

first printing-press was introduced in 1811, and the first sugar-mill in 1823. In 1858 railway communication was established to Joazeiro.

BAHRDT, KARL FRIEDRICH, a German theologian, distinguished for his extreme rationalism and his erratic life, was born in 1741 at Bischofswerda, of which place his father, afterwards professor of theology at Leipsic, was for some time pastor. He was educated chiefly at the celebrated school of Pforta, and afterwards entered the university of Leipsic, where he studied theology, and at first attached himself to the strongly orthodox party headed by Crusius. After graduation he lectured for a time as adjunct to his father, and then with the rank of catechist proceeded to Leipsic, where he became exceedingly popular as a preacher, and was appointed extraordinary professor of Biblical philology. During this period of his life he published a popular book of devotions, called the *Christian in Solitude*. In 1768 the notorious irregularity of his conduct necessitated his resignation and his departure from Leipsic. By some influence he obtained a professorship of Biblical antiquities in the philosophical faculty of the new university of Erfurt, and having procured a theological degree from Erlangen, he again began to read theological lectures. His orthodoxy had by this time completely vanished; he was an avowed rationalist of the extreme school, and with great diligence and ability sought to popularise the principles of his creed. At the same time his bitter and quarrelsome disposition embroiled him with his colleagues, and in 1771 he left Erfurt, but obtained another professorship at Giessen. Here also the bold expression of his opinions cut short his tenure of office; in 1775 he resigned and became director of Von Salis's educational establishment, the philanthropin at Marschlins, a post he held for only one year. For a brief period he acted as general superintendent at Dürkheim, and then endeavoured, but unsuccessfully, to set up an educational institution at Heidesheim. He had now become most obnoxious to the German Government, who prohibited him from lecturing or publishing any work on theology, or from holding any professorial office. In 1779 he took refuge in Halle, where he resided for ten years, lecturing in the forenoon on moral philosophy, and officiating in the afternoon as landlord of a public-house which he had opened at the gate of the town, and which was largely patronised by the students. In 1789 he was arrested, partly on account of a pasquinade he had written upon the Prussian religious edict, and was condemned to two years imprisonment. The period of his confinement, reduced by the king to one year, was employed by Bahrdt in writing memorials of his life and opinions. After his release he continued his former course of life, and died after a severe illness, 23d April 1792. His numerous works, including a translation of the New Testament, are comparatively worthless, and are written in an offensive tone. He has been well called by Herzog a caricature of the rationalism of the 18th century.

BAHREIN, the principal island of a cluster in the Persian Gulf, in an indentation of the Arabian coast. It is about 70 miles long and nearly 25 broad, and is very flat and low except towards the east, where a range of hills attain an elevation of 800 or 900 feet. The climate is mild, but humid, and rather unhealthy. The soil is for the most part fertile, and produces rice, pot herbs, and fruits, of which the citrons are especially good. Water is abundant, but frequently brackish. Fish of all kinds abound off the coast, and are very cheap in the markets. The inhabitants are a mixed race of Arab, Omanite and Persian blood, slender and small in their physical appearance; they possess great activity and intelligence, and are known in all the ports of the Persian Gulf for their commercial and industrial ability. The

traffic in the island itself is great and various, the harbour of Manama, which admits vessels of 200 tons, being largely frequented by ships from Persia, Sindh, India, &c. This town, which has in some respects supplanted the older and more inland Ruffin, is well built, and contains about 25,000 inhabitants; and there are besides about 15 villages in the island. There is a city of almost equal extent in the neighbouring and smaller island of Mohanek, but the trade is not so great. Bahrein has from a remote period been famous for its pearl fishery, which produces the finest pearls in the world. The Portuguese obtained possession of the islands in 1507, but were driven from their settlements in that quarter by Shah Abbas in 1622. The islands afterwards became an object of contention between the Persians and Arabs, and at last the Arabian tribe of the Athubis made themselves masters of them in 1784. Since then they have been for some time subject more or less to the Wahabees, whose interference has greatly damaged the commerce of the ports, and led to extensive emigration of the inhabitants. (See Palgrave, in *J. Roy. Geo. Soc.*, vol. xxxiv.)

BALE, an ancient town of Campania, Italy, situated between the promontory of Misenum and Puteoli, on the Sinus Baianus, and famous for its warm springs and baths, which served the wealthier Romans for the purposes both of health and pleasure. The variety of these baths, the mildness of the climate, and the beauty of the landscape, captivated the minds of the opulent nobles. The habitations at first were small and modest; but increasing luxury added palace to palace, and enterprising architects, supported by boundless wealth, laid the foundations of new erections in the sea. From being a place of occasional resort for a season, Baia grew up into a city, and the confluence of wealthy inhabitants rendered it as much a miracle of art as it had before been of nature, though it never attained the rank of a *municipium*, but continued to be dependent on Cumæ. C. Marius, Lucullus, Pompey, and Julius Cæsar are among the most remarkable of those who gave éclat to Baia during the republic; and at a later period it was a favourite resort of Nero, Caligula, Hadrian, and Severus. It flourished till the days of Theodoric the Goth; but its destruction followed quickly upon the irruption of the northern conquerors. When the guardian hand of man was withdrawn, the sea reclaimed its old domain; moles and buttresses were washed away; and promontories, with the proud towers that once crowned their brows, were undermined and tumbled into the deep. Innumerable ruins, heaps of marble, mosaics, and other relics of the past, attest the ancient splendour of the city. The most remarkable are the so-called temples of Mercury, Venus, and Diana, and various buildings which, rightly or wrongly, have been assigned to the more famous of those who are known to have had villas in the town. The *Castello di Baja* was built in the 16th century by Pietro di Toledo. Long. 14° 3' E., lat. 40° 50' N.

BAIBURT, a town of Asiatic Turkey, in the pashalic of Erzeroum, and 65 miles W.N.W. from that city. According to Neumann it was an Armenian fortress in the 1st century, and it is identified by Ritter with the *Baiberdon* fortified by Justinian. It was afterwards one of the strongholds of the Genoese, when prosecuting their trade with India. Remains of their fortifications still exist, but in a very dilapidated state, the Russians having blown up the defences in 1829. (See view in Yule's *Marco Polo*, vol. i.) Population of town about 6000.

BAIF, JEAN ANTOINE DE, poet of the French Renaissance and member of the Pleiad, was the natural son of Lazare de Baif and an Italian girl. He was born in 1532 at Venice, where his father was residing as French ambassador. Thanks, perhaps, to the surroundings of his childhood, he

grew up a fanatic for the fine arts, and surpassed in zeal all the leaders of the Renaissance in France. Besides writing an immense number of short poems of an amorous or congratulatory kind, he translated or paraphrased various pieces from Bion, Moschus, Theocritus, Anacreon, Catullus, and Martial. He resided in Paris, enjoyed the continued favour of the court, and founded the Académie Royale de Musique; his house became famous for the charming concerts which he gave, entertainments at which Charles IX. and Henry III. frequently flattered him with their presence. He was a dear friend of Ronsard and the other members of the Pleiad. His works were published in 4 thick volumes, entitled *Amours, Jeux, Passetemps, et Poèmes* (1571-74), containing, among much that is now hardly readable, some pieces of infinite grace and delicacy. He died in 1589 or 1591. His father, Lazare de Baif, published a translation of the *Electra* of Sophocles in 1537, and afterwards a version of the *Hecuba*, was an elegant versifier in Latin, and is commended by Joachim du Bellay as having introduced certain valuable words into the French language.

BAIKAL (*i.e.*, *Baïakhal*, or Abundant Water), a great fresh-water lake of Siberia, in the government of Irkutsk, 397 miles in length from S.W. to N.E., and from 13 to 54 miles in breadth, with an area of about 12,500 square miles. This vast reservoir is situated 1360 feet above the level of the sea, in the midst of steep mountain ranges, that often rise sheer from the water's edge in lofty walls of syenite, gneiss, or conglomerate, while elsewhere their sloping flanks are thickly clad with dark forests of coniferous trees. The lake is fed by several rivers,—the Upper Angara, the Selenga, which descends from the basin of Lake Kossogol; the Barguzin, and others; while the only visible outlet is by the Lower Angara, a tributary of the Yenisei. The water is excellent, and is extremely clear, so that the bottom can be seen at the depth of 8 fathoms. The depth of the lake varies from 22 to upwards of 300 fathoms. It yields abundance of salmon, and there is a profitable fishery of seals on its shores during the whole summer. The climate is extremely severe; and the lake, which is frozen over from November to May, is almost perpetually swept by the wind. It facilitates, however, the Russian trade with China, and that between Irkutsk and Dauria. It is navigated by the Russians in summer, and in winter they cross it on the ice. Europeans embarked on its waters for the first time in 1643. Steam-vessels were introduced in 1846, and the passage across is made in about eight hours. Several hot springs and mineral waters are seen on the margin, and naphtha is sometimes found floating on the surface. The lake is between 51° 20' and 55° 30' N. lat., and 103° and 110° E. long. The island of Olkhon, near its north shore, is 32 miles long and nearly 10 broad. This island and the southern borders of the lake are inhabited by Mongolian tribes, while towards the north the Tunguses are to be found in gradually diminishing numbers. (See "Description du lac de Baikal," trad. du russe par M. Klapproth, in *Nouv. Ann. des Voy.* t. xvii. p. 289; Erman's *Siberia*, 1848. Semenov, *Slovar Ross. Imp.*)

BAIKIE, WILLIAM BALFOUR, M.D., eldest son of Captain John Baikie, R.N., was born at Kirkwall, Orkney, on the 21st August 1824. He studied at Edinburgh, and, on obtaining his degree, joined the royal navy. He early attracted the notice of Sir Roderick Murchison, through whom he was appointed surgeon and naturalist to the Niger Expedition of 1854. The death of the senior officer occurring at Fernando Po, Dr Baikie succeeded to the command. The results of the voyage are given in his own and other narratives. Ascending the river about 250 miles beyond the point reached by former explorers, the

little steamer *Pleiad* returned and reached the mouth after a voyage of 118 days without the loss of a single man. The second expedition started in March 1857. After two years passed in exploring, the navigating vessel was wrecked in passing through some of the rapids of the river, and Dr Baikie was unable longer to keep his party together. All returned home but himself; no way daunted, he determined single-handed to carry out the purposes of the expedition. Landing from a small boat with one or two native followers at the confluence of the Quorra and Benue, he here chose the old model farm ground as the base of his future operations—a spot memorable from the disasters of the exploring party of 1841. After purchasing the site, and concluding a treaty with the native chief, he proceeded to clear the ground, build houses, form enclosures, and pave the way for a future city. Numbers flocked to him from all parts round, and in his settlement were representatives of almost all the tribes of Central Africa. To the motley commonwealth thus formed he acted not merely as ruler, but also as physician, teacher, and priest. Before five years he had opened up the navigation of the Niger, made roads, and established a market, to which the native produce was brought for sale and barter. He had also collected vocabularies of nearly fifty African dialects, and translated portions of the Bible and prayer-book into Hausa. Once only during his residence had he to employ armed force against the surrounding tribes. He died on his way home, at Sierra Leone, in November 1863, aged thirty-nine years. An appropriate monument has been erected to his memory within the nave of the ancient cathedral of St Magnus.

BAIL (*Ballium*) is used in common law for the freeing or setting at liberty of one arrested or imprisoned upon any action, either civil or criminal, on surety taken for his appearance at a certain day and place.

BAILÉN, a town of Spain, in the province of Jaen, 24 miles N.N.W. of Jaen. It seems to correspond to the ancient *Bæcula*, where Scipio gained signal victories over Hasdrubal, 209 B.C., and over Mago and Masinissa, 206 B.C. (Polyb., x. 38, xi. 20; Liv., xxvii. 18-20, xxviii. 13). In the neighbourhood also, in 1212, was fought the great battle of Navas de Tolosa, where Alphonso VIII. is said to have left 200,000 Moors dead on the field, with the loss of only 25 Christians. Here again, on the 23d of July 1808, the French general Dupont, after a bloody contest of several days, signed the capitulation of Bailen, by which 17,000 men were delivered up to the Spaniards as prisoners of war. This disaster was the first great blow to the French arms in the Peninsula. There is nothing remarkable about the town, except the ruins of a castle, formerly belonging to the counts of Benavente, and now the property of the Osuna family. Glass and tiles are manufactured, and the weaving of cloth and pressing of olives are carried on. Population, 7831. (Madoz, *Diccionario*; Ukert, vol. x. p. 379.)

BAILEY, or BAILY, NATHANIEL or NATHAN, an eminent English philologist and lexicographer, whose *Etymological English Dictionary*, published apparently in 1721, was a great improvement on all previous vocabularies, and really formed the basis of Johnson's great work. It is still worthy of being consulted for information with regard to the change of signification in certain words, and to the date at which others were introduced into the language. Bailey had a school at Stepney, near London, and was the author of *Dictionarium Domesticum* and several other educational works. He died in 1742.

BAILEY, SAMUEL, an able writer on philosophical and literary subjects, was born at Sheffield in 1791. His father carried on a large general business in that town, and for some years the son devoted himself to mercantile pur-

suits. It was not long, however, before he gave up this occupation, and, having a competent fortune, withdrew from all business concerns, with the exception of the Sheffield Banking Company, of which he was chairman for many years. Although an ardent Liberal of most advanced views, he took little or no active part in political affairs. On two occasions, at the earnest solicitation of his numerous friends and admirers, he stood for Sheffield, but without success. The "Bentham of Hallamshire," as he has been called, was of too retiring a disposition, and had too much of the philosophical politician about him to win the admiration or suffrages of an ordinary body of electors. His life is for the most part a history of his numerous and varied publications, and his name is known to a very limited circle. The intimation of his sudden death on the 18th January 1870, with the subsequent notice of his munificent gift of £90,000 to his native town, excited some curiosity and interest, which, however, quickly died away. This is not quite as it should be. Bailey has certainly given to the world no work of first-rate importance, but there are few authors of modern times who have written more elegantly and clearly, or with more originality of treatment, on the various problems of psychology and political science. His first work, *Essays on the Formation and Publication of Opinions*, published anonymously in 1821 (2d ed. 1826, 3d ed. 1837), a thoughtful, practical, and clearly written treatise, has attracted a greater share of public attention and favour than any of his other writings. A sequel to it appeared in 1829, *Essays on the Pursuit of Truth, on the Progress of Knowledge, and on the Fundamental Principle of all Evidence and Expectation* (2d ed. 1844). Intermediate between these two were *Questions on Political Economy, Politics, Morals, &c.*, 1823, and a *Critical Dissertation on the Nature, Measure, and Causes of Value*, directed against the opinions of Ricardo and his school. His next publications were also on economic or political subjects, *Rationale of Political Representations*, 1835, and *Money and its Vicissitudes*, 1837; about the same time also appeared some of his pamphlets, *Discussion of Parliamentary Reform, Right of Primogeniture Examined, Defence of Joint-Stock Banks*. Bailey seems then to have turned his attention almost entirely to speculative philosophy. In 1842 appeared his *Review of Berkeley's Theory of Vision*, an acute and able work, which called forth rejoinders from J. S. Mill in the *Westminster Review* (reprinted in *Dissertations*), and from Ferrier in *Blackwood* (reprinted in *Lectures and Remains*, ii.) Bailey replied to his critics in *A Letter to a Philosopher, &c.*, 1843. In 1851 he published one of his best works, *Theory of Reasoning* (2d ed. 1852), a thoughtful discussion of the nature of inference, and an able criticism of the functions and value of the syllogism. In 1852 he published *Discourses on Various Subjects*; and finally summed up his philosophic views in the *Letters on the Philosophy of the Human Mind* (three series, 1855, 1858, 1863), which is at once the most considerable and the most valuable of his contributions to mental science. Bailey had not entirely given himself up to abstract studies; in 1845 he had ventured on poetical composition. *Maro*, a poem in four cantos (85 pp., Longmans), contains a somewhat lively description of the mental state of a young poet who printed 1000 copies of his first poem, of which only 10 were sold. He had also been a diligent student of Shakespeare, and his last literary work was the treatise, in two volumes, *On the Received Text of Shakespeare's Dramatic Writings and its Improvement*. It must be confessed that many of the emendations suggested by him are more fantastic than felicitous.

The *Letters* contain, in clear and lively language, a very fresh discussion of many of the principal problems in philosophy, or rather in psychology. Bailey can hardly be

classed as belonging either to the strictly empirical or to the idealist school, but his general tendency is towards the former. The following are the most interesting points in his work:—(1.) In regard to method, he founds psychology entirely on introspection; critical study of one's own consciousness is, according to him, the only means of obtaining materials for philosophy. He thus, to a certain extent, agrees with the Scotch school, but he differs from them in rejecting altogether the doctrine of mental faculties. What have been designated faculties are, upon his view, merely classified facts or phenomena of consciousness. He criticises very severely the habitual use of figurative or metaphorical language in describing mental operations. (2.) His doctrine of perception, which is, in brief, that "the perception of external things through the organs of sense is a direct mental act or phenomenon of consciousness not susceptible of being resolved into anything else," and the reality of which can be neither proved nor disproved, is not worked out in detail, but is supported by elaborate and sometimes subtle criticisms of all other theories. Upon this point Bailey's remarks are deserving of attention. (3.) With regard to general and abstract ideas and general propositions, his opinions are those of the empirical school, but his analysis frequently puts the matter in a new light, and brings forward points of novelty. (4.) In the theory of morals Bailey is an advocate of Utilitarianism, and works out with great skill the steps in the formation of the "complex" mental facts involved in the recognition of duty, obligation, right. His handling of the moral sentiments (*Letters*, iii. 193–258) is one of the best specimens of his general style of psychological analysis.

BAILLET, ADRIEN, a French writer and critic, was born in June 1649, at the village of Neuville, near Beauvais, in Picardy, and died in January 1706. His parents could only afford to send him to a small school in the village, but he picked up some Latin from the friars of a neighbouring convent, who brought him under the notice of the bishop of Beauvais. By his kindness Baillet received a thorough education at the theological seminary, and was afterwards appointed to a post as teacher in the school of Beauvais. In 1676 he took orders, and was presented to a small vicarage. His duties interfering too much with his studies, he accepted in 1680 the appointment of librarian to M. de Lamoignon, advocate-general to the parliament of Paris, of whose library he made a *Catalogue Raisonné* in thirty-five volumes folio, all written with his own hand. The remainder of his life was spent in incessant, unremitting labour; so keen was his devotion to study that he scarcely allowed himself even natural rest. In the list of his numerous works the following are among the most conspicuous:—1. *Histoire de Hollande depuis 1609 jusqu'à 1690*, 4 tom. 12mo, a continuation of *Grotius*, and published under the name of Neuville. 2. *Les Vies des Saints*, 3 tom. fol. 3. *Des Satires personnelles, traité historique et critique de celles qui portent le titre d'Anti*, 2 tom. 12mo. 4. *Vie de Descartes*, 2 tom. 4to. 5. *Jugemens des Savants sur les principaux Ouvrages des Auteurs*, 9 tom. 12mo. The last is the most celebrated and useful of all the works of this learned and indefatigable writer. The edition in seven volumes quarto, published in 1722 by M. de la Monnoye, contains the *Anti-Baillet* of M. Menage, besides notes; but the edition published at Amsterdam in 1725 is more esteemed.

BAILLEUL, an ancient town of France, in the department of Nord, near the Belgian frontier, situated on a rising ground to the north of the River Lys. It was formerly a place of great strength, and is now a busy industrial town, with manufactures of lace, thread, black soap, pottery, woollen stuffs and ribbons, brandy, leather, and cheese. Population, 12,896. Lat. 50° 45' N., long. 2° 44' E.

BAILLIE, JOANNA, poet and dramatist, was born at the manse of Bothwell, on the banks of the Clyde (Scotland), in 1762. At an early period of her life she removed with her sister Agnes to London, where their brother, the celebrated Dr Matthew Baillie, was settled. The two sisters were left a small competence by their uncle, Dr William Hunter, and took up their residence at Hampstead, on the outskirts of London, where they passed the remainder of their lives. Miss Baillie died on the 23d Feb. 1851, at the advanced age of 89, her faculties remaining unimpaired to the last. Her gentleness and sweetness of disposition made her a universal favourite, and her little cottage at Hampstead was the centre of a brilliant literary society. Miss Baillie had received an excellent education, and probably cultivated very early her faculty of poetical composition, but it was not till 1798 that she published the first volume of her *Plays on the Passions*. Her design, founded on a careful study of the nature of dramatic poetry, was to illustrate each of the deepest and strongest passions of the human mind, such as Hate, Jealousy, Fear, Love, by a tragedy and a comedy, in each of which should be exhibited the actions of an individual under the influence of these passions. The success of the first volume was very considerable, and a second edition was soon called for. A second volume followed in 1802, a third in 1812, and three more in 1836. Some miscellaneous dramas were published in 1804, and the *Family Legend* appeared in 1810. Miss Baillie herself intended her plays not for the closet but for the stage. The *Family Legend*, brought out at Edinburgh under the enthusiastic patronage of Sir Walter Scott, had a brief though brilliant success; *De Monfort* had a short run in London, mainly through the acting of Kemble and Mrs Siddons; *Henriquez* and *The Separation* were coldly received. The popular verdict has thus been given against the dramas as good stage plays, and the almost universal decision of readers has confirmed this judgment. With very few exceptions, they are unsuited for stage exhibition. Not only is there a flaw in the fundamental idea, that, viz., of an individual who is the embodiment of a single passion, but there is a want of incident, and a narrowness, consequent upon the attention being too much directed on a single point, that present insuperable obstacles to their success as acting pieces. The plot is generally well constructed, but the very consciousness of aim with which it is wrought out gives to the whole a morbid and unnatural aspect; there is rarely, if ever, any progress in the play; the whole is apparent from the outset, and the action never heightens the spectators' interest. It must be confessed, also, that Miss Baillie had no very adequate notion of what is required in a stage drama, and that her experience was too limited. This is apparent in her comedies, which are very inferior productions. In short, her want of success is a clear proof of the impracticability of that analytic or psychological method, which she expounds and defends in her preliminary dissertations. The plays, however, are admirably adapted for reading; they show remarkable powers of analysis and acute observation, and are written in a pure and vigorous style, rising occasionally into strains of high poetic feeling and expression. The best of the tragedies are undoubtedly *Henriquez*, *The Separation*, *De Monfort*, and *Count Basil*, the first of which might perhaps be made into a good acting play. Miss Baillie's reputation does not rest entirely on her dramas: she is the authoress of some poetical pieces and songs of great beauty, and in all probability great portion of her fame will be found to rest on these minor works. The best of them are the *Lines to Agnes Baillie on her Birthday*, *The Kitten*, *To a Child*, and some of her adaptations of Scotch songs, such as *Wood and Married an' a'*. Scattered throughout the dramas are also some lively and

beautiful songs, such, e.g.; as the *Chough and the Crow* in *Orra*, the lover's song in the *Phantom*, beginning—

"I've seen the moon gleam through the cave,
And minute drops like diamonds glancing."

And the sailor's song—

"O swiftly glides the bonny boat
Just parted from the shore."

(See Joanna Baillie's *Dramatic and Poetical Works*, Lond. 1851, 1 vol.)

BAILLIE, DR MATTHEW, anatomist and physician, was born in the manse of Shotts, Lanarkshire, in 1761. He came of a highly gifted family: his father, the Rev. James Baillie, was successively clergyman of the parishes of Shotts, Bothwell, and Hamilton, in Lanarkshire, and afterwards professor of divinity in the university of Glasgow; his mother was Dorothea, sister of the celebrated William and John Hunter; and his sister Joanna was the poet. Dr Baillie was for several years a student in the university of Glasgow, where he heard the lectures of Dr Reid on moral philosophy. His professional career was determined by the advice of his uncle, Dr William Hunter, who undertook to superintend his education. On his father's death he obtained an exhibition to Balliol College, Oxford, where he remained a year before removing to London. His studies were there carried on under the personal direction of his uncle, and after two years he began to be associated with Dr Hunter in his anatomical lectures as an assistant and demonstrator, visiting Oxford occasionally, so as to keep the terms necessary for the degree of bachelor of medicine. Dr Hunter, at his death, bequeathed the use of his magnificent collections to his nephew, together with the lecture-rooms in Windmill Street, an annuity of £100 a year, and a small family estate in Scotland. The last was resigned by Baillie to his other uncle, Dr John Hunter, whom he considered as the natural heir. Within two years after Dr Hunter's death his nephew became the principal teacher in that celebrated school of anatomy; and in 1787, although only a bachelor of medicine, he was appointed physician to St George's Hospital. In 1789 he married Sophia, daughter of the eminent accoucheur Dr Denman, a connection favourable to his practice. In 1795 he published his *Morbid Anatomy*, a work which was speedily translated into French, Italian, and German, into the last by the anatomist Sömmerring. After this he had the honour of being enrolled a doctor of medicine of Oxford, and Fellow of the Royal College of Physicians. As a practising physician he was universally respected, and his decease, which took place on the 23d of September 1823, in the 63d year of his age, was sincerely regretted.

The second edition of the *Morbid Anatomy* appeared in 1797; and two years afterwards it was illustrated by a 4to volume of engravings, with descriptions of the plates. His *Anatomical Lectures and Medical Observations* were printed privately after his death. *The Works*, 2 vols. 8vo, edited, with a biographical sketch, by Mr Wardrop, contain only the *Morbid Anatomy* and miscellaneous medical papers.

BAILLIE, ROBERT, a prominent Scotch Presbyterian of the 17th century, was born at Glasgow in 1602. He graduated in 1620 at the university of that town, and then applied himself to the study of divinity. In 1631, after he had been ordained and had acted for some years as regent in the university, he was appointed to the living of Kilwinning in Ayrshire. The church disputes of the century were just beginning, and Baillie was naturally drawn into them. In 1638 he was a member of the famous Glasgow Assembly, and soon after he accompanied Leslie and the Scotch army as chaplain or preacher. In 1642 he was made professor of divinity at Glasgow, and in the following year was selected as one of the five Scotch

clergymen who were sent to the great Westminster Assembly. In 1649 he was one of the commissioners sent to Holland for the purpose of inviting Charles II. to Scotland, and of settling the terms of his admission to the government. He continued to take an active part in all the minor disputes of the church, and in 1661, after the ejection of Gillespie, he was made principal of the Glasgow University. He died in August of the following year,—his death being probably hastened by his mortification at the apparently firm establishment of Episcopacy in Scotland. Baillie was a man of learning and ability; his views were not extreme, and he played but a secondary part in the stirring events of the time. His *Letters*, by which he is now chiefly remembered, are of considerable historical importance, and give a very lively picture of the period. A complete memoir and a full notice of all his writings will be found in Dr Laing's edition of the *Letters and Journals of Robert Baillie*, Bannatyne Club, 3 vols., Edinburgh, 1841–42.

BAILLY, JEAN SYLVAIN, a French astronomer and orator, was born at Paris on the 15th September 1736. He was originally intended for the profession of a painter; his own inclinations, however, tended strongly towards literary pursuits, and it is said that at a very early age he had completed two tragedies. But his acquaintance and friendship with the celebrated mathematician Lacaille, and perhaps the example of his brilliant young contemporary Clairaut, finally decided the direction of his studies, which were then entirely devoted to science and scientific investigation. The first of his labours was a calculation of the comet which appeared in the year 1759. In 1763 he was admitted a member of the Academy of Sciences; and in the same year he published a reduction of the observations made by Lacaille in 1760 and 1761 on the zodiacal stars, a compilation of great labour and utility. In 1764 he competed for the prize offered by the Academy for a dissertation on the theory of Jupiter's satellites. Lagrange, who was a complete master of the most powerful analysis, was the successful competitor; but Bailly's memoir, which was published in an expanded form in 1766, showed great ability, and at once established the author's reputation as a physical astronomer. He followed up his dissertation in 1771 with an able and important memoir on the *Light of the Satellites*, in which he expounded some novel and elegant methods of observation.

His attention, meantime, was not solely devoted to abstract science; he was equally distinguished for eloquence and brilliancy of style. His *Eloges* on Corneille, Leibnitz, Molière, and others, were universally admired. In 1773 he was proposed as a candidate for the secretaryship of the Academy of Sciences, and was supported by Buffon; the influence of D'Alembert, however, secured the appointment of the famous Condorcet. In 1784 Bailly was made secretary of the French Academy, and in the following year he was admitted to the Academy of Inscriptions and Belles Lettres. This was the only instance, from the time of Fontenelle, of any writer being at the same time a member of all the three academies.

In the year 1775 he published the first volume of his most extensive work, *History of Astronomy*, which contained the history from its origin down to the foundation of the Alexandrian school. This was followed by three volumes on *Modern Astronomy*, published between 1776 and 1783. The work is of little or no historical value, but it is admirably written, and added greatly to the author's reputation as a master of narrative exposition. In 1787 he completed the history by a volume on Indian and Oriental astronomy, which shows considerable erudition, but is not founded on a complete knowledge of the Indian records, and is highly fantastic in its speculations.

The quiet course of Bailly's life, hitherto devoted to literature and science, was now broken in upon by that great convulsion, the French Revolution, of which he was one of the first and most zealous promoters. In the part which he acted, he has had the singular good fortune to be well spoken of by opposite factions, and has never been charged either with want of integrity or with selfish designs. When the states-general of France were assembled in 1789, he was elected a deputy to the *tiers-état*, of which he was afterwards chosen president; and when the national assembly had been constituted, he continued in the chair, and officiated as president at the time the king's proclamation was issued ordering that body to disperse. During the struggle which took place between the national assembly and the court, Bailly was amongst the most forward in asserting those popular rights which were then new in France; and it was he who dictated the famous oath to the members of the *tiers-état*, by which they pledged themselves "to resist tyrants and tyranny, and never to separate till they had obtained a free constitution." On the 14th of July following, the day on which the Bastille was stormed and taken by the people, he was by universal consent appointed mayor of Paris. In this high office he is allowed to have acted with great integrity, courage, and moderation, and to have discharged its arduous and sometimes perilous duties in a highly honourable manner, and during its course he was instrumental in promoting the various measures by which the popular party at length prevailed over that of the court; for which, as well as for his conduct in other respects, he obtained a high degree of popularity. But the multitude, newly unshackled from the fetters of despotism, greedy of novelty, fired with enthusiastic and unsettled notions of freedom, and daily panting for change, would brook no opposition to their wild schemes. Bailly, who probably saw too late the general disposition of the people to anarchy, still wished the laws to be respected, and hoped by the vigorous enforcement of them to restore and maintain tranquillity. He ordered some deputies from the military insurgents of Nancy to be arrested, and firmly opposed the rash proceedings of Marat and Hebert; he ceased to be a member of the Jacobin club; and he exerted himself strongly to persuade the populace to permit the king and royal family to depart to St Cloud. By these measures, which were very distasteful to the fickle and infuriated people, he lost their confidence and favour; and his popularity was finally destroyed by his conduct on the occasion of the tumultuous meeting of the populace on the 17th of July 1791, to demand the abolition of monarchy; for, when called on by the national assembly to disperse the mob, who had assaulted the soldiery, he ordered the latter to fire, by which means 40 persons were killed and above 100 wounded. Finding himself after this an object of hatred and suspicion to the people, whom he had faithfully served, he resigned his office at the dissolution of the constituent assembly in the end of the year 1791, and retired to Nantes. From there he wrote to Laplace, who was residing at Melun, and proposed, if it were safe, to join him. Laplace, finding that a detachment of revolutionary troops had been ordered to Melun, advised Bailly not to venture, but his advice was neglected. The ex-mayor was recognised by one of the soldiers, arrested, and thrown into prison. Arraigned on 10th November 1793 before a sanguinary tribunal, he was on the 11th condemned to death as a conspirator, and executed the day following, near the spot where he had given the order for the military to fire on the people. He met his death with the greatest calmness and courage.

Several works written by Bailly, and found in manuscript, have been published since his death; particularly an *Essay on Fables and their History*, and *Memoirs of a Witness of the Revolution*,

which come down to October 1789. Notices of his life are given in the *Eloges* by St Just, Lalande, and Lacretelle; also in Arago, *Notices Biographiques*, vol. ii.

BAILY, EDWARD HODGES, a distinguished sculptor, was born at Bristol, 10th March 1788, and died at London, 22d May 1867. His father, who was a ship-carver of great repute, destined him for a commercial life, but even at school the boy showed his natural taste and remarkable talents by producing numerous wax models and busts of his schoolfellows, and afterwards, when placed in a mercantile house, still carried on his favourite employment. Two Homeric studies, executed for a friend, were shown to Flaxman, who bestowed on them such high commendation, that in 1807 Baily came to London and placed himself as a pupil under the great sculptor. In 1811 he gained the Academy gold medal for a model of *Hercules restoring Alceste to Admetus*, and soon after exhibited *Apollo discharging his arrows against the Greeks*, and *Hercules casting Lichas into the sea*. In 1821 he was elected R.A., and exhibited one of his best pieces, *Eve*. He was for many years engaged in lucrative employment as modeller for Messrs Rundell & Co. and Messrs Storr & Mortimer. He was also entrusted with the carving of the bas-reliefs on the south side of the Marble Arch at Hyde Park. Besides numerous busts and statues, such as those of Nelson on the Monument, of Earl Grey, of Lord Mansfield, and others, his finest pieces are, *Eve at the Fountain*, *Eve listening to the Voice*, *Maternal Affection*, *Girl preparing for the Bath*, and the *Graces*.

BAILY, FRANCIS, an English astronomer, was born in Berkshire in the year 1774, and for many years carried on business as a stockbroker in London. While amassing a large fortune by his business, he applied the profound mathematical knowledge for which he was distinguished to the doctrine of probabilities, and published several interesting works on that subject, as, *Tables for the Purchasing and Renewing of Leases*, *The Doctrine of Interest and Annuities*, *The Doctrine of Annuities and Assurances*, &c. In 1820 he was one of the original and most active promoters of the Astronomical Society; and on his retirement from business in 1825, he entered with the utmost energy upon the cultivation of astronomy and the kindred sciences. He gave the *Nautical Almanac* its present form and introduced other improvements; he took an active part in the investigation of the effects of the atmosphere on pendulum experiments; he aided in the repetition of the experiment of Cavendish on the specific gravity of the earth; he superintended the publication of the Astronomical Society's catalogue of the fixed stars; and the revision of the annual catalogues in the 13th volume of the Society's *Memoirs* was entirely his work. On his recommendation the British Association undertook the republication of the *Histoire Céleste* of Lalande, combined with Lacaille's catalogue, which together contain no less than 57,000 stars; and there is reason to believe that he took an important part in the investigation of the course of the tidal wave in the Atlantic. His *Account of the Rev. John Flamsteed, First Astronomer-Royal*, 1835, a work of great ability and research, excited much discussion from the disclosures it made relative to the character of Sir Isaac Newton. Baily was extremely patient and methodical, and these qualities enabled him to effect, in the last twenty years of his career, a greater number of researches than most other philosophers have accomplished during a whole lifetime. He died August 30, 1844.

BAINBRIDGE, DR JOHN, physician and astronomer, was born at Ashby-de-la-Zouche, in Leicestershire, in the year 1582. He taught a grammar school for some years, and practised physic, employing his leisure hours in astronomy, which was his favourite study. After removing

to London he was admitted a Fellow of the College of Physicians, and gained considerable reputation by his description of the comet in 1618. The next year Sir Henry Savile appointed Bainbridge his first professor of astronomy at Oxford; and the masters and fellows of Merton College made him first junior, and then superior, reader of Linacre's lecture. He died in 1643. His published works are—1. *An Astronomical Description of the late Comet*, Lond. 1619. 2. *Procli Sphaera*, 1620. 3. *Canicularia; a Treatise concerning the Canicular Days*, Oxford, 1648. Several of his unpublished writings exist in manuscript in the library of Trinity College, Dublin.

BAINES, EDWARD, for many years proprietor and editor of the *Leeds Mercury*, and M.P. for Leeds from 1834 to 1841, was born in 1774 at Walton-le-Dale, a village distant a little way from Preston, in Lancashire. He was educated at the grammar schools of Hawkhead and Preston, and at the age of sixteen was apprenticed to a printer in the latter town. After remaining there four years and a half he removed to Leeds, finished his apprenticeship, and at once started in business for himself. He was always a most assiduous student, and quickly became known as a man of great practical shrewdness and ability, who took a keen interest in political and social movements. His liberal opinions in politics led him to sympathise with the dissenting party in church affairs, and it was not long before he joined the body of Independents. In 1801 the assistance of friends among the members of that party enabled him to purchase the copyright of the *Leeds Mercury*. Provincial newspapers did not at that time possess much influence; the editorial province was not extended to the composition of what are now called leading articles, and the system of reporting was defective. In both respects Baines made a complete change in the *Mercury*. The ability of his political articles gradually caused the paper to be looked upon as the organ of Liberal opinion in Leeds, and it contributed not a little to the spread of sound doctrines on practical questions in the north of England. At the same time his watchful care secured the efficiency of the minor departments. Baines soon began to take a more prominent part in politics; he was an ardent advocate of parliamentary reform, and it was mainly by his influence that Macaulay was returned for Leeds in 1832. In 1834, when a vacancy was caused by Macaulay's acceptance of an Indian appointment, Baines was proposed as a candidate, and was returned after a sharp contest. He was re-elected in 1835 and 1837, but was obliged to resign from ill health in 1841. He was noted in Parliament as a judicious supporter of the Liberal party, but with independent views. He strongly advocated the separation of church and state, and opposed Government interference in national education. His letters to Lord John Russell on the latter question (1846) had a powerful influence in determining the action of the Government. He died in 1848. In the midst of his active life he had found time for literary work. His best known writings are:—*The History, Directory, and Gazetteer of the County of York*; *History, Directory, and Gazetteer of the County of Lancaster*; *History of the County Palatine and Duchy of Lancaster*. He was also the author of a *History of the Wars of Napoleon*, which was continued under the title of *A History of the Reign of George III.* His *Life* (1861) has been written by his son, Edward Baines, jun., for some time editor, and still (1875) one of the proprietors, of the *Leeds Mercury*, and well known by his histories of the cotton and woollen manufactures of Great Britain.

BAINES, MATTHEW TALBOT, eldest son of the above, was born in 1799, and died in 1860. He was educated at Cambridge, and entered the bar. In 1837 he was made