diffusion. The country which gave it birth, nearly every trace of Buddhism has now disappeared; but it has become the religion of the greatest number of the inhabitants of the high table-land to the north of the Himalayas, as far as the boundary of it is the peninsula of Chine, the Ganges of Bengal, and several islands of the Indian archipelago, and of the empire of Japan. According to an estimate given by Houdetot, there are now upon the globe nineteen hundred million, or nearly 4 million; Mohammedans, 322 millions; followers of the Brahmanical religion, 111 millions; Buddhists, 315 millions.

Though much has been written upon Buddhism, a critical examination of its history and 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 of the true origin of Buddhism is most imperfectly given to us by a few fragments which have been preserved from the secondary rank.

We think right, therefore, to warn our readers not to receive with too implicit faith the statements respecting Buddhism, which we shall endeavour to condense within the limits of the present article. Several distinguished scholars, among whom we may mention M. Isaac Jacob Schmidt, of St. Petersburg, M. Alexander Coombe de Kérôis, now at Calcutta, M. Brian Houghton Hodgson, now at Calcutta, and Mr. George Turner, in Ceylon, are severally engaged in investigations of the sect, which may materially affect the opinions here advanced.

The origin of Buddhism is involved in much obscurity. Doubts have been raised whether Buddhism is of Indian growth, or whether it was introduced from abroad; the latter opinion of Buddhist and Brahmanical Hindus, who follow the religion of the Vedas, has been more of a matter of dispute; and the greatest discrepancy prevails with respect to the epoch which, according to various authorities, should be assigned to the founder of the sect.

Among those who, contrary to the opinion generally received by the Buddhists themselves, have suspected that the sect did not originate in India, Sir William Jones must be mentioned. The curled or woolly appearance of the hair on the head of the statues of Buddha, which is in reality sculptured in a black kind of limestone, combined with other circumstances, led him to form an opinion, that the inhabitants of India, who occupied the country previous to its invasion by the Brahmanic tribes from the north, were of African descent. The haughty and well-developed expressions on the features and the sculptured in black of the statues of Buddha, and the same sculptured in a black kind of limestone, combined with other circumstances, led him to form an opinion, that the inhabitants of India, who occupied the country previous to its invasion by the Brahmanic tribes from the north, were of African descent. 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The code of laws attributed to Manu speaks of them as of an inferior order of beings, unenlightened and incapable of civilization, the very contact or approach of whom is contaminating; expressions, certainly, which even the pride of a conqueror or the fanaticism of a religious persecutor could hardly surpass. The caste system, as a principle, the subject of so much ridicule, in sculpture still excites our astonishment; and widely different from the spirit in which the Brahmanic zealot Sankara, in his Commentary on the Vedantas, notices and refutes these adversities of the orthodox faith. Among all nations, moreover, to which Buddhism has found access, and as far backwards as we can trace its history, it is evident that its followers have always regarded Sanskrit, the sacred language of the Brahmanas, and the mother of numerous dialects now spoken in India, as the medium through which the spirit of our own age was to be carried to the English and Latin worlds. Looking at the language as an instrument of instruction and education, and recognizing the fact that detached Sanskrit words and phrases relative to theology have become so inseparably connected with the religious ideas which they were once employed to express, that they have accompanied the Buddhist faith in all its migrations, and are now current in many a language unconnected with the Sanskrit. This use of the Sanskrit language is one of the strongest arguments in support of the opinion that Buddhism originated in a country where Brahmanism then flourished. Nor can we admit that this opinion is contradicted by the record at Washington of the rise and progress of Buddhism, which has no distinction of castes.

In the most ancient portions of the Vedas, a division of the people into tribes is alluded to, and the earliest account of India by the Greeks who visited the country (Arrian, Indica, c. 11, 12; Diodorus, xvi., c. 19, 20; Plin. Nat. Hist. vi., c. 24) describe its inhabitants as distributed into certain classes. An institution so materially affecting the entire frame of society and the interests of every individual member of the community can only have originated in a remote past.

The differences between the manners and customs of the various nations, attending the manner in which the country came into the possession of the ruling tribes, and partly as the result of that fondness for perpetuating like heirlooms, by descent from father to son, certain offices, or the exercise of certain arts and professions, in his descent, in his race, in his nation, and in almost all nations of the Indo-Germanic race. Positive laws may have regulated this institution, and by their sanction have contributed to render it permanent; but we must reject as utterly untenable the notion that a system of this kind could have been produced by the act of any legislator, however powerful, among a nation where no trace of a distribution into classes previously existed. Yet to an assumption similar to this we should be driven, were we to admit (as we believe it must be admitted) that there were castes in ancient India, and that the belief, which we have already expressed, that Buddhism, which recognises no distinction of caste, was prevalent in India before the introduction of the Brahmanical institutions.

We have thought it right to notice these arguments adduced in the space of the present page, as the priority of the Buddhism over the Brahmanas, though that theory may at present be considered as almost out of date, and all who have inquired into the subject seem to agree in the adverse opinion, that Buddhism grew out of Brahmanism, and that the earliest Indian sect, of which we have any distinct knowledge, is that of the followers of the Vedas, who worshipped the sun, the fire, and the elements.

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 Magadh, in North Bihar, and Mayā. He was called Sakyamuni, or, in the Chinese, Buda. He was frequently called by what appears to have been a sort of patronymic designation, Gautama, and by the complimentary surnames Sākyasin and Sākyamuni, f.e., 'the lion' or the 'devoted (of the race of) Sākyas,' and the Sākyas. He received the title of 'the Sage,' does not seem to have been given to him till after he had attained eminent sanctity as a teacher of religion. Several of these names appear under somewhat modified shapes in the languages of the various Buddhist nations: thus Sākyamuni has been corrupted to Sakyasin; Gautama, preceded by the honorific Sanskrit title of Śramaṇa, 'the ascetic,' has, in Siammon, become Sommonsoend; the Chinese have converted Magadhá into Mokito, under which name they comprehend India generally, and the Mahayana Buddhism of modern India, together with those of the Mahayana sects of the East, as the Nāgārjuna, Manjusri, etc., have been confounded. The Mahayana, which is the equivalent of the Sākyas, like many other Sanskrit compound names, they have analyzed and translated into their own language by Zing-fau-wang, i.e., 'the eater of pure food.'

The circumstances of the life of Buddha, which we find recorded, are only few. Conformably to the prevailing usages 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 its own image. A little before Buddha began to live, a boy was placed under the guidance of a spiritual instructor, whose name, according to a Mongol account of the life of Buddha, was Bah-Burenu Bakshi. He soon developed mental faculties of the first order, and became equally distinguished by the uncommon beauty of his person. At the age of 20 years he married a noble virgin called Yasadhari Dam in the Ceylonese account of his life. He had by her two children, a son (whom the Mongols call Racholi, the Ceylonese, Ralaha Kumareyo) and a daughter. At this period he discovered that his present existence was occasioned by the depravity and misery of mankind, and that he must be prepared to relieve the sick animal, and to comfort the miserable suffering of mankind. He had called his attention 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 India, and beyond the frontiers of his kingdom, and that his teaching has 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 2420 and 1520; 14 between the years 1061 and 1000; and 13 between the years 939 and 943. Some have been translated from the Indian, which is a comparatively large proportion of those statements, in placing Buddha in the eleventh century, is remarkable, and, combined with other circumstances hereafter to be detailed, renders it probable, that the Tibetan and Mongol accounts of the life of Buddha, and the dates given by them, as the year 803 before Christ, the year 503 after his death, the year 2402, and the year 1027, and his death in 942 or 947 before Christ (Schmidt, l.c., p. 314), may come very near the truth. The discrepancy of the other accounts may perhaps be accounted for as arising from the following circumstances: Pegasus, Simius, Buriza, and Ceylonese Buddhists, who have written in 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 the Chinese, of the Buddha's reign (e.g., 913, 1000 B.C.), according to Flinders Petrie, may possibly have their origin in the notion of six sages, similarly gifted with divine wisdom, who are said to have preceded Sākyasinha. (Hodgson, Trans. of the Roy. Asiat. Soc., xii., p. 239.)

The circumstances of the life of Buddha, and which strongly confirm us in our belief that he flourished about the year 1000 B.C., are a list of the 33 earliest Bodhisattvas, or successors of Sākyasinha, as spiritual rulers of the Buddhist sect, which A. Kænæus (Mylange Asiat. A. 1845, p. 102) and K. Fr. (Kaffila, p. 270) have drawn from Chinese and Japanese sources. According to this list Sākyasinha was born on the 6th day of the 4th month, in the 24th year of the reign of the Chinese king Tchao-wang of the Tchouv dynasty (i.e., 28 B.C., according to Flinders Petrie), and he is said to have died on the 14th day of the 2nd month in the 59th year of Mou-wang (i.e., 956 B.C.). The document then proceeds to enumerate the names of 32 Buddhist patriarchs, stating, of most of them where they were born, and also the year of the death of each, with some of the titles they held. The 28th patriarch is Buddhārama, the last who resided in India: he is said to have embarked on the southern sea, and to have gone to China, where he settled near the town of
of Ho-nan. He died there in A.D. 495. The fact that no more than 29 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 decreases from professed to extinction, and it is probable that the present state of the succession or death of several of the patriarchs is stated not to be found on record, or to be known only appositively; and these undisguised imperfections, which an intention to deceive on the part of the compiler might so easily have concealed, were calculated rather to confirm than to weaken our faith in the authenticity of the document.

Mr. Wilson, in his account of the 'Râji Târangini,' a Sanskrit chronicle in verse, of the country of Cashmir (Ar. Res., vol. v. p. 111), has drawn attention to a passage which states: "What men have eloped from the emancipation of the Lord Sâkyasîha in this essence of the world, a Bodhisattwa in this country (Cashmir), named Nâdgurus, was Bhûmlawar (lord of the earth). As previous passages of the same chronicle allude to Buddhists and to Cashmir, Mr. Wilson is of opinion that Sâkyasîha, the founder of the sect, has been here connected with one of his successors, a Bodhisattwa of the sixth century B.C. In the list of early Bodhisattwas published by Remusat (compare Klaproth, in the Nuncius Sinensis, vol. xii.) we find one 'Poethonanthi,' (Buddhanand!?) of Kanara, of the family of Gautama, 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. Dedicating 150 years and a large work to a subject, he is entitled to be called the 'author of Cashmir,' in the sense in which the words of Herodotus, in a detached passage where he speaks of an abstemious sect called Artoni ('Arpton), which name seems to be the Sanscrit Artah, or Artâta, a very common designation of the Buddhism, who are more even distinguished than the Buddhists by their extreme tenderness for animal life. Arrian (Indie, c. 8) mentions the name of an ancient fabulous king of India (Bhûtas), which resembles that of Buddha in sound; but the context in which it occurs does not exactly warrant the supposition that in the future of the date (Indien, i. p. 319), that the founder of Buddhism be intended. Strabo (xv. o. p. 712, ed Casaubon), on the authority of Megasthenes, states that there are two classes of philosophers among the Hindus, the Brahmans and Garmanas. The number of these last is supposed by others who are by Clemens of Alexandria (Stroux, i. p. 305) more correctly called Sarmazes, it is clear that by them the Buddhists are to be understood. The name Sarmazes appears to be the Sanscrit word Sramana, 'a religious mendicant, an ascetic.' A Buddhist beard is thus designated by a Brahman in the 'Mrichhakat,' a Sanskrit drama, supposed by Mr. Wilson to have been written either one century before, or two centuries after our sa (act viii. p. 215, ed. Calcutt). We recognize the same word under a slightly modified signification in a passage of the Buddhist, which two classes, with some of the followers of Zoroasoeus (Zâ-rmanos, Zâ-rmanos, Zârmanos, Zâ-rmanos, Zârmanos), who came to Europe with an embassy from king Porus to Augustus, and voluntarily burst himself at Athens. (Strabo, x. e. c. pp. 719, 726.)

Two very remarkable passages on the various sects prevailing in India occur in Clemens of Alexandria. In the first passage (Strom. lib. i. p. 369, ed. Potter) he says that there were the ascetics, the Brahman, and the Brachman. *Among the Sarmanes those called Hylobi (Hylâbî, Mountoang thinks, should be read instead of Aýlâbî) do not dwell in towns or houses; they are clad with the shake trees, reeds, grass, and drink water with their hands; they know not marriage, or King of children.' He then proceeds to say that 'there are likewise among the Indians persons obeying the precepts of Buita (Bóiër), whom they venerate like a god on account of his extreme sanctity.' Here the followers of Buita (Budha) are clearly distinguished from both the Brahmane and Sarmazane. In the second passage (p. 539, ed. Potter) Clemens speaks of a 'Sarmazane of the Sarmane name Sramana:' 'they go naked all their lives; they make it a point alwayts 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 nunnos nor the Sarmazes marry, for they disem this contrary to nature and to law, and for that reason they adhere to chastity. There are also females of this class (Sarmâni) who live in perpetual virginity.' The pyramids here spoken of are evidently the dagoba of the Buddha.

The statements respecting the religion of India and China given by the two Arabin travellers who visited these countries in the ninth century (Renautot, Anciennes Relatians des Indes et de la Chine, &c., Paris, 1716, 8vo.) are too vague to enable us in every instance to determine whether the 'pagans,' of whom they speak, were Buddhists or not. In the report of the first traveller (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 Batuta (Lee's translation, p. 189) as a place of pilgrimage, which in 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 (c. p. 127), and in the account which he gives of their ascetics, says: 'the most virtuous inhabitants of this land, that would, in our opinion, admit of an application to the Baudhassas. 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 the existence of the religion in Ceylon.'

In the Anti-Islamic portion of the Arabic chronicle of Abulfedâ, published some years ago by Fleischer (Abulfeda, Hist. Antestalianca, &c., ed. H. O. Fleischer, Leipzig, 1831, 4to.), there is a curious chapter on the various tribes called Buddhists, in which a writer 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 adulated names given to them by the Arab, as various branches of Brahmanic Hindus; and the only sect, the name of which bears any similarity to that of the Buddhists, the Behudites (al Bahâddiyâh, in the Arabic text), are described in a manner which removes every possibility of their being taken for followers of Sâkyasîha.

In the history of Buddhism, the earliest authentic testimony which Ebn Batuta gives of the existence of Buddhism in Ceylon, in describing the pilgrimage to the impression of Buddha's foot on Adam's Peak. In his account of Hindustan, he describes the burning of widows and other practices reproduced by the Buddhists, and adjures his readers to confess to us that Buddhism was at that time the established religion of the country.

Marco Polo, who visited Tângent during the second half of the thirteenth century, describes the religious institutions of Kampion, the principal religious province, in a manner to convince us that Buddhism was then the prevailing creed there, though the name is not mentioned. 'The idolaters of Kampion,' says he, 'have many religious houses or monasteries and abbeys, built after the manner of the country, in which there is a great number of monks, priests, and nuns, some of wood, some of clay, and some of stone, and covered with gilding. These images are held in extreme reverence. Those persons amongst the idolaters who are devoted to the services of religion lead more correct lives, according to their ideas of morality, than the other classes, abstaining from the indulgence of carnal and sensual appetites.' (Marriner's Travels of Marco Polo, p. 181.)

An early account, communicated probably by travelling merchants, of a Lama, or spiritual chief, among the Buddhists, is that of the report of a Prester John, a Christian pontiff, resident in Upper Asia. It deserves however to be noticed that Barberesco (Hist. Dynast., p. 280) speaks of a prince of the Eastern Turks, who was a Christian, and who was called Prester John (Malte Fackewid); this prince reigned about the year 1202, and was dethroned by Gengizkhan. (Pezzer Jonk.)

However small is the information to be gathered from these
passes 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 Sakyasinha his sect seems to have flourished in India, and to have been tolerated by the Brahman in many parts of the country. 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 different parts of India, pre-eminent for piety, and consecrated as the living types of Buddha, followed him as his (figuratively) linear descendants, and as the patriarchs or spiritual heads of the sect.

The numerous Buddhist temples, the remains of which are scattered over a wide extent of country in India, must be represented as a composition of three distinct periods, to distinguish 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 in a squatting 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 forefinger of the right hand sometimes rests on one of the knees, or is held down by the left knee, and 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 ornamental appendage. A number of small cells is often seen near a Buddhist temple, apparently intended to afford shelter to pilgrims, or to ascetics and priests permanently resident near the sanctuary.

Ruins distinguished by these peculiarities have been found at Paitalipatta, near Allahabad; at Bodh Gaya in Bengal, at Bag in Malwa, near the Ajanta pass, at Ellora, at Nasik, at Junker, at Carli, on Salsette, and at Guntur. Some have even supposed that ruins of a similar structure, which have been found at Bamian in the Belman Mountains, and at Mainak, near the borders of Afghanistan, belong to the same class. A number of similar cells is often seen near a Buddhist temple, apparently intended to afford shelter to pilgrims, or to ascetics and priests permanently resident near the sanctuary.

The most remarkable, and to a great extent, the most satisfactory of all the sources of information as to Buddhism, are the Pali manuscripts of Ceylon and the Burman books of Burmah. The Pali manuscripts of Ceylon appear to have been received by the Buddhists, and to have been by them admitted as part of their own belief. This remark is still illustrated by Dr. Francis Buchanan's paper in the 'Religion and Literature of the Burman' (Asiat. Res. vol. vii. p. 136, &c.), and by many passages in Sangermano's 'Description of the Burman Empire,' edited by Dr. Tandy (Rome, 1833), which would, woefully, be forgotten were it not for the many passages in the Pauranic works of the Brahmans; and Ceylon, Law, in his account of Tannaserim (Journal of the Royal Asiatic Society, vol. ii. p. 257), tells us that in that province dramatic representations founded on the history of Râma and his relation to the Buddha, which last is not less celebrated in Ceylon than in India, have been for many centuries acted upon the stages of the island. It is on account of this tradition of a Brahmanic character that we see the temple called the Abayagiri 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 effectually check the progress of the Buddhism, which in a considerable period we find indications of the alternation of triumph and oppression of the heretical party. Another heresy, called the Wijiramâna, is stated to have been introduced into Ceylon from the continent of India during the last half of the first century b.c.
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 except that they are written in Sanskrit, Pali, a language which the Buddhist 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 has obtained a footing. The Sanskrit editions of the Buddhist scriptures have been re-established in Nepal by Mr. B. H. Hodgson; and it is but natural to suppose, that among them some of the authentic and original treatises on the doctrines of Buddhism should have been preserved. The whole of the extant Buddhist writings in the estimation of the Nepalese Buddhists are nine 'Purânas,' 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 Essex eminent sages of the sect. Besides these the Buddhist 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 'Dhâranis.' (See Mr. Hodgson's enumeration of the principal existing Baudddha writings of Nepal, in the 16th volume of the Asiatic Researches, p. 422, &c.) Quotations in Sanskrit from a collection of 'Sûtras or short aphorisms, attributed to Buddha himself, occur in Sanskrit works on the Vedânta philosophy, translated by Mr. Hodgson in the Asiatic Researches, vol. i. p. 107.)

In the Essay on Buddhism by Kotelegama Dewamitta Unnane, a native of Ceylon (printed in the Ceylon Almanac for 1835, pp. 211—219), 84,000 sermons preached by Buddha are mentioned (p. 226), which the writer of the Essay attributes, not to Buddha, but to his son Dharma, who ascended the throne in a.d. 10. The Mogul Buddhists possess a sacred work called 'Gandjour,' which is written in the Tibetan language. Timkowsi saw a copy of it in a temple at Purga, in the country of the Kalkas Mongols, which consisted of 106 volumes. Chants revolving on an axis, and covered with prayers in large gold letters, are frequently placed in the Buddhist temples among the Mongols, in order that persons who cannot read may come and turn them round as long as their zeal prompts them, which is considered as efficacious as the reading of the sacred prayers.

It is a notion deeply rooted in the mind of all Hindus, often repeated in the Vedas, and variously explained and commented upon by the different schools of Brâhmânic philosophy, that the visible world and every thing reverts to chaos, and all being is finally extinguished without real or permanent existence; that the confinement of the human soul, itself an emanation of the Divine spirit, in a perishable body, subject to all the changeable accidents of matter, is a state of misery; and that every effort of man amidst his toils and dangers is a means to the final emancipation of his soul after death, i.e. not only its liberation from the necessity of undergoing another birth, and being again invested with a body, but altogether its release from individual existence, and its direct return to a lasting union with the Divine Being. This notion, developed in a peculiar manner, forms likewise the basis of the Buddhist creed.

The Buddhists of Nepal, who seem to have preserved the ancient doctrines of the sect with the greatest purity, and who believe most firmly in the efficacy of the religious system, are more explicit than any that we possess of the tenets held by the Buddhists of other countries, are divided into four schools, who differ partly in the manner in which they teach that the Divine Spirit was active in the production of the world, and partly in the method which they prescribe for effecting the liberation of the soul after death. We will endeavour briefly to state the peculiar doctrines of each of these schools, following chiefly the 'Quotations in Proof' published by Mr. Hodgson in the 'Journal of the Royal Asiatic Society,' p. 20. We introduce them in this place under the head of the primeval existence of the Deity, who was when nothing else was, and who is thence called Adi-Buddha or the 'First Buddha.'

1. According to the Sthavirâvala school, Svâdharmâ, a soul of the highest order, springing forth or rather identified with, Isvara, 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 Pravritti and Nivritti, or 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 Baudhāya school attributes more of a personal character to the creation, and held that the creation of the world was the deliberate act of Iswara. Nirvīrīti, i.e. perfect calmness or repose, is his proper and enduring state; but for the sake of creating the universe he became Panthākṛti, and, endowed with fullfold consciousness, and produced the five Bhūtas (Vijnāna, Abhijnāna, Atyayāna, Bhayāna, Ratnasambhava, Amitābha, and Amoghasiddha), who became the authors of the elements, and by the agency of the five Bodhisattvas, beings produced by them, were created the planets.

These five Bodhisattvas therefore, as delegates of Iswara, produced all things by their fiat. (Hodgson, l. c. p. 299.)

3. The Kārmika school (which along with the Yātikā is supposed by Mr. Hodgson to be of more recent origin than the two first) appears to have speculated chiefly on the means best calculated to procure the release of the soul from its connexion with matter; and as it deduces the procession of all things into existence from avidyā (error, delusion), so it maintains that the regressive movement towards non-existence may also be effected by true knowledge. The "error" here alluded to is the great antithesis in the creed of the external world. This belief, when arising in the unembodied sentient principle, is attended with a longings after the objects which it supposes to exist: hence individual consciousness springs, and a subtle personal frame forms itself, and out of it the elaboration of the objective universe follows, which produces desire in the subtle frame, and leads to its corporeal conception and physical birth. The progress of the soul towards matter is therefore the effect of a succession of acts (Karma—whence the name of the school Kārmika) on the part of the soul; and its liberation must be sought by relinquishing the erroneous notion of the reality and stability of external objects; for when this great error is abandoned, all its consequences vanish, and, leaving all mundane things, it continues or departs from thence. This school likewise enunciates the doctrine which is very current in India, that the actions of a man during former existences determine his destiny in the present life: 'Although I had acquired a perfect body, still I in this life appeared, because I had still to expiate a small portion of the sins of former births: so said Śākyā Sinha.' (Hodgson, l. c. p. 304.)

4. The Yātikā school has directed its attention to the same problem as the preceding, and proceeded to solve it in a different way. The essence of the world, says its followers, is Yatnā, 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 Yatnā; and so the attainment of that wish or object which is the liberating act of the soul depends on (Yatnā) 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 these sects proposed as the object to which man should aspire; but the expression which Baudhāya seem to us particularly fond of employing, is Nirvāṇa. This word is properly a passive participle of the Sanskrit root vāṇ, 'to blow' (as the wind), with the preposition nir, 'out, away from,' prefixed to it; and its primary meaning is the wind which governs the stars, and hence 'departed, defunct;' but the word is likewise used with the preposition nir taken in a negative sense, and it then signifies 'calm, unroused,' 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 re-union with the Divine Essence.

The popular belief in Nepal attributes the superintendence of the work of creation especially to Padmapāni, one of the first five Bodhisattvas, who, according to some, was sent and having produced the three Hindu deities Brahmā, Vishnu, and Siva, as having assigned to them respectively the task of Creation, Preservation, and Destruction. It is said that four Bodhisattvas were produced by the three Hindu deities and Siva, and as having assigned to them respectively the task of Creation, Preservation, and Destruction. It is Brahmā therefore who, according to this account, created the world. Another account is that of the Manjusri, who have been the appointed architect of the world, while Padmapāni, by Adi-Buddha's special command, created all animate things.

The cosmogony of the Buddhists divides the entire universe into four principal divisions. The first consists of thirteen Bodhisattvas-bhūvanas, or mansions, created by Adi-Buddha, and including the Agnishtāna-bhūvana, his eternal abode: devout followers of Buddha will proceed to one of these mansions after death. The second, which consists of eighteen mansions, called Rāpyavakara-bhūvanas, and created by Brahmā; farther down is the third division, comprising the six Kāmavakara-bhūvanas, which are subject to Visnun; and below them is the fourth division, consisting of the four earth-cities, formed by Siva, and forming the fourth division. Pious worshippers of Brahmā, Vishnu, and Siva will, after death, proceed to these divisions respectively. (Hodgson, Transact. Roy. Asiat. Soc. vol. ii. p. 323, 324.)

Below these bhūvanas another series of regions or abodes, 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. J. Schiefelbein translated an extract from a Mongol work, giving an account of the creation (Samang Selemen, p. 302), according to which nullity or empty space is the original state of every thing that exists. The creation of the world is in this account represented as proceeding from the 'region of the second Dhyāna' (or the self-contemplative Deity) to the 'region of the third Dhyāna' (or the divine will and agency?), which comprises the abodes of Brahmā, Vishnun, and Siva. A wind arises in this region, which by bowing downwards produces the abode of the superior order of spiritual beings; and in the same manner a succession of abodes of spirits gradually inferior is formed, till the winds reach the lowestmostlimbus of empty space, and there produce a condensation of air which becomes the germ of the material world. 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 Brahmans their doctrine of "the abode of one who has been a Kalpa" or the duration of one existence of the Buddha, which is divided. These yugas which distinguish by the gradual decreasing length of men's lives in them. In the first yuga of the present Kalpa men lived 80,000 years; in the second 80,000, and in the third 5,000; and in the fourth yuga, which is again subdivided into four periods, the men's lives will be successively diminished from 100 to seven years, and towards its termination the stature of men will only be the height of a thumb. (Hodgson, Transact. Roy. Asiat. Soc., vol. ii. p. 327.)

One of the essential differences of the Buddhists from the Brahmanical Hindus is the character which they attribute to their prophets or saints, and especially to the founder of their sect. Śākyasimha, according to the uniform belief of Hindus, was not, like Râma, a Kshatriya and an avatara, or incarnation of the Deity, but a mortal man, who, by his sanctity and devotion attained the highest eminence, and after his death proceeded at once to the final re-union with Adi-Buddha. He had been preceded by six persons similar in functionary to himself, such as Viswabahu, Kukuchhanda, Kâñchana (or Ramaka Muni), and Kâçayapa; but nothing is told us of the deeds of these mythological beings, and they are even enumerated variously, the first three beings sometimes omitted. Another point of this description is that when 5,000 years shall have elapsed after the death of Śākyasimha. The appearance of the latter was followed by a succession of Bodhisattvas, i.e. mortals born perfectly virtuous, whose souls are no longer subject to the necessity of being born, but are sent and having produced the three Hindu deities Brahmā, Vishnu, and Siva, and as having assigned to them respectively the task of Creation, Preservation, and Destruction. It is Brahmā therefore who, according to this account, created the world. Another account is that of the Manjusri, who have been the appointed architect of the world, while Padmapāni, by Adi-Buddha's special command, created all animate things.

This dogma of a continued identity of person in the mo-

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cessive Lamas is strikingly illustrated by a passage in Letter 1774 by the Lama of Teshoo Loombo to the governor-general in India, in which he applied for the grant of a large number of nunneries, as a motive for his request, *that although in the different periods of his reviviscence 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 peculiar regard beyond any other.* (Turner’s *Emblem of Tibet* 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 regard them as the monuments of idolatrous prophecies. Their priests are chosen from all classes of men: they are obliged to live in celibacy, but may resign their ascetic 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 true Boudhists in the island) are usually men of high birth and learning, and are supported at the principal temples called vidhras, most of which have been richly endowed with farms, &c. for their maintenance by the former monarchs of the country. A translation of some high and interesting inscriptions, in which grants of this kind and the conditions attached to them, are recorded, has been given by Mr. G. Turnour in the Ceylonese *Almanac* for 1834, p. 178, &c. All Boudhists go bare-headed, and with their heads shaved; but to defend themselves against the scorching rays of the sun, they commonly wear a sort of head-cloth, which is called 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 does.* In Ceylon they wear a yellow coat, gathered together above the waist into a large pocket, and girded with a belt of fine packthread. In the appendix to Symes’s *Embsay of Ava* there is an account of the ceremonies used in the Burman empire at the consecration of a Buddhist priest: the candidate is reminded of four principal commandments, which require him to observe strict chastity, not 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 penitulation and begging; that he will wear a particular kind of dress, and fast several days, 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 animal food; but they must not eat flesh that has been killed by any instrument of death, as well as nunnaries exist in all countries where Buddhism has been introduced. Their processions and their forms of religious worship are described as being attended with much pomp and splendour, and well calculated to impress upon the spectators the strength of the religion and the wealth of the priests, who are always well and richly dressed, and who are allowed to wear their hair. But the ceremonies at Calcutta, a celebrated Buddhist temple, 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 of the Roman Catholic church; and many were induced by these similarities to consider Lamasism 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 Tartary; that Italian and French messengers, with a few of the Crusaders, whom the Khans of Cachemira had drawn to their courts, and who were anxious to learn about the religions of the East, had travelled into the heart of India, and were gratified to find there the marks of the same institution that had existed in India for ages. It is therefore not improbable that the Lomas, whose court then began to assume a splendid exterior, should have adopted some of the forms of the Cathole service as they saw them celebrated by their foreigners, and that its imitation and adoption have been made in 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 article given 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 also bear fruit. The formation of a new individual in all respects similar to its parent, retaining all the special peculiarities of the latter. In this respect it differs from a seed, which in general is not capable of doing more than propagating a species, without any power of preserving, naturally, the peculiarities of the individual from which it sprang.

Gardeners have availed themselves of this property in leaf-buds for the purpose of artificial propagation, either by planting the separated buds in earth, or by introducing them into the branches of other plants. It forms one of the most simple and easy means of propagation by eyes [Eyes]: 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 disen-gage 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 one in the branch Murata made upwards, 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, having first pared it off from the leaf with which it is joined. It is then pressed in firmly to the bark; and the whole is inclosed in 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 position as it occupied on 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 will become attached, and will at length become a complete and separate organ of the plant. Then when the growing season arrives it will be stimulated by light and warmth to attract sap from the wood to which it has adhered, it will push forth new wood of its own over that which it touches, and thus will form as a complete and isolated plant, with its own branches, roots, and 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 shoots of a different character will be produced on the new plant, which will in time take the place of the old. It is then necessary 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 stock 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.

Such is the general nature of budding, but like all other operations in horticulture it 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 *scaliop-budding,* which are occasionally practiced (see Loudon’s *Encycl. of Horticulture,* new edition, p. 636); 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 species. In practice however it is occasionally found impossible to preserve the identity of the plank to which 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 bear the same common degree, yet their consanguinity is not sufficiently strong.

BUDWEIS, or, as he is better known by the Latinized name, Budweis, was born in Paris in 1467, of an ancient and honourable family. His early education appears to have been neglected, and could not be sent to Orleans to study the civil law he profited little, owing to his very imperfect knowledge of Latin. Indolence 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 had no longer need of the rude refreshment, and applied to learning with an assiduity which threatened injury to his health. Yet, although, to use his own words, he was self-taught and late-taught, he attained an eminence in learning which placed him above many of his contemporaries.

He was well known by name both to Charles VIII. and to Louis XII.; yet notwithstanding he was twice employed by the latter king in Italian embassies, and even inscribed on his list of royal secretaries, he did not appear at court till the reign of his great uncle, the illustrious Francis I. of France at Arders. The king then appointed him his librarian and maître des requêtes, and the citizens of Paris named him provost of the merchants—offices, which he complained were great interruptions to his pursuit of letters. In 1540, while he was a member of the council of France, he went to Ireland. From the unbroken circle of Normandy, in order to avoid the excessive heat, he contracted a fever which rapidly carried him off. He left seven sons and four daughters, with injunctions that his interment should be placed by night. This request, and an avowal of Protestantism made at Geneva by his widow and some part of his family, soon after his decease, have thrown doubt on his orthodoxy, and he has been abused by the Romanists accordingly. The rumour derives strength from his intimate correspondence with Erasmus, whom he raved in anti-Ciocerianism, and in his hatred of monks and illiterate ecclesiastics. In one of his letters he shows a supreme contempt for the Divines of the Sorbonne, and calls the members of it prating sophists, and with the deviation of a single letter he would be denied to a pan, 'Divines of the Sorbonian (Sorbonian) bog.'

His friendship with Erasmus however was not always uninterrupted, for Budgell was fond of disputing on trifles. One of his letters, while he was influenced by some pique, his mother, Mary Scharffenberg, membrane of the Arch Deacon of East Angles, led him his last greeting; 'to Erasmus replies with unbroken suavity, 'Erasmus, the perpetual friend of Budgell, whether he will or not, sends him not a last greeting, but one which shall flow freshly for ever.'

Thus was an end put to the happiness to sit for his portrait. He was less skilled in Latin than in Greek, and his epistolary style in the former language is tinged with harshness, and strongly contrasts with the pure and elegant tone of Erasmus. His works, of which an accurate list is given by B held in his 'Jugemens des Savans,' were collected at Basel in 1597, in four volumes, an edition which has become extremely scarce. All his writings abound in learning; but the tract best known to modern readers is entitled, 'De Asse et Partibus ejus.' in the preface of which Budgell, while acquitting himself that of the professor of Greek, adds, 'It was not allowed more than six hours for study. A second story, which has been attributed to other great scholars also, rests not quite so good authority. 'An alarm of fire having been one day given while he was at work in his study, he asked the terrible servant with great calmness why she did not inform her mistress? 'You know,' he added, 'I never concern myself about household matters.' His 'Commentaries on the Greek Tongue' are still deservedly held in high repute. They elucidate many terms employed by the orators, historians, and poets, which are not known elsewhere. His Greek letters also are written with much elegance, and show a profound knowledge of the language.

BUDGELL, EUSTACE, son of the Rev. Gilbert Budgell, was born about 1668, at St. Thomas's, &c. and was educated at Oxford, where he was admitted to the degrees of D.C.L. and Doctor of Civil Law. Through his connexion with Addison, who used to name him, 'that man who calls himself my cousin,' and who wrote an eulogy to Prior's Phœdra, which was attributed to Budgell, and acquired for him a reputation which he little merited. He was educated at Christchurch, Oxford, and afterwards entered at the Temple; where, devoting himself to literature, he wrote largely in the Spectator, to which he contributed all the papers marked X, and on the discontinuance of that work all those in the London magazine marked with an asterisk. Through Addison's influence he held many subordinate offices under government in Ireland; and in 1717, when his patron became secretary of state in England, he procured for Budgell the lucrative appointment of accountant-general to the Irish Exchequer in Ireland. A misunderstanding with the lord-lieutenant, lord Belton, and some lampoons which Budgell was indiscr.et enough to write in consequence, occasioned his resignation.

From that time he appears to have trodden a doward career; besides the wag of the Sea Bubble, and about 5000l. more in unsuccessful attempts to get into parliament. In order to save himself from ruin, he joined the knot of pamphleteers who scribbled against Sir Robert Walpole; and he was presented with 1800l. by the Duchess of Marlborough. Much of the 'Craframans' was written by him, and a weekly pamphlet called the 'Bee,' which commenced in 1733 and extended to 100 numbers. But his necessities reduced him to dishonest methods for procuring support, and he obtained a place in the 'Dunciad,' not without any trouble. In the account of the 'New School' at Arders, he is represented as a legatee of Tindal's will for 2000l., to the exclusion of his next heir and nephew; a bequest which Budgell is thought to have obtained surreptitiously. In 1750, being utterly broken in health and reduced to poverty, he was cardiac to go to Somerset Staits, where, as a waterman, he rowed down the river, he threw himself into the stream as they shot London bridge. Having taken the precaution of filling his pockets with stones, he rose no more. On the morning before that on which he drowned himself, he had endeavored to persuade a natural daughter, at that time not more than eleven years of age, to accompany him. She however refused; and afterwards entered as an actress at Drury Lane Theatre. Concerning her success or subsequent fortunes we possess no information. Budgell left in his secretary a slip of paper, on which was written a broken distich, intended perhaps as an apology for his act—

'What Cato did, and Addison approved,

Cato, be long.'

It is unnecessary to point out the fallacy of this defence of his conduct, there being as little resemblance between the cases of Budgell and Cato, as there is reason for considering Addison's Cato written with the view of defending suicide.

BUDISSIN. [BAUTZEN.]

BUDWEIS, the southernmost circle 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 (and in extent) of all the circles of Bohemia, and is a large manufacturing and mining district, containing an area of about 1617 sq. m., is watered by the Moldau, and its tributaries the Malech and Luschmits, and contained, in 1817, 170,670 in., 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 Schwarzberg, from the Moldau, which contains Belton, and contains eight towns, among which are Budweis; Krumau, a mining and manufacturing town, with 4400 in.; and Witigau, 2800 in.; 25 market vill., and 897 other vill. and hamlets.

BUDWEIS, the capital of the circle, is situated close to the confluence of the Moldau and Main, and bears, in Scelavonian, the name of 'Cesky-Budiegowice.' It is a well and regularly built town, includes three suburbs, is the seat of a bishopric instituted in 1763, and has a collegiate church, a Jesuit college, and a theological 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 woolens, saltpepper, &c. and by means of the Moldau, which connects Budweis with Prussia, it is a place of considerable transit for merchandise passing from the archduchy of Au-tria, Hungary, Styria, and Triest, to the N. of Bohemia and Germany. 43 59' N. lat., 14° 58' E. long.
BUENOS AYRES, [La Plata].

Buenos Ayres, the capital of the republic La Plata (Provincias Unidas del Rio de la Plata), in South America, is in 34° 36' 22" S. lat., 50° 10' 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 at Buenos Ayres is of small extent, but the vast estuary of 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 the bank that the piers or boats to be obtained in the outer roads from 7 to 9 m. from the shore; small vessels enter the inner roads, called becasas, 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 weather. The vessels that are well armed and soars are landed in rudeley 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.

They have laid out 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 hundred yards, is the great wharf, which extends 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.

Behind the castle is the piazzas or great square, 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 devoted 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 colonnade, called the palacio, 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 Indians. It is a symbolic figure at each corner, 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 insignificant.

In the neighbourhood of the piazzas 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 sashes, 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 or stores. The gardens or courtyards are generally surrounded 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 patio is usually paved with brick, and sometimes with black and white marble, tessellated. In the better sort of houses a canvas awning is spread from the last roof to serve as a protection 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 kitchen, and the fire-places are not severe 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 Recoletos, which are 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 population 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 has lately been modelled on more comprehensive principles, possesses libraries of about 20,000 volumes, besides 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, they also have been established a literary society for the promotion of natural philosophy and the mathematics, 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 finally 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 upon it by its founder Mendosa.

(The Travels of John Pinkerton and Haigh and the Historical, Political, and Statistical Account of the United Provinces of La Plata.)

BUFFALO. [Ox.]

BUFFALO, the chief town of Erie county, State of New York, situated on 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 2065; in 1825 it contained 5140, and in 1830, the latest enumeration, 6883 in. This increase may be attributed to the circumstance of the canal from Albany to the Hudson and 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 9,027,456 dollars, and its utility may be estimated from the fact, that, in 1831, the amount of toals 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. Buffalo was attacked 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 $2 dollars per week.

END OF VOLUME THE FIFTH.

William Clarke and Son, Stanford-street.