

other too full of mere verbal catches and forced conceits, to persuade us that either can in any age have fairly represented the light free talk and facile humour of its youth. In another field than this Beaumont and Fletcher hold as high and secure a station of their own as any poet of their race. In perfect workmanship of lyrical jewellery, in perfect bloom and flower of song-writing, they equal all compeers whom they do not excel; the blossoms of their growth in this kind may be matched for colour and fragrance against Shakespeare's, and for morning freshness and natural purity of form exceed the finest grafts of Jonson. *The Faithful Shepherdess* alone might speak for Fletcher on this score, being as it is simply a lyric poem in semi-dramatic shape, to be judged only as such, and as such almost faultless; but in no wise to be classed for praise or blame among the acting plays of its author, whose one serious error in the matter was the submission of his Dryad to the critical verdict of an audience too probably in great part composed of clowns and satyrs far unlike the loving and sweet-tongued sylvan of his lovely fancy. And whether we assign to him or to Beaumont the divine song of melancholy (*mœstius lacrymis Simonideis*), perfect in form as Catullus and profound in sentiment as Shelley, which Milton himself could but echo and expand, could not heighten or deepen its exquisite intensity of thought and word alike, there will remain witness enough for the younger brother of a lyric power as pure and rare as his elder's.

The excess of influence and popularity over that of other poets usually ascribed to the work of Beaumont and Fletcher for some half century or so after their own time has perhaps been somewhat overstated by tradition. Whatever may have been for a season the fashion of the stage, it is certain that Shakespeare can show two editions for one against them in folio; four in all from 1623 to 1685, while they have but their two of 1647 and 1679. Nor does one see how it can accurately or even plausibly be said that they were in any exact sense the founders of a school either in comedy or in tragedy. Massinger, for some years their survivor, and in some points akin to them as a workman, cannot properly be counted as their disciple; and no leading poet of the time had so much in common with them as he. At first sight, indeed, his choice of romantic subject and treatment of foreign stories, gathered from the fertile tale-tellers of the south, and ranging in date from Boccaccio to Cervantes, may seem to mark him out as a member of the same school; but the deepest and most distinctive qualities of his genius set it far apart from theirs; though undoubtedly not so far that any discrepancy or discord should impair the excellence or injure the keeping of works in which he took part with Fletcher. Yet, placed beside theirs, the tone of his thought and speech seems by comparison severe as well as sober, and sad as well as severe. Their extravagant and boyish insanity of prostrate royalism is not more alien from his half pensive and

half angry undertone of political protest than his usually careful and complete structure of story from their frequently lax and slovenly incoherence of character or plot, than his well composed and proportioned metre from their lighter and looser melodies, than the bitter insistence and elaborate acrimony of his judicial satire on hypocrisy or oppression from the gaiety or facility of mood which suffers them in the shifting of a scene to redeem their worst characters by some juggler's trick of conversion at the last moment allowed them to wind up a play with universal reconciliation and an act of oblivion on all hands. They could hardly have drawn with such steady skill and explicit finish an *Overreach* or a *Luke*; but the strenuous and able work of Massinger at its highest point of success has no breath in it of their brighter and more immediate inspiration. Shirley, on the other hand, may certainly be classed as a pupil who copied their style in water-colour; his best tragedy and his best comedy, *The Traitor* and *The Lady of Pleasure*, might pass muster undetected among the plays of Fletcher, and might fairly claim to take rank above the lowest class of these. In the finest work of Middleton we recognize an almost exact reproduction of Fletcher's metrical effects,—a reverberation of that flowing music, a reiteration of those feminine final notes. In his later tragi-comedies, throughout his masterpiece of *Women beware Women*, and in the noble scenes which make up the tragic or serious part of *The Changeling* or *The Spanish Gipsy*,—wherever, in a word, we find the admirable but unequal genius of this poet at its best—we find a likeness wholly wanting in his earlier and ruder work, which undoubtedly suggests the influence of Fletcher. Other instances of imitation, other examples of discipleship, might perhaps be found among lesser men of the next generation; but the mass of succeeding playwrights began in a very short time to lower the style and debase the scheme of dramatic poetry; and especially to loosen the last ties of harmony, to deface the very form and feature of tragic verse. In Shirley, the last and least of those in whom the lineal blood of the old masters was yet discernible, we find side by side with the fine ancestral indications of legitimate descent exactly such marks of decadence rather than degeneracy as we might have anticipated in the latest heir of a long line which began with the rise of Marlowe, "son of the morning," in the highest heaven of our song, to prepare a pathway for the sun. After Shakespeare there was yet room for Beaumont and Fletcher; but after these and the other constellations had set, whose lights filled up the measure of that diviner zodiac through which he moved, there was but room in heaven for the pallid moonrise of Shirley; and before this last reflex from a sunken sun was itself eclipsed, the glory had passed away from our drama, to alight upon that summit of epic song whence Milton held communion with darkness and the stars. (A. C. S.)

BÉAUNE, the chief town of an arrondissement in France, in the department of Côte-d'Or, situated on the River Bourzeoise, twenty-three miles S.S.W. of Dijon, on the railway from Paris to Lyons. The town is of poor appearance, but has several buildings of interest, such as the churches of Notre Dame and Saint Pierre, both of the 12th century, the hospital, founded by Nicholas Rollin in 1443, and the belfry of the old town-house. Of more modern erection are the public baths, the theatre, the communal college, and the library. In the 18th century there were no fewer than seven monastic buildings in the town besides a Bernardine abbey, a Carthusian convent,

and a society of priests engaged in educational pursuits. Beaune enjoys considerable commercial prosperity as the principal seat of the Burgundian wine-trade; it also manufactures cloth, cutlery, and leather, and has dye-works, flour-mills, and distilleries. Population in 1871, 10,415.

Beaune appears as a fortified place as early as the 7th century, and for some time was the capital of a separate duchy. United to Burgundy in 1227, it became the first seat of the Burgundian parliament, or *Jours Généraux*, and was the residence of several of the dukes. On the death of Charles the Bold, it sided with his daughter, but was besieged and taken by Louis XI. in 1478. It suffered severely in the wars of the League, prospered in the reign of Henry IV., and was greatly injured by the revocation of the Edict of Nantes.

BEAUSOBRE, ISAAC DE, a learned Protestant writer, of French origin, was born at Niort in 1659, and after studying theology at the Protestant Academy of Saumur, was ordained at the age of twenty-two. He was forced into Holland to avoid the execution of a sentence condemning him to make the *amende honorable* for having broken the royal signet, which was put upon the door of a church of the reformers to prevent the public profession of their religion. He went to Berlin in 1694, and was made chaplain to the king of Prussia, and counsellor of the royal consistory. He died in 1738, aged seventy-nine, after having published several works, among which may be mentioned—(1.) *Défense de la Doctrine des Réformés, sur la Providence, sur la Prédestination, sur la Grâce, et sur l'Eucharistie* (Magdeburg, 1694–8); (2.) A translation of the New Testament, with Notes, jointly with M. Lenfant (1718), much esteemed among Protestants; (3.) *Dissertation sur les Adamites de Bohême*, a curious work; (4.) *Histoire Critique de Manichée et du Manichéisme*, 2 tom. 4to (Amst., 1734–9), a very learned and valuable work, discussing, as Gibbon observes, "many deep questions of Pagan and Christian theology, and forming a rich treasury of facts and opinions;" (5.) Several dissertations in the *Bibliothèque Britannique*. Beausobre had strong sense with profound erudition, and was one of the best writers of his time, and he preached as he wrote, with spirit and ability.

BEAUVAIS, a town of France, capital of an arrondissement in the department of Oise, situated in 49° 26' N. lat. and 2° 14' E. long., about 45 miles N. of Paris, in a valley at the junction of the Avelon and the Therain. The town is irregularly built, but possesses several edifices of historical and architectural interest. Chief among these is the cathedral of Saint Pierre, begun in 1225, continued at intervals till the 16th century by various ambitious projectors, and still incomplete. Its stained glass windows are both ancient and beautiful, though they are rivalled by those of Saint Étienne, another of the older churches in the town. Contiguous to the cathedral is a *basilica* of the 6th century, one of the oldest buildings of the kind in France. The episcopal palace, now used as a court-house, was built in the 16th century. Among the secular buildings are the town-house, dating from 1754, the college, which was formerly an Ursuline convent, a library with upwards of 15,000 volumes, a natural history museum, a theatre, a hospital, and barracks. The industry of Beauvais comprises, besides the weaving of tapestry, which dates from 1664, the manufacture of velvet and various kinds of cotton and woollen goods, leather, and earthenware. An extensive trade is carried on in grain and wine, and the products of the industrial establishments. Beauvais was known to the Romans as *Cæsaromagus*, and took its present name from the Gallic tribe of the *Bellovaci*, whose capital it was. In the 9th century it was erected into a countship, which about 1013 passed to the bishops of Beauvais, who ultimately became peers of France. In 1346 the town had to defend itself against the English, who again besieged it in 1433. The siege which it suffered in 1472 at the hands of the duke of Burgundy was rendered famous by the heroism of the women, under the leadership of Jeanne Hachette, whose memory is still celebrated by a procession on the 14th of October (the feast of Ste Angadrème), in which the women take precedence of the men. Population in 1871, 15,542.

BEAVER, the English name of a genus of Mammals belonging to the order *Rodentia*, the two known species of which are among the largest members of that group. Both beavers, European and American, measure about 2 feet in length, exclusive of the tail, which is about 10 inches long, and are covered with the fur to which they owe their

chief commercial value. This consists of two kinds of hair,—the one close-set, silky, and of a greyish colour; the other much coarser and longer, and of a reddish brown. Beavers are essentially aquatic in their habits, never travelling by land unless driven to it by necessity. Their hind feet are webbed to the nails, and in swimming those only are used, the front legs remaining motionless by the side. They differ from all other rodents in possessing a broad horizontally flattened tail, somewhat oval in form and covered with scales, which they use as an aid to their progress through the water, and not as a trowel for plastering their mud houses as was formerly supposed. The front incisor teeth in each jaw have a sharp chisel-like edge, and are so formed as to preserve this through life. They consist of an outer layer of orange-coloured enamel, and a broad inner layer of a softer substance. As the creature gnaws, the softer material is worn away more rapidly than the enamel, which thus protrudes in a sharp ridge. There is a continuous growth at the roots of those teeth to repair the constant waste that goes on at the cutting edge, so that should one of the incisors be destroyed, the opposite tooth, meeting with no check to its enlargement, will grow to an enormous length; and beavers have been found in which this abnormal growth had proved fatal by preventing the other teeth from coming together. The enamel is exceedingly hard; and, until superseded by English files, those teeth, fixed in wooden handles, were used by the North American Indians in carving their weapons of bone. The question whether the American and European beavers are the same or different species, has given rise to some controversy; but it is now generally conceded, chiefly on anatomical grounds, that they are distinct, although in outward appearance they are almost identical.

The European Beaver (*Castor fiber*) was at one time an inhabitant of the British Isles, having been found, according to Pennant, in certain Welsh rivers as late as the 12th century, while fossil remains of it occur in various parts of the country. In Scandinavia beavers are now extinct,—the last known specimen having been killed in 1844. Isolated pairs are still occasionally met with on the banks of the Rhone, the Weser, and the Elbe; and a considerable number are to be found in one of the parks belonging to the emperor of Austria, on the banks of the Danube, where they are strictly preserved. They also occur, though sparingly, in Russia and Poland, in the streams of the Ural Mountains, and in those which flow into the Caspian Sea. They are said to live in burrows on the banks of rivers, like the common water rat, and to show little of the architectural instinct so conspicuous in the American species; this, however, is probably more owing to unfavourable external conditions than to want of the faculty, for there is at least one well-authenticated instance of a colony of beavers, on a small stream near Magdeburg, whose habitations and dam were exactly similar to those found in America.

The American Beaver (*Castor canadensis*) extends over that part of the American continent included between the Arctic circle and the tropic of Cancer; owing, however, to the gradual spread of population over part of this area, and still more to the enormous quantity of skins that, towards the end of last century and the beginning of the present, were exported to Europe, numbering about 200,000 annually, this species was in imminent danger of extirpation. More recently the employment of silk and of the fur of the South American Coypu in the manufacture of hats, so lessened the demand for beaver skins that the trapping of these animals became unprofitable; and being thus little sought after for many years, they have again become abundant in such of their old haunts as have not yet been occupied by man, so that the trade in beaver

skins has now nearly attained its former proportions. Solitary beavers, always males, and known as "old bachelors," or idlers, are found inhabiting burrows similar to those seen in Europe. These are generally found in the neighbourhood of new townships, and are supposed to be individuals that have remained after the colony had broken up, or that from some cause or another have been expelled from the society of their fellows. The American Beaver, however, is essentially social, inhabiting lakes, ponds, and rivers, as well as those narrow creeks which connect the lakes together. They generally, however, prefer flowing waters, probably on account of the advantages afforded by the current for transporting the materials of their dwellings. They also prefer deepish water, no doubt because it yields a better protection from the frost. When they build in small creeks or rivers, the waters of which are liable to dry or to be drained off, instinct leads them to the formation of dams. These differ in shape according to the nature of particular localities. Where the water has little motion the dam is almost straight; where the current is considerable it is curved, with its convexity towards the stream. The materials made use of are drift wood, green willows, birch, and poplars; also mud and stones intermixed in such a manner as must evidently contribute to the strength of the dam; but there is no particular method observed, except that the work is carried on with a regular sweep, and that all the parts are made of equal strength. "In places," says Hearne, "which have been long frequented by beavers undisturbed, their dams, by frequent repairing, become a solid bank, capable of resisting a great force both of ice and water; and as the willow, poplar, and birch generally take root and shoot up, they by degrees form a kind of regular planted hedge, which I have seen in some places so tall that birds have built their nests among the branches." Their houses are formed of the same materials as the dams, with little order or regularity of structure, and seldom contain more than four old, and six or eight young beavers. It not unfrequently happens that some of the larger houses have one or more partitions, but these are only posts of the main building left by the sagacity of the builders to support the roof, for the apartments, as some call them, have usually no communication with each other except by water. The beavers carry the mud and stones with their fore-paws, and the timber between their teeth. They always work in the night, and with great expedition. They cover their houses late every autumn with fresh mud, which freezing when the frost sets in, becomes almost as hard as stone, and thus neither wolves nor wolverines can disturb their well-earned repose.

The favourite food of the American Beaver is the plant called *Nuphar luteum*, which bears a resemblance to a cabbage stalk, and grows at the bottom of lakes and rivers. They also gnaw the bark of birch, poplar, and willow trees. But during the bright summer days which clothe even the far northern regions with a luxuriant vegetation, a more varied herbage, with the addition of berries, is consumed. When the ice breaks up in spring they always leave their embankments, and rove about until a little before the fall of the leaf, when they return again to their old habitations, and lay in their winter stock of wood. They seldom begin to repair the houses till the frost sets in, and never finish the outer coating till the cold becomes pretty severe. When they erect a new habitation they fell the wood early in summer, but seldom begin building till towards the end of August.

The flesh of the American Beaver is usually eaten by the Indians and the Canadian voyageurs; and when roasted in the skin it is esteemed a delicacy. It is said to taste like pork. The *castoreum* of the beaver is a substance con-

tained in two pyriform sacs, situated near the organs of reproduction, of a bitter taste, and slightly foetid odour, at one time largely employed as a medicine for derangement of the nervous system, as hysteria, &c., but now little used. Fossil remains of both beavers are found in the Tertiary beds of the continents still inhabited by them, accompanied in each case by remains of an extinct species. The latter appear from their remains to have been much larger than those now existing.

BECCAFUMI, DOMENICO, was a distinguished painter of the school of Siena at the beginning of the 16th century. In the early days of the Tuscan republics Siena had been in artistic genius, and almost in political importance, the rival of Florence. But after the great plague in 1348 the city declined; and though her population always comprised an immense number of skilled artists and artificers, yet her school did not share in the general progress of Italy in the 15th century. About the year 1500, indeed, Siena had no native artists of the first importance; and her public and private commissions were often given to natives of other cities. But after the uncovering of the works of Raphael and Michel Angelo at Rome in 1508, all the schools of Italy were stirred with the desire of imitating them. Among those accomplished men who now, without the mind and inspiration of Raphael or Michel Angelo, mastered a great deal of their manner, and initiated the decadence of Italian art, several of the most accomplished arose in the school of Siena. (See articles PERUZZI and SODDOMA.) Among these was Domenico, born about 1488, of a peasant, one Giacomo di Pace, who worked on the estate of a well-to-do citizen named Lorenzo Beccafumi. Seeing some signs of a talent for drawing in his labourer's son, Lorenzo Beccafumi took the boy into his service and presently adopted him, causing him to learn painting from masters of the city. Known afterwards as Domenico Beccafumi, or by the nickname of Mecarino, signifying the littleness of his stature, the peasant's son soon gave proof of extraordinary industry and talent. In 1509 he went to Rome and steeped himself in the manner of the great men who had just done their first work in the Vatican. Returning to his native town, Beccafumi quickly gained employment and a reputation second only, if second, to Soddoma. He painted a vast number both of religious pieces for churches and of mythological decorations for private patrons, many of which are still to be seen where they were executed. But the work by which he will longest be remembered is that which he did for the celebrated pavement of the cathedral of Siena. For a hundred and fifty years the best artists of the state had been engaged laying down this pavement with vast designs in *compresso* work, — white marble, that is, engraved with the outlines of the subject in black, and having borders inlaid with rich patterns in many colours. From the year 1517 to 1544 Beccafumi was engaged in continuing this pavement. He made very ingenious improvements in the technical processes employed, and laid down multitudinous scenes from the stories of Ahab and Elijah, of Melchisedec, of Abraham, and of Moses. These are not so interesting as the simpler work of the earlier schools, but are much more celebrated and more jealously guarded. Such was their fame that the agents of Charles I. of England, at the time when he was collecting for Whitehall, went to Siena expressly to try and purchase the original cartoons. But their owner would not part with them, and they are now the property of the cathedral works. The subjects have been engraved on wood, by the hand, as it seems, of Beccafumi himself, who at one time or another essayed almost every branch of fine art. He made a triumphal arch and an immense mechanical horse for the procession of Charles V. on his entry into Siena. In his later days, being a solitary liver and con-

tinually at work, he is said to have accelerated his death by over-exertion upon the processes of bronze-casting. He died in 1551. (Vasari, ed. Lemonnier, x. 176-197; Ugurgieri, *Pompe Sanese*; G. Milanese, *Documenti*, &c.)

BECCARIA, CESAR BONESANA, MARQUIS, a celebrated writer on the principles of jurisprudence and national economy, was born at Milan in the year 1735. He was educated in the Jesuit College at Parma, and showed at first a great fondness and aptitude for mathematics. The study of Montesquieu seems to have directed his attention towards economical questions; and his first publication (in 1762) was a tract on the derangement of the currency in the Milanese states, with a proposal for its remedy. Shortly after, in conjunction with his friends the Verris, he formed a literary society, and began to publish a small journal, in imitation of the *Spectator*, called *Il Caffè*. In 1764 Beccaria published his brief but justly celebrated treatise *Dei Delitti e delle Pene* ("On Crimes and Punishments"). The weighty reasonings of this work were expounded with all the additional force of a clear and animated style. It pointed out distinctly and temperately the grounds of the right of punishment, and from these principles deduced certain propositions as to the nature and amount of punishment which should be inflicted for any crime. The book had a surprising success. Within eighteen months it passed through six editions. It was translated into French by Morellet in 1766, and published with an anonymous commentary by Voltaire. An English translation appeared in 1768, and other countries followed the example. Many of the reforms in the penal codes of the principal European nations are traceable to Beccaria's treatise. In November 1768 the marquis was appointed to the chair of public law and economy, which had been founded expressly for him at the Palatine College of Milan. His lectures on political economy, which are based on strict utilitarian principles, are in marked accordance with the theories of the English school of economists. They are published in the collection of Italian writers on political economy (*Scrittori Classici Italiani*, vols. xi. and xii.) In 1771 Beccaria was made a member of the supreme economic council; and in 1791 he was appointed one of the board for the reform of the judicial code. In this post his labours were of very great value. He died in 1793. A notice of his life will be found prefixed to his lectures, referred to above.

BECCARIA, GIOVANNI BATTISTA, a distinguished electrician and practical astronomer, was born at Mondovi on the 2d of October 1716, and entered the religious order of the Pious Schools in 1732. He became professor of experimental physics, first at Palermo and then at Rome, and was appointed to a similar situation at Turin in 1748. He was afterwards made tutor to the young princes de Chablais and de Carignan, and continued to reside principally at Turin during the remainder of his life. In May 1755 he was elected a fellow of the Royal Society of London, to which he afterwards communicated several papers relating to his favourite pursuits. He died on the 27th of May 1781. Beccaria's name is associated with no great discovery in physical science; but he did much, both in the way of experiment and exposition, to spread abroad the researches of Franklin and others in the science of electricity. His own experiments, which were skilfully conducted, demonstrated a number of curious facts bearing on the relations of electricity to meteorological phenomena, to chemical action, and to some other points which have been since more thoroughly investigated. His principal work was the treatise *Dell'Elettricismo Artificiale e Naturale*, 1753, which was translated into English in 1776. He also contributed a number of papers to the *Philosophical Transactions*. In 1759 he was commissioned to measure an arc of the meridian in the neighbourhood of Turin.

The result, which he published in the *Gradus Taurinensis*, 1774, is not now considered perfectly correct.

BECCLES, a market-town and municipal borough, in the county of Suffolk, on the right bank of the River Waveney, 32 miles N.N.E. of Ipswich. It consists of several streets, is well built, and contains a fine old parish church, enlarged and repaired in 1859, several dissenting chapels, a free school, founded in the reign of James I., a free grammar school, a handsome town-hall, a custom-house, and a corn exchange. Malting is carried on to some extent; and by means of the river, which is navigable from Yarmouth, a considerable trade in coals and produce is carried on. The incorporation of the town dates from 1584. Population in 1871, 4844.

BECCERRA, GASPAR, a distinguished Spanish painter and sculptor, was born at Balza in 1520. He studied at Rome, it is said under Michel Angelo, and assisted Vasari in painting the hall of the Concelleria. He also contributed to the celebrated anatomical plates of Valverde. After his return to Spain he was extensively employed by Philip II., and decorated many of the rooms in the palace at Madrid with frescoes. He also painted altar pieces for several of the churches, most of which have been destroyed. His fame as a sculptor almost surpassed that as a painter. His best work was a magnificent figure of the Virgin, which was destroyed during the French war. Becerra died in 1570. The most competent judges assign to him the chief share in the establishment of the fine arts in Spain.

BÈCHE-DE-MER, or TREPANG, an important food luxury among the Chinese, Japanese, and other Eastern peoples, connected with the production of which a very considerable commerce exists in the Eastern Archipelago, the coasts of New Guinea, and generally on the coral reefs of the Pacific. It consists of several species of echinoderms, generally referred to the genus *Holothuria*; but very many varieties, widely distributed in Eastern seas, are prepared and sold in Chinese and Japanese markets. The creatures, which exist on coral reefs, have bodies from 6 to 15 inches long, shaped like a cucumber, hence a name they receive, — sea cucumbers. The skin is sometimes covered with spicules or prickles, and sometimes quite smooth, and with or without "teats" or ambulacral feet disposed in rows. Five varieties are recognized in the commerce of the Pacific Islands, the finest of which is the "brown with teats," which are worth, at the place of their preparation, £30 per ton. The large black, which come next in value, bring £25 per ton; the small black £20, red bellied £15, and white £12. The finest of these sell for as much as £100 per ton in China, where they are used in the gelatinous soups, which form an important article of food in that empire. The preparation of the creatures when caught is very simple. They are boiled for about twenty minutes, after which they are split up and gutted, when they are ready for drying. The drying is conducted in large sheds on hurdles placed above a brisk fire. The dried Bêches-de-mer being very hygrometric, it is necessary that they be immediately packed up and shipped on the conclusion of the drying process; and unless they are thoroughly dry decomposition sets in rapidly and destroys the entire cargo.

BECHER, JOHANN JOACHIM, a celebrated chemist, born at Spire in 1635. His father, a Lutheran clergyman, died while he was very young, and the boy was compelled to support himself by teaching. He was a diligent student, and acquired a very extensive acquaintance with chemistry and allied sciences. In 1666, after having travelled through some parts of Europe, he was made professor of medicine at Mentz. He then removed to Munich, where he superintended the magnificent laboratory. His somewhat turbulent and unbending disposition obliged him to leave Bavaria, and he proceeded to Vienna, where he gained

the friendship of Zinzendorf. He was made member of the council of commerce, and proposed various commercial schemes to the Austrian Government. He soon quarrelled with Zinzendorf; and about 1678 we find him at Haarlem. After a short time he visited England and Scotland, inspecting their mines. He died in 1682, it is said at London. He wrote many works, the principal of which are—(1), *Physica Subterranea*, which was printed at Leipsic in 1703 and 1739, in 8vo, with a small treatise by E. Stahl, entitled *Specimen Becherianum*; (2), *Experimentum chymicum novum*, 8vo; (3), *Character pro Notitia Linguarum universalium*; (4), *Institutiones Chymicæ, seu Manuductio ad Philosophiam Hermeticam*, 4to; (5), *Institutiones Chymicæ, seu Edipus Chemicus*, 12mo; (6), *Experimentum novum ac curiosum de Miniaria arenaria perpetua, &c.* In some respects he anticipated Stahl, whose phlogistic theory is an extension of what he says. He was also the discoverer of boracic acid.

BECHWANA, or BETJUANA, the name of a nation extending over a large tract of the interior of South Africa, lying between 22° and 28° S. lat. and 22° and 29° E. long. There are remains as well as traditions indicating that they once occupied lands further to the south and north of their present boundaries. The country is bounded on the W. by what may be called the southern Sahara; on the E. by the Limpopo, and on the N. by the Matebele, a tribe which escaped the power of the Chaka, the bloody chief of the Zulus. The country, though hilly and undulating, abounds in grassy plains and considerable forests of acacia. Trees, however, are scarce, as the grass is generally burned off every year; and the young wood is thus not allowed time to grow. The natives also, in order to get fresh garden ground and obtain branches to raise their houses and make fences, are constantly destroying trees, and thus increasing the dryness and sterility of the country. It is evident, from the dry beds of what were once rivers and from remains of ancient forests, that, at an early period, the country must have been abundantly watered. From the many cattle folds and walls of defence scattered over the country, and ruins of ancient towns, it is also evident that at that period stone-dykes were very common.

The number of the Bechwana has been variously estimated, and according to some amounts to more than 200,000. Their language is copious, with but few slight dialectic differences, being entirely free of the Hottentot elements found in the Kaffre and Zulu. The power of the language which, like the Kaffre and Zulu, belongs to the Ba-nta family, formerly unwritten, may be conceived when it is known that, besides elementary and educational works, the whole of the Bible has been translated into it and is now read by thousands.

The Bechwana are divided into numerous tribes, all independent of each other, and each governed by its own chiefs and councillors. The names of some of the principal tribes are Batlapee, Barolong, Bangwaketse, Bakhatla, Bakuena, Bamangwato, and Batauana, the last living near the lake Ngami, first visited by Dr Livingstone. There are numerous minor divisions, with laws and customs very similar. With the exception of the Balala (the poor inhabiting the country), they are not nomadic, but live in towns of considerable size, containing from 5000 to 40,000. Doubtless, their former warlike habits had the tendency to induce them to congregate for security; for latterly they live, for the sake of agriculture and pasturage, in many formerly uninhabited places.

Though from time immemorial they had been engaged in constant strife with each other, and thus inured to warfare, they were no match for the warlike Kaffre and butchering Zulu and Matebele. Since the introduction of Christianity among the Bechwana, their clannish strifes have ceased;

and, being a people of industrious habits, and acute observers of whatever may increase their property and comfort, they go in great numbers to Cape Colony and other parts where they can obtain labour and wages, being prized as servants. This enables them to return enriched to their homes in a few years.

The government of the Bechwana may be said to be both monarchical and patriarchal, and of a comparatively mild character, the king, as chief, seldom exercising his individual authority independent of his councillors and subordinate chiefs. They have their public assemblies (parliaments), but only when circumstances, chiefly in reference to war, require. These are generally characterized by great freedom of speech, and sometimes the king's shortcomings are unsparingly dealt with. All is taken in good part, and there is no interruption of the speaker occupying the arena. The king generally closes the meeting with a long speech, referring to the subjects which each speaker had either supported or condemned, not forgetting to endeavour to clear his own character of any imputation. These public assemblies are now of very rare occurrence.

The Bechwana are well formed, dark brown or bronze, and the majority handsome and not assimilated to the negro type. In most the lower part of the face projects, but the skull exhibits no difference from the European type, and many have broad high foreheads, while there is nothing to be seen like the bent-out legs of the negro. The lips are generally thicker than in Europeans, and many have the nostrils wider. The hair is not wool, but simply hair curled and frizzled. They possess the knowledge of smelting iron and copper ore, and make hoes for husbandry, spears, battle-axes, tools, and a great variety of ornaments, chiefly of brass and other alloys. They prepare the skins of animals, and fabricate a variety of utensils. Agriculture and house-building (in which more skill and labour are required than with African huts in general, the houses being always round and admirably adapted to resist high and stormy winds) are the work of the women, while the men make the garments, hunt, and go to war when required.

The wealth of the Bechwana consists in their cattle, which they tend with the greatest care, manifesting a shrewd discrimination of localities and pasture suited to oxen, sheep, and goats. Living in a warm climate, they require few garments; but, though to a European they appear scantily dressed, both sexes are strictly decent, and are disgusted by the comparative nudity of the Kaffre and Matebele. Circumcision is practised, and for that purpose youths are selected from 10 to 13 years of age; these retire from the towns, the place in which they are being considered sacred till the season of seclusion, a month or more, is over, when they are allowed to return to their friends, and are looked on as men ready to go to war. The people have many ceremonies and superstitions, believing in the influence of witchcraft and charms, but no one of these has the most remote reference to religion. They have no knowledge whatever of idols, or anything intended to represent an invisible power, and consequently have nothing of a religious character. They do not possess a vestige of worship. With regard to a divine Being their ideas are vague in the extreme. The name *morimo*, from *mo*, a personal pronoun, and *rimo*, from *gorimo* (above), instead of being applied to something or some one heavenly—the Creator, Upholder, and Ruler of all—is applied to something that does harm, that inflicts death, or, according to some, a noxious creature that sometimes emerges from a hole to do mischief. So little do the natives care about it, that it never enters into their minds to have recourse to a charm, or anything of a fetish character, to ward off the influence it might be thought to possess. They never allow their thoughts to pierce beyond the moment of death, which is to them the finale of man's existence. Among some of the interior nations there is a belief in the manes of dead kings of note, but not of the commonalty. Dr Moffat was once present when Moselekatsé, the king of the Matabele, in a meeting in the midst of his nobles, the king of the Matabele, the spirit of Mar-lobane, his long deceased father. Whatever worship the Bechwana of old may have had, they have none now, not even of any of the animals—the fish, crocodile, monkey, &c.—from which some of the tribes are named. They have a superstitious dread of some things, which, in most if not in all cases, originates with the rainmaker. This is a notable character among all the interior tribes, and possesses supreme influence over the native mind. He has only to speak and it is done, whatever his orders may be. He pretends to give medicine to the clouds, and has recourse to all sorts of tricks and demands on his impatient dupes in order to gain time. Very frequently, when all fails, he falls a sacrifice to their wrath.

The country of the Bechwana south of the tropic of Capricorn is healthy, and admirably suited for pulmonary complaints. The temperature ranges from zero to 105°, and when it exceeds this, as it sometimes does, heavy thunderstorms follow, and not unfrequently hail falls of great size. The principal products are a variety of species of millet (*Holcus Sorghum*), kidney beans, pumpkins, water melons, sweet reed, &c.

The resources and capabilities of the country are small. Hitherto the exports have been principally ostrich feathers, ivory, and cattle; but the first two are become very scarce since the introduction of the horse and rifle. The elephant is now found principally in the regions where the tsetse fly abounds, and where horses cannot live, while the ostrich betakes itself to the deserts. (R. M.)

BECK, or BEEK, DAVID, an eminent portrait painter, born in 1621, at Arnheim in Guelderland. He was trained by Vandyck, from whom he acquired the fine manner of pencilling and sweet style of colouring peculiar to that great master. He possessed likewise that freedom of hand and readiness, or rather rapidity of execution, for which Vandyck was so remarkable, inasmuch that when King Charles I. observed the expeditious manner of Beck's painting, he exclaimed, "Faith! Beck, I believe you could paint riding post." He was appointed portrait-painter and chamberlain to Queen Christina of Sweden, and he executed portraits of most of the sovereigns of Europe to adorn her gallery. He lived in the highest favour with his royal mistress, and with difficulty obtained a short leave of absence from her court. He died soon after (1656) at the Hague, not without suspicion of having been poisoned.

BECKER, WILHELM ADOLF, a classical archaeologist of distinction, was born at Dresden in 1796. He was at first destined for a commercial life, but was, in 1812, sent to the celebrated school at Pforta, whence, in 1816, he passed to the University of Leipsic. Here he had the good fortune to study under the famous Hermann. After holding subordinate posts at Zerbst and Meissen, he was, in 1836, appointed extraordinary professor of classical archaeology at Leipsic; and six years later he was raised to the professorship of antiquities in the same university. He died at Meissen in September 1846. The works by which Becker is most widely known are the *Gallus, oder römische Scenen aus der Zeit des Augustus*, 1838, and the *Charicles, oder Bilder altgriechischen Sitte*, 1840. The author shows not only a complete mastery of Greek and Roman antiquities, but a very happy faculty of imparting life to the dry bones of the science. Both works have been translated into English. Perhaps more useful for scholars is the great *Handbuch der röm. Alterthümer*, 5 vols. (1843-64), completed after Becker's death by Marquardt, and of which a second and enlarged edition is now in course of publication.

BECKET, or A BECKET, THOMAS. See A BECKET, vol. i. p. 31.

BECKFORD, WILLIAM, an English author, the son of Alderman Beckford, who was noted for his manly reply to George III. on the presentation of an address from the city of London, was born in 1761. At the age of nine he inherited a large fortune from his father; and in early life he travelled in Italy, Sicily, Spain, and Portugal, and resided some time near Cintra, where he had a princely residence. He afterwards returned to England, and after selling his old house of Fonthill began to build a magnificent residence there, on which he expended in about eighteen years the sum of £273,000. This, together with its splendid library and pictures, he sold to Mr Farquhar in 1822; but soon after one of the towers, 260 feet high, fell, destroying part of the villa in the ruins. Beckford, however, began the erection of another lofty structure on Lansdowne-hill, near Bath, where he continued to reside till his death in 1844. He was a powerful and original writer. His first work, *Biographical Memoirs of Extraordinary Painters*, which appeared in 1780, was a slight sarcastic *jeu d'esprit*. In 1784 he published in French the singular tale entitled *History of the Caliph Vathek*, which soon afterwards appeared in English, and has taken its place as one of the finest productions of richly luxuriant imagination. In 1834 his first Continental tour appeared under the title of *Letters from Italy, with Sketches of Spain and Portugal*, a work never, perhaps, surpassed for

striking description and refined sarcasm. His latest production, published in 1835, was entitled *Recollections of an Excursion to Alcobara and Batallia in 1794*. All these works exhibit cultivated taste and a remarkable power of vivid description. He left two daughters, the eldest of whom was married to the 10th duke of Hamilton.

BECKMANN, JOHANN, the author of the *History of Inventions*, was born in 1739 at Hoya in Hanover, where his father was postmaster and receiver of taxes. His mother, who was left a widow before he was seven years of age, sent him to school at Stade; and in 1759 he repaired to the University of Göttingen with the intention of studying theology, which, however, he soon abandoned in favour of natural science. The death of his mother in 1762 having deprived him of his former means of support, he accepted, at the offer of Busching, the professorship of natural history in the Lutheran Academy, St Petersburg. This office he soon relinquished, and journeyed through Sweden, where he inspected the manner of working the mines, and formed the acquaintanceship of Linnæus at Upsala. In 1766 he was appointed professor at Göttingen. There he lectured on various arts and on political and domestic economy, and was in the habit of leading his students into the workshops that they might acquire a practical as well as a theoretical knowledge of different processes and handicrafts. While thus engaged he determined to trace the history and describe the present condition of each of the arts and sciences on which he was lecturing, being perhaps incited by the *Bibliotheca* of Haller. But even Beckmann's industry and ardour were unable to overtake the amount of study necessary for this task. He therefore confined his attention to several practical arts and trades; and to these labours we owe his *Notices on the History of Discoveries in the Common Arts of Life*,—a work in which he relates the origin, history, and recent condition of the various machines, utensils, &c., employed in trade and for domestic purposes. In 1772 Beckmann was elected a member of the Royal Society of Göttingen, and he contributed valuable scientific dissertations to its proceedings until 1783, when he withdrew from all further share in its work. After having been admitted into almost all the learned societies of Germany, and after having impressed on the minds of his numerous students a tendency to pursuits of practical utility, Beckmann died on the 3d of February 1811. His works display great natural sagacity, as well as profound and varied research. Besides the *History of Inventions* he wrote an interesting, but unfinished, *History of the Earliest Voyages made in Modern Times*, and produced editions of a work ascribed to Aristotle, of the *Wonderful Histories* of Antigonus Carystius, and of Marbodius's *Treatise on Stones*. These editions display a rare union of physical knowledge with philological learning. Beckmann was a man of extreme modesty; and his candour and sincerity, as well as his affability to those who studied under him, were acknowledged with one consent by his colleagues and his scholars.

BEDARRIEUX, a town of France, in the department of Hérault, situated on the River Orb, with a station on the branch railway from Béziers to Graissessac. It is a neat and well-built town, and carries on a variety of industries, among the most important of which are the weaving of cotton and woollen cloth and the manufacture of hats, paper, leather, and oil; while at Clairac in the neighbourhood there are glass-works and a copper-foundry. Most of the produce is exported to Africa and the Levant. Not far from the town there is a thermal establishment open all the year round. In the end of the 18th century the population was only 250; in 1872 it was 8985.

BEDDOES, THOMAS, a physician and scientific writer, was born at Shiffnall, in Shropshire, 13th April 1760.