

United Provinces of Agra and Oudh. In 1905 the districts lying east of the Ganges, in the face of great opposition on the part of the native population, were taken away from this presidency and conjoined with Assam to form the lieutenant-governorship of Eastern Bengal and Assam. The districts thus lost had a total area of 41,131 sq. m., and a pop. of 24,000,000. As now constituted (without these districts), Bengal has an area of 115,800 sq. m., and a pop. of 50,000,000. New land is being rapidly formed, by the action of large rivers, along the N. shore of the Bay of Bengal. This swampy, unhealthy jungle tract, the haunt of wild animals, is called the Sunderbuns, and its area is estimated at over 5,500 sq. m. The country is level, broken here and there by spurs from the mountain ranges, which hem it on the N. and E., and is richly watered. Two of the largest rivers in India—the Ganges from the N.W., and the Brahmaputra from the N.E.—traverse the presidency, and reach the sea by an extensive conjoint delta. There are two other important rivers—the Hugli, which joins the delta of the Ganges and the Brahmaputra; and the Mahanadi, in the S. of the Orissa division. The soil is alluvial, and the country is subject to periodic widespread floods and to occasional earthquakes. The coal mines at Ramganj, in the Burdwan district, are rapidly developing; their output is over two million tons. Salt is obtained in Orissa and Midnapur. Forests cover an area of nearly 10,000 sq. m. Agricultural products are numerous; tea, rice, indigo, cinchona, poppy, wheat and other grains, and oil seeds are specially important. The chief manufactures are jute and silk, but the latter industry is declining under foreign competition. The Orissa, Midnapur,

and Sôn canals not only irrigate over 1,100 sq. m., but form important waterways. Bengal possesses three ports—Calcutta, Chittagong, and Orissa. The annual value of the sea-borne trade of the presidency is over 70 millions sterling, about one-half being with the United Kingdom.

About one-half of the population are Hindus. The Mogul invasion resulted in the nominal conversion of a considerable percentage to the creed of Islam, and a large proportion of the inhabitants are the descendants of races which had settled in the country anterior to the advent of Aryan conquerors. The first British commercial settlement was made about 1620, and in 1686 the East India Company bought the site of Calcutta and established a factory. Clive's victory of Plassey (1757) transferred Bengal from the Mogul's viceroy to the company, which was secured in its possession by the Mogul's own grant in 1765.

Bengazi, or BENGHAZI (anc. *Berenice*, after the wife of Ptolemy III.), seapt. and cap. of Barka, N. Africa, 430 m. E. of Tripoli; caravan terminus from Wadai and Borku and from Egypt. Exports camels, cattle, sheep, ostrich feathers, wool, grain, ivory, sponges, etc.; imports cotton and woollen goods, iron, wines, spirits, tobacco, etc. The value of the sea-borne trade now exceeds £650,000 per annum. The bulk of the trade is with Malta. Pop. 35,000. The vilayet of Benghazi has a pop. of about 400,000, mostly Berbers.

Bengel, JOHANN ALBRECHT (1687–1752), Biblical critic, was born at Winnenden in Würtemberg, and studied at Tübingen, where for five years he acted as *repetent* or (theological) lecturer. In 1713 he became head of the preparatory theological institute at Denkendorf, where he re-

mained for twenty-eight years. Bengel enriched exegetical scholarship by his *Gnomon Novi Testamenti*, which was published in 1742 (8th ed. 1890), and has been translated into several languages. He was something of a mystic, as witness his early sympathy with the Pietists, and his later incursions into the region of apocalyptic prophecy. See *Life* by Burk (1831-7; trans. 1837), and Nestle's *Bengel als Gelehrter* (1893).

Benger, ELIZABETH OGILVY (1778-1827), English author, born at Wells, Somerset. Her chief works are a poem *On the Slave Trade* (1809), and the *Memoirs* of Elizabeth Hamilton (1818), Anne Boleyn (1821), Mary Queen of Scots (1823), and Elizabeth of Bohemia (1825).

Benguella, S. FELIPPE DE, chief tn. of the Benguella dist., Angola, Portuguese W. Africa, situated on a marshy plain. The bay, 7 m. broad, is formed by a remarkable hill crowned with trees, and called St. Philip's bonnet. The trade has declined, but is still large, its annual value amounting to £500,000. The chief exports are india-rubber and wax. Pop. 3,000.

Benguet, prov., Luzon I., Philippines, separated by La Union from the w. coast. Area, 900 sq. m. Mountainous, well wooded, and temperate in climate, it produces wheat, rice, coffee, and tea; copper, gold, iron, coal, and limestone are found. Pop. 23,000. Baguio, the cap., is 130 m. N. of Manila.

Benhadad, the name given in the Old Testament to three (or two) kings of Damascus—*i.e.* Syria. (1.) BENHADAD I., the ally of Asa of Judah against Baasha of Israel (1 Kings 15:18-22). (2.) His son and successor, BENHADAD (II.), the Dad-idri (*i.e.* Hadadezer) of the inscriptions, who was defeated by Shalmaneser II. of Assyria

at Karkar in 853 B.C. This was the adversary of Ahab; he twice unsuccessfully besieged Jerusalem (1 Kings 20; 2 Kings 6 *f.*), and was slain by Hazael (2 Kings 8:7-15). (3.) BENHADAD III. (Mari) was the son of Hazael, and was thrice vanquished by Joash, king of Israel (2 Kings 13:25). Some—*e.g.* Cheyne—identify (1) and (2). See Kittel's *Hist. of the Hebrews*, vol. ii. (trans. by J. Taylor, 1895).

Benham, WILLIAM (1831-1910), English theological writer, born at West Meon, Hants; became rector of St. Edmund's, Lombard Street, London, in 1882; was tutor in St. Mark's College, Chelsea (1857-64); professor of modern history, Queen's College, London (1864-73); and Boyle lecturer in 1897. He wrote, in addition to various commentaries, *A New Translation of Thomas à Kempis's 'Imitatio Christi'* (1874); *Cowper's Letters* (1883); *A Short Hist. of the Episcopal Church in America* (1884); *The Dict. of Religion* (1887); (with another), *Life of Archbishop Tait* (1891), and *The Writings of St. John* (in the *Temple Bible*). He was the editor of the *Ancient and Modern Library of Theological Literature*.

Beni, the northernmost dep. of Bolivia, bordering upon Brazil, traversed by the Beni river, and by the Rio Mamore. Cap. Trinidad. Area, 102,000 sq. m. Pop. estimated 40,000.

Beni, or PARO, riv. rising as the La Paz, formed by streams from the E. Cordillera of Bolivia, S. America; flows N. and N.E. through the rich metal region of Beni for 850 m. to join the Mamore, the two forming the main feeders of the Madeira.

Benicarlo, tn. and port on Mediterranean, prov. Castellon, Spain, 4 m. by rail s. of Viaroz. It is famous for its wine, of which 40,000 pipes are exported yearly. Pop. 7,000.

Benicia, seapt. tn., and formerly cap. of Solano co., California, U.S.A.; 30 m. by rail N.E. of San Francisco, on Carquinez Strait; contains a United States arsenal and the workshops of the Pacific Mail Steamship Co. Pop. 3,000.

Beni-Hassan, vil. on r. bk. of Nile, Egypt, 15 m. S.E. of Minieh. In its neighbourhood, and overlooking the river, are hills with catacombs which are believed to have been the tombs of the people of the ancient Hermopolis. Pop. 1,300.

Beni-Israel, settlement of Jews in Bombay and other coast towns of India; said to owe its foundation to a band of Jews shipwrecked over a thousand years ago, and who adopted the name Beni-Israel ('sons of Israel') as less hateful to the Mussulmans than the term Jews. These Indo-Jews are strict in their observance of the Sabbath, and refrain from eating unclean fish and flesh. Their religious chiefs are *kajees*, while their civil head is the *nassi*. Their ordinary language is Marathi, but some have a knowledge of Hebrew. The Kala, or Black Israels, are a lower class.

Benin, dist., tn., and riv. of W. Africa, in the British protectorate of S. Nigeria, west of the river Niger. A British residency has been built at Benin city. On the river Benin (at Sapele) an annual trade is done to the value of £150,000 to £200,000. When the capital of the ancient kingdom of Benin was captured by the British, in 1897, they discovered a number of objects—bronze reliefs, carved ivory tusks, weapons, bells, etc.—which throw much light upon the archæology of that part of Africa. These were probably made in the 16th or 17th century. Cruelty in atrocious forms characterized the natives, and human sacrifice was common. See Pitt Rivers's *Antique Works of Art from Benin*

(1900); Read and Dalton's *Antiquities from the City of Benin* (1899); and H. Ling Roth's *Great Benin: its Customs, Art, and Horrors* (1903).

Benin, BIGHT OF, a division of the Gulf of Guinea.

Beni-Saf, seapt., dep. Oran, on N.W. coast of Algeria, 30 m. N. of Tlemsen; owes its importance to the rich iron mines of the neighbourhood; annual export, over 300,000 tons of ore. Pop. 7,300 (Europeans, 3,000).

Beni-Suef. (1.) Province of Upper Egypt. Area, 410 sq. m.; pop. 375,000. (2.) Town, Upper Egypt, on r. bk. of Nile, 62 m. by rail S. of Cairo; chief town of province of same name; has manufactures of cotton. From Beni-Suef a branch line enters the Fayum district. Pop. 25,000.

Benjamin. (1.) ('Son of the right hand'), the youngest son of the patriarch Jacob, and the only full brother of Joseph. He was born near Ephrath—Rachel, his mother, dying at his birth (Gen. 35:18). (2.) THE TRIBE OF. Recent Old Testament scholarship regards Benjamin not so much as a historical character as the 'eponymous' ancestor of the tribe of that name. Thus, from what is said above, we may conclude that Benjamin as a tribe was the last to be constituted (the 'youngest'), except Ephraim and Manasseh (*i.e.* Joseph); that it was closely related to these ('brother of Joseph'); and that it was founded only after the Israelite conquest of Canaan ('birth near Ephrath'). Its territory lay immediately to the north of Judah, and consisted of a rugged region, better fitted to produce warriors than farmers (see Gen. 49:27). The tribe did serviceable work in repelling the Philistines, and gave Israel its first king, Saul. At the rending of the kingdom it remained faithful to the Davidic dynasty, and after the exile

joined Judah. Despite such outbreaks of lawlessness as are recorded in Judges 19, Benjamin had a remarkable interest in religious things: witness the number of its sanctuaries, such as Anathoth, Ramah, Gibeon, Gilgal, Mizpeh, etc.; as also the fact that it produced the prophet Jeremiah and the apostle Paul. See G. A. Smith's *Historical Geography of Holy Land*, 290 f. (new ed. 1897).

Benjamin, JUDAH PHILIP (1811-84), American statesman and barrister, practised (1832) at the New Orleans bar. During the American civil war he was the principal supporter of Jefferson Davis, the Confederate president, being first (1861) secretary of war, and after 1862 secretary of state. His remarkable energy and efficiency caused him to be known as 'the brains of the Confederacy.' After the collapse of the Confederacy he was admitted to the English bar (1866), became q.c. in 1872, and enjoyed a lucrative practice until his retirement in 1883. His work *On Sales* (1868) is a classic.

Benjamin OF TUDELA (d. 1173), a learned Israelite and rabbi, born in Tudela, Spain; visited Constantinople, Egypt, Assyria, Persia, and Chinese Tartary (1159-73). His itinerary was first published at Constantinople in 1543, under the title *Mazahoth* ('Excursions'). The best English edition is that by Asher, *The Itinerary of Rabbi Benjamin of Tudela* (2 vols. 1840). See also *Die Reisebeschreibungen d. Benjamin von Tudela* by Grünhut and Adler (1903-4).

Benjamin Tree. See BENZOIN.

Benkovac, tn., Dalmatia, Austria, 22 m. E.S.E. of Zara. Pop. 14,000.

Benkulen. See BENCOOLEN.

Ben Lawers, mt. (3,984 ft.) on N. side of Loch Tay, W. Perth-

shire, Scotland, 9 m. W.S.W. of Kenmore.

Ben Ledi, mt. (2,875 ft.) on W. side of Loch Lubnaig, Perthshire, Scotland, 4 m. N.W. of Callander.

Ben Lomond, mt. (3,192 ft.) on E. side of Loch Lomond, in par. of Buchanan, Stirlingshire, Scotland; forms part of watershed between Forth and Clyde.

Ben Macdhui, mt. (4,296 ft.) in par. of Braemar and Crathie, W. Aberdeenshire, Scotland, at junction of shires of Banff, Aberdeen and Inverness. The second highest mountain in Scotland. It consists chiefly of red granite; rock crystals (cairngorms) are found.

Ben More, mt. (3,843 ft.), S.W. Perthshire, Scotland, 9 m. from head of Loch Lomond.

Benmore Head. See FAIR HEAD.

Benne-oil is obtained from the seeds of *Sesamum indicum*, an Indian plant belonging to a tropical order related to Scrophulariaceæ. The oil is used for salads, and as a substitute for olive oil. In Japan it is used in place of butter. It is also called gingili or gingelly, sesamum, til, and teel oil.

Bennett, JAMES GORDON (1795-1872), American journalist, born at Newmill, Banffshire, and emigrated to America in 1819. There he was for a time part owner of the *Pennsylvanian* newspaper of Philadelphia, and in 1835 originated the *New York Herald*.

Bennett, JAMES GORDON (1841), son of the above, journalist and proprietor of the *New York Herald* (1872), fitted out (in conjunction with the *Daily Telegraph*) Stanley's expedition to Africa of 1874-8, and the *Jeanette* Polar Expedition (1879), and established the Mackay-Bennett Commercial Cable Co. in conjunction with John W. Mackay (1883). He inaugurated the publication in England of storm warnings sent from the United States, and is the donor of the cup annually

competed for by the most skilful and daring automobilists of the world, and also of a cup for balloon races. See MOTOR CARS.

Bennett, JOHN HUGHES (1812-75), English physician and physiologist, studied at Edinburgh; elected to the chair of the institutes of medicine at that university (1848). His daughter, Mrs. Cox, founded there a laboratory of experimental physiology in his memory (1901). Author of *Treatise on Cod-liver Oil as a Therapeutic Agent* (1841); *Leucocythæmia, or White Cell Blood* (1852); *Clinical Lectures* (1858; 5th ed. 1868), widely translated; and *The Pathology and Treatment of Pulmonary Tuberculosis* (1853; 2nd ed. 1868).

Bennett, SIR WILLIAM STERNDALE (1816-75), British composer and pianist, studied at the Royal Academy of Music, London, and at Leipzig. For some years (from 1856) he was professor of music at Cambridge; subsequently (1866) principal of the Royal Academy; was knighted in 1871. His compositions are full of grace and beauty, and his name stands in the front rank of British composers. His versatility was remarkable. Among the more noteworthy works were overtures to *Tempest* (1832), *Merry Wives of Windsor* (1833), *Paradise and the Peri* (1867); *The May Queen* (1858), *The Hawthorn in the Glade* (1859), *The Woman of Samaria* (1867), *Ajax* (1872), *Genevieve* (1873), *The Maid of Orleans* (1873), *Cast thy Bread upon the Waters* (1874), *Remember now thy Creator* (1879), and *The Gentle Zephyr* (1886). See *Life* by his son, J. R. Sterndale Bennett (1907).

Ben Nevis, mt. (4,406 ft.), par. of Kilmallie, Inverness-shire, Scotland; overlooks Glen Nevis towards Fort William; highest peak in Great Britain, hence its choice as a station of the Scottish Meteorological Society (1881), and the

site of a fully-equipped observatory in 1883. In consequence of the withdrawal of government and other grants, the observatory was closed in October 1904, and the instruments were removed to the low-level station at Fort William. There is a pony-track to the summit, and the sheer cliffs of the N.E. face afford some of the best rock-climbing in the British Isles. The geological formation is gneiss and granite, overtopped by porphyritic greenstone. See Buchan's *Meteorology of Ben Nevis* (1890), and Kilgour's *Twenty Years on Ben Nevis* (new ed. 1906).

Bennigsen, LEVIN AUGUST THEOPHIL, COUNT (1745-1826), a Russian general, was a native of Brunswick who entered the Russian army in 1773. He was made a major-general by the Empress Catherine, and commanded at Eylau (1807), led the Russian centre at Borodino (1812), defeated Murat at Tarutino (1812), and (1813) shared in the famous victory of Leipzig.

Bennington, tn., Vermont, U.S.A., co. seat of Bennington co., in the s.w. corner of the state; manufactures woollen goods, hosiery, etc. Pop. 6,200.

Ben-nut Tree (*Moringa pterygosperma*) belongs to a small order of plants found in Arabia and E. Indies. The nearest British order is that of the maple. Its bark yields gum; and its seeds are the source of ben-oil, used by watch-makers, painters, and perfumers.

Benoit DE SAINTE-MORE, or DE SAINTE-MAURE, French trouvère of the 12th century; at the request of Henry II. of England composed his great poem of 45,000 octosyllabic verses, *Chronique des Ducs de Normandie* (about 1180). It was edited by Francisque Michel, in 3 vols., in 1836-44. His *Roman de Troie*, running to over 30,000 verses, enjoyed great popularity in the middle ages. It was edited by M. A. Joly, in

2 vols., in 1870-1. To Benoit are also attributed *Enéas*, a poem of 10,000 verses; and *Le Roman de Thèbes*, a poem of 15,000 verses. See G. de la Rue, in *Archæologia Britannica*, vol. xii. pp. 314-323 (1834); Littré, in *Journal des Savants* (1876); and Gaston Paris, in *Romania* (1876 and 1879).

Benoit, PETER LÉONARD LÉOPOLD (1834-1901), Belgian musical composer and critic; attempted, with little success, to form a distinctively Flemish movement in music, based upon the theories of Wagner and Liszt; was (1867) director of the conservatory of Antwerp; author of several operas (e.g. *Isa*, 1867), oratorios (e.g. *Lucifer*, 1866; *Oorlog*, 1873), cantatas, and ecclesiastical pieces.

Benrath, tn., Rhenish Prussia, 5 m. s.e. of Düsseldorf; has iron works and a royal castle. Pop. 9,000.

Ben-Rhydding, vil. in W. Riding, Yorkshire, 9 m. n.w. of Bradford. It has a hydropathic establishment.

Bensberg, vil., prov. Rhineland, dist. Cologne, Prussia, 11 m. by rail e. of Cologne, with lead, zinc, and iron mines, and a school for cadets. Pop. 11,200.

Bensheim, tn., Hesse, Germany, 15 m. s. of Darmstadt; manufactures leather and cigars. Pop. 8,000.

Bensley, THOMAS (d. 1835), a famous London printer, who produced some of the most sumptuous books during the 'bibliomania' which raged at the close of the 18th and the beginning of the 19th century. Among his chief works are a magnificent Bible, printed for Macklin the publisher (1800-15), and a series of works called the *Poets' Gallery*, illustrated by the first artists of the day. Some of his types were of that design of Roman now known as 'modern.'

Benson, ARTHUR CHRISTOPHER (1862), English poet and author,

second son of Archbishop Benson; was a master at Eton (1885-1903). His publications are: *Memoirs of Arthur Hamilton*, under pseudonym 'Christopher Can' (1886); *Archbishop Laud* (1887); *Men of Might*, with H. F. Tatham (1890); *Poems* (1893); *Lyrics* (1895); *Essays* (1896); *Lord Vyet, and other Poems* (1897); *Fasti Etonenses* (1899); *Life of Archbishop Benson* (1899); *The Professor, and other Poems* (1900); *The Schoolmaster* (1902); *Tennyson* (1902); *Coronation Ode* (1902); *The Hill of Trouble* (1903); *Rossetti* (1904); *The Upton Letters* (1905); *Edward Fitzgerald* (English Men of Letters Series, 1905); *Walter Pater* (same series, 1906); *From a College Window* (1906); *Selections from the Correspondence of Queen Victoria* (with Viscount Esher, 1907); *At Large* (1908); *Poems* (1909); and *The Silent Isle* (1910).

Benson, EDWARD FREDERIC (1867), English novelist, third son of Archbishop Benson, worked at Athens for the British Archæological School (1892-5), and in Egypt for the Hellenic Society (1895). His chief works are: *Dodo* (1893), *The Rubicon* (1894), *The Babe*, B.A. (1897), *Vintage* (1898), *Mammon and Co.* and *Princess Sophia* (1900), *The Luck of the Vails* (1901), *The Book of Months* (1903), *The Challoners* (1904), *An Act in a Backwater* (1905), *The Image in the Sand* (1905), *The Angel of Pain* (1906), *The House of Defence* (1907), *Sheaves* (1907), *The Climber* (1908), *The Osbornes* (1910), and *Account Rendered* (1911).

Benson, EDWARD WHITE (1829-96), Archbishop of Canterbury, born at Birmingham; master at Rugby, priest in 1856, and the first headmaster of Wellington College (1859-73). Examining chaplain to Bishop Wordsworth and Dr. Temple (1871), he became chancellor of Lincoln (1872), where he instituted a theological col-

lege. In 1877 he became bishop of Truro, and originated the cathedral, consecrated 1887. Appointed Archbishop of Canterbury (1882), he died suddenly in Hawarden church, Oct. 11, 1896. His *Life of Cyprian* (1897) and *The Apocalypse* (1900) are posthumous works. See *Life* by A. C. Benson (1899).

Benson, FRANK R. (1858), English actor. In 1884 he founded his famous Shakespearean and Old English Comedy Company, and in 1900 he produced, in London, *Henry V.*, *The Rivals*, *Twelfth Night*, *Antony and Cleopatra*, etc. He has been responsible for twenty-six of the Shakespearean festivals at Stratford-on-Avon. In 1886 he married Miss Constance Featherstonhaugh, one of his company, who has since been associated with him in the production of Shakespearean plays and Old English comedies.

Bent, JAMES THEODORE (1852-97), English author and traveller, born at Liverpool; graduated at Wadham College, Oxford (1875); travelled in the East (1877). In 1891 he proceeded to S. Africa, and explored the ruins of Zimbabwe; and in 1893-4, in conjunction with his wife, daughter of R. W. Hall-Dare, he went to S. Arabia. His chief books are *The Ruined Cities of Mashonaland* (1892; 3rd ed. 1895), *The Sacred City of the Ethiopians* (1893; 2nd ed. 1896). After his death his wife published *Southern Arabia* (1900).

Bent Grass. There are nearly a hundred species of *Agrostis*, or bent grass, of which only very few are of use to the farmer or gardener. They all flower in a loose, spreading panicle, and the little spikelets bear but one flower apiece. The silky bent grass, flyaway grass, tickle grass, or windward spiked grass (*Agrostis spica venti*, or *A. scabra*) is a common annual grass on poor English land. Another annual

bent grass is the Spanish *A. nebulosa*, or cloud grass, which has a beautiful, light, feathery habit, and is well worth cultivating in gardens. *A. alba* (creeping bent grass), and its variety *A. vulgaris* (red-top), are perennial creeping grasses, which are generally taken to indicate a poor condition of pasture land; but they are sometimes very useful as prolonging the pasturing season. For this purpose, another variety of *A. alba*—*A. alba stolonifera* (fiorin)—is usually included in a mixture of seeds for permanent pasture. *A. canina* (Rhode Island bent grass) is another perennial grass of use for lawns, as it makes a dense sod. It differs from the other perennial bent grasses in that its spikelets are provided with awns.

Bentham, GEORGE (1800-84), English botanist, nephew of Jeremy Bentham, to whom he was for some time secretary, produced (1827) *Outlines of a New System of Logic*, containing the first clear statement of the doctrine of the quantification of the predicate—a discovery commonly attributed to Sir W. Hamilton. From 1832 he devoted himself exclusively to his favourite study of botany. He was president of the Linnean Society (1863-74). His best-known work is his *Handbook to the British Flora* (1858); but his greatest achievement is his share, the major portion, of the epoch-making *Genera Plantarum* (3 vols. 1862-83) with Sir Joseph Hooker. Besides this, his *Labiatarum Genera et Species* (1833-6) and *Flora Australiensis* (5 vols. 1863-70), in conjunction with Ferdinand von Müller, are also important works.

Bentham, JEREMY (1748-1832), one of the most productive and influential of English writers on politics and jurisprudence. The son of a prosperous London attorney, he was sent to Westmin-

ster School, and subsequently to Queen's College, Oxford, and entered (1763) Lincoln's Inn. His first important work was *A Fragment on Government*, in 1776. A daring attack on the accepted theories so floridly expressed by Blackstone in the first volume of his *Commentaries*, it had a great and immediate success. Like all Bentham's works, it is distinguished by a reckless contempt for time-honoured formulæ. It has also qualities not often found in his later writings—viz. terseness and simplicity of expression. In the year 1789 Bentham published his *Introduction to the Principles of Morals and Legislation* (new ed. 1871), perhaps his most comprehensive work. It covers a wider ground than the *Fragment on Government*, for it expounds the principles by which, in his view, the whole conduct of private citizens and rulers alike should be guided. These principles are summed up in the famous word 'utility,' which coincided with the augmenting of pleasure and the diminishing of pain. Thus, 'the greatest good of the greatest number' should, according to Bentham, be the ruler's motto. In 1785 he visited Russia, to see his brother, Samuel Bentham, then engaged in the service of the Czar. From Russia he brought back his famous idea of a *Panopticon*, or model prison, which occupied him for many years. In 1792 he came into an easy fortune by the death of his father. On the outbreak of the French revolution he threw himself with enthusiasm into the voluntary work of advising the leaders of the revolutionists. When he visited Paris in 1823, he was received with the utmost honour. The reform of the poor law, the amplification of judicial procedure, the recasting of the law of evidence, were some of the more important subjects

which occupied his long years of untiring industry at Ford Abbey, in Wiltshire, a charming country house to which he retired in 1814, and where he spent the remainder of his life. See Bowring's *The Works of Jeremy Bentham* (11 vols. 1843)—the last two contain materials for a biography (Clarendon Press); Dumont's *Introduction to the Principles of Morals and Legislation* (trans. Hildreth, 1840; new ed. 1896); F. C. Montague's *Fragment on Government* (1885); J. Hill Burton's *Benthamiana* (1843); and Rush's *Residence at the Court of London* (1872).

Bentham, SIR SAMUEL (1757-1831), naval architect and inventor, born in London, brother of Jeremy Bentham; learned shipbuilding, travelled in Russia and Siberia, and became a lieut.-colonel in the Russian service. Returning to England (1795), he revolutionized shipbuilding and dockyard administration. In 1814 he removed to France, where he died.

Benthamia, a species of the Cornaceæ, whose flowers are generally white, more rarely yellow; bears fruit of a fleshy or juicy drupe, with one or two celled stones. *Benthamia fragifera* is a native of Nepal.

Bentinck, WILLIAM (1649-1709), first Earl of Portland, was descended of good family in Holland. Throughout life the most trusted agent of William III. of England, he was employed in negotiations with the German princes previous to William's landing, and subsequently in negotiating the peace of Ryswick and the two partition treaties of 1698 and 1700. For his share in these last his impeachment was voted by the Commons (1701), but was not proceeded with. He was created Baron Cirencester, Viscount Woodstock, and Earl of Portland in 1689.

Bentinck, WILLIAM HENRY CAVENDISH (1738-1809), third

Duke of Portland, twice prime minister; headed the recalcitrant Whigs who defeated the Shelburne administration after the death of Lord Rockingham; and became premier, with Fox and Lord North as secretaries of state (April to December 1783). He acted as home secretary under Pitt (1794-1801). In 1807 he again became premier, with Canning and Castlereagh as subordinates. Their quarrels brought about his resignation in 1809.

Bentinck, LORD WILLIAM CAVENDISH (1774-1839), governor-general of India, son of the third Duke of Portland, acted as governor of Madras (1803-7), saw service in the Peninsula under Moore, and commanded the British forces in Sicily (1811-14). He was governor of Bengal (1827). His governor-generalship of India (1827-35) was marked by financial and legal reforms, the abolition of suttee or widow-burning, the suppression of the Thugs, and by measures directed towards educating the natives and opening a larger share in the government of India to them. See Boulger's *Lord W. Bentinck* (1892).

Bentinck, WILLIAM GEORGE FREDERIC CAVENDISH (1802-48), son of the fourth Duke of Portland, and commonly known as Lord George Bentinck. Though elected M.P. for King's Lynn in 1826, the greater part of his life was devoted to the turf, where he did much to raise the tone of racing circles. The exposure of the fraud practised in the Derby of 1844, which was won by a four-year-old called Maccabeus, entered falsely as Running Rein, was principally owing to his exertions. In 1845 he headed the Protectionist party in their opposition to and defeat of Sir Robert Peel, and retained the leadership of the party until 1847. See Disraeli's *Lord George Bentinck: a Political Biography* (1851; new

ed. 1904); J. Kent's *Racing Life of Lord G. Bentinck* (1892); J. Rice's *Hist. of the Brit. Turf* (1879).

Bentley, RICHARD (1662-1742), English scholar and divine, was a yeoman's son of Oulton, Yorkshire, and was educated at Wakefield grammar school and St. John's College, Cambridge. In 1682 headmaster of Spalding grammar school, he afterwards delivered, at Oxford, the Boyle lectures on the Evidences of Natural and Revealed Religion. In 1691 he published his exhaustive *Letter to Mill* on the Greek chronicler John Malelas, and in 1699 his famous *Dissertation on the Epistles of Phalaris*. Two years previously Bentley had appended to a second edition of Wotton's *Reflections on Ancient and Modern Learning* a few notes demonstrating the spuriousness of the reputed epistles. Atterbury and Smallridge had replied, and were aided by the powerful pen of Swift, in *The Battle of the Books*. Then Bentley published his *Dissertation*, proving that the epistles were forgeries of about the 14th century. In 1700 he was appointed master of Trinity College, Cambridge, and in 1717 regius professor of divinity. His life at Cambridge was one of unceasing warfare with the authorities; but although he was nominally deprived of his university degrees in 1718, and deposed from his mastership in 1734, he contrived to hold on to both until his death. In 1711 Bentley edited *Horace*, in 1726 *Terence*, and in 1732 *Paradise Lost*. In 1720 he propounded a scheme for printing an edition of the Greek New Testament, in which the received text should be corrected by a careful comparison with the Vulgate and all the oldest existing Greek MSS. But Bentley's principles of criticism met with opposition from his contemporaries,

though they have since been adopted by Biblical scholars. After his death appeared his *Discursus on Latin Metres, Remarks upon a late Discourse of Free Thinking* (1743), and *Eight Sermons preached at the Hon. R. Boyle's Lectures* (1724), etc. See Bentley's *Life* by Bishop Monk (1833); *Correspondence*, edited by C. Wordsworth, bishop of Lincoln (1842); Dyce's unfinished edition of his works (3 vols. 1836-8); and R. C. Jebb's *Bentley*, in 'English Men of Letters' (1882).

Benton, THOMAS HART (1782-1858), American statesman, born at Hillsborough, N. Carolina; proceeded to St. Louis (1815), studied law, and was elected to the Senate, representing Missouri for thirty years (1820-50). He wrote *A Thirty Years' View of the American government*, from 1820 to 1850 (2 vols. 1856), and published *Abridgment of the Debates in Congress, 1789-1850* (15 vols. 1857-61). See Roosevelt's *T. H. Benton* (1887).

Benton Harbor, tn., Berrien co., Michigan, U.S.A., 60 m. E.N.E. of Chicago. It is a popular health resort, and exports the water of its numerous mineral springs. Pop. 7,000.

Benue, or BINUE, riv., W. Africa, rises in Adamawa, flows w. with a northerly curve, and enters the Niger from the left, nearly opposite Lokoja. Length, 800 m. Navigable about 600 m. (above Yola) for boats of 5 ft. draught. See *Proc. Roy. Geog. Soc.*, 1891.

Ben Venue, mt. (2,393 ft.), par. Aberfoyle, Perthshire, Scotland, 10 m. w. by s. of Callander; overlooks s. end of Loch Katrine, in the centre of the Trossachs. See Scott's *Lady of the Lake*.

Benvenuto, properly TISIO DA GAROFALO (1481-1559), Italian painter, last of the Ferrara school, called 'the miniature Raphael.' He assisted (1509) Raphael at the Vatican, then returned (1512) to Ferrara, and be-

came partly blind. He adopted the Roman manner, sometimes producing great splendour of colouring. A gillyflower (*garofalo*) was often his signature. His chief works are at Ferrara, and in the London, Edinburgh, Dresden, Milan, Munich, and Berlin National Galleries. Private owners are the Duke of Buccleuch and Earl Northbrook. See S. Brinton's *Renaissance in Italian Art* (1903).

Benvenuto Cellini. See CELINI, BENVENUTO.

Ben Voirlich, mt. (3,224 ft.), S. Perthshire, Scotland, on s. side of Loch Earn.

Ben Wyvis, mt. (3,429 ft.), Ross and Cromarty co., Scotland, 8 m. N.W. of Dingwall.

Benyowsky, MAURICE AUGUST, COUNT DE (1741-86), born at Verbova, Hungary; joined the Austrian army; was present at the battles of Lobositz (1756) and Prague (1757); went to Poland, joined the Polish Federation (1767), and being taken prisoner (1769) was sent to Kamchatka. Escaping, he reached France in 1772; and in an attempt to found a French colony in Madagascar (1774) he was made king by the natives (1776). In 1786 he fell in battle, leading his Malagasy followers against the French. See *Memoirs and Travels* (2 vols. 1790; new ed. 1893), whence Kotzebue derived the materials for his drama, *Die Verschwörung in Kamtschatka* (1791).

Benzaconine, an alkaloid formed by the partial hydrolysis of aconitine.

Benzaldehyde. See ALMONDS, OIL OF.

Benzene, or BENZOL (C_6H_6), is a hydrocarbon in which six carbon atoms are symmetrically arranged in a ring, one hydrogen atom being attached to each carbon atom. Benzene is obtained from coal tar, being separated in the first place by fractional distillation.

which, however, does not yield a quite pure product. The commercial benzene sold as '90 per cent.,' '50 per cent.,' etc., points to the proportion that distils under 100° C.; and as pure benzene boils at 80° C., '90 per cent. benzene' contains about 70 per cent. of benzene. Benzene is a light (sp. gr. .88), colourless, mobile liquid with a peculiar odour. It melts at 6° C., and is insoluble in water, but dissolves in alcohol, paraffins, and the like, and is itself a good solvent of fatty, resinous, and other substances that do not dissolve in water. It is very volatile, and burns in air with a smoky, luminous flame. Benzene is the parent substance of the aromatic series of organic compounds, yielding innumerable derivatives by the substitution of alkyl and other groups for the hydrogen atoms. The 'ring' of carbon atoms, of which its molecule is formed, is very stable, and, owing to its symmetrical arrangement, yields but one mono-substitution product of each kind, three isomeric di-substitution products, etc. Of the benzene derivatives, which are in general characterized by being better marked, crystallizing, etc., better, and being more reactive than the 'fatty' derivatives, nitro-benzene (obtained by the action of nitric acid on benzene) and aniline (obtained by the reduction of nitro-benzene) are among the more important. Benzene is used as a solvent, and for the preparation of its derivatives, which are largely employed in the colour industry.

Benzine. See BENZOLINE.

Benzoic Acid (C_6H_5COOH) is an aromatic acid, occurring in gum benzoin, storax, Peru and Tolu balsams. It may be obtained from benzoin by sublimation, but is almost exclusively prepared from the toluene of coal tar by chlorination, followed by heating with milk of lime. Benzoic acid

is a volatile crystalline solid (m. p. 121.4° C., and b. p. 250° C.), which, though not very soluble in cold water, readily dissolves if heated. Its vapours have a peculiar odour, which produces an irritating effect on the lungs. Benzoic acid forms a series of salts, the benzoates, which, like the acid, are employed in medicine. It acts as an antiseptic, preservative, and expectorant, the acid and its salts being also antipyretic.

Benzoin, GUM BENZOIN, or GUM BENJAMIN, a balsam obtained from *Styrax benzoin*, a thick-stemmed tree found in Java and Sumatra. It is extracted from the trees, when they are six to eight years old, by incision with a knife; the resin exudes, and is allowed to remain till it hardens into reddish-brown brittle tears, which are subsequently scraped off. The gum has an agreeable odour; when heated it fuses and gives off white vapours of benzoic acid. It is principally used as incense, and in the preparation of fumigating pastilles. There are several officinal preparations in which benzoin is present, but the most important are the compound tincture of benzoin, friar's balsam, and benzoic acid, to which the characteristic effects are due. Externally all the benzoin preparations are stimulant and antiseptic, and friar's balsam in particular is a popular remedy for ulcers and wounds. Internally they are pungent, antiseptic stimulants, and are used for this purpose in diseases of the urinary organs, and as inhalations in phthisis and bronchitis.

Benzoline, or BENZINE, is a mixture of the lower boiling paraffin hydrocarbons, and is known also as petroleum spirit or naphtha. It is obtained by the distillation of American or Russian petroleum, or of Scottish shale oil. There has

been much confusion, due to the similarity of the name, of this product with benzene or benzol. Like benzene, it dissolves oils, waxes, and resins, and is a light, colourless liquid, with an ethereal odour and a low boiling-point. It is used as a solvent, as the source of the combustible vapour in explosion engines, and in some lamps; but it should be used with great care, because of the inflammability of its vapour.

Benzyl Chloride ($C_6H_5CH_2Cl$) is obtained by passing chlorine into boiling toluene. It is a pungent-smelling liquid (sp. gr. 1.11 at $15^\circ C.$, and b.p. $178^\circ C.$), which is converted into benzylalcohol on heating with water, and is used, like benzal chloride ($C_6H_5CHCl_2$) and benzo-trichloride ($C_6H_5CCl_3$), both produced in a similar way, in the colour industry.

Beograd. See BELGRADE.

Beöthy, ZOLTAN (1848), Hungarian author, born at Komorn; professor (1882) of the fine arts at Budapest University. Since 1870 he has published several meritorious novels; a good *History of Hungarian Literature* (trans. German, 6th ed. 1891); a *History of Hungarian Prose* (trans. German, 2 vols. 1886), crowned by the Kisfaludy Society. He is a member of the Hungarian Academy.

Beowulf, a famous English epic, which has been preserved practically complete in a MS. of the 10th century, and is now in the British Museum. The poem is rich in the accurate and picturesque portrayal of the daily life of our early ancestors. Hygelac is the Chocilaicus of the *Gesta Regum Francorum* of Gregory of Tours; his historical raid, referred to four times in the poem, occurred between 512 and 520 A.D. Doubtless there was also a real Beowulf, but in the adventure with the dragon he has probably been made to usurp the place of the

mythical Beowa found in several old genealogies. It is certain that we must allow for a long interval between 520 A.D. and the composition of the poem in its present form: for Beowulf is represented as reigning for fifty years; his fame had to become the common possession of the Teutonic peoples; the welding of the historical and mythical elements implies a considerable further lapse of time. On the other hand, a downward limit seems to be clearly given by the mention of the Merovingian king in line 2,921, for that dynasty ceased in 752 A.D. On the whole, the latter part of the 7th century would seem to be the likeliest date of composition. Opinion is trending strongly in favour of a single author, as against the six different authors of Müllenhoff. The scene of the poem is certainly Denmark and Sweden, and it is equally certain that the author was an Englishman. See text, edited by Zupitza (Early English Text Society, 1882), and by Wyatt (Cambridge Press, 2nd ed. 1899); translations by William Morris and Wyatt (1898), and by Dr. Clark Hall (1901; new ed. 1911). See also T. Arnold's *Notes on Beowulf* (1898); Stopford A. Brooke's *Eng. Lit. to the Norman Conquest* (1898); Ten Brink's *Beowulf-Untersuchungen* (1888); Sarrazin's '*Beowulf-Studien*' (1888) and '*Neue Beowulf-Studien*' (in *Englische Studien*, xxiii.); Müllenhoff's *Beowulf-Untersuchungen* (1889); also *Cambridge History of English Literature* (Ward and Waller), vol. i. (1907).

Bequeath (BEQUEST). Although, strictly speaking, one 'bequeaths' personal and 'devises' real estate, the former word is wide enough to carry real estate if distinctly applied to it. See WILL.

Berabra, Nubian people living on both banks of the Nile from

Assuan to Wadi Halfa, and scattered south in Kordofan, Dar Fur, and on the banks of the Blue and the White Nile. They number about 50,000, and are industrious agriculturists, and trustworthy. Some wrongly consider them descendants of the old Egyptians, for their speech and negroid features show that they came originally from Kordofan. Although they early adopted Christianity, they became Mohammedans in 1320. In 1810 they were subjugated by Mehemet Ali of Egypt.

Béranger, PIERRE JEAN DE (1780-1857), the greatest of French song-writers, was born in Paris. Having settled in Paris, he devoted himself to literature, and conceived great poetic schemes while starving in a garret. In 1804 he appealed for assistance to Prince Lucien Bonaparte, who gave him £40 a year. In 1806 the poet Arnault secured Béranger a clerkship in the office of the Imperial University, which brought him in another £40 annually. By the year 1812 the poet had found his real vocation—that of a national song-writer. Such songs as the world-renowned *Petit Homme Gris* were succeeded in 1813 by the *Roi d'Yvetot*, which caused a perfect *furor*. In 1815 appeared *Chansons Morales et Autres*, including the patriotic pieces, *Les Enfants de la France*, *Le Cinq Mai*, and *Le Vieux Drapeau*, and songs full of biting sarcasm and bitter hostility to the priests and other like reactionaries (e.g. *Les Révérends Pères*, *Le Ventru*, *Paillasse*). The appearance of the second volume in 1821 led to Béranger being tried, and condemned to three months' imprisonment. This made him the popular idol, and he exercised more political influence than any man of his time. In 1825 Béranger published *Chansons Nouvelles*, and in 1828 *Chansons Inédites*, for which he

was tried, fined 10,000 francs, and condemned to nine months' imprisonment in La Force. He was visited in his cell by Hugo, Dumas, Sainte-Beuve, and others. In 1857 appeared his fifth collection, *Dernières Chansons*. The royalists had on many occasions vainly tried to bribe him, and he also afterwards rejected offers by Napoleon III. In character he was disinterested, simple, and just. His songs were instinct with humanity, humour, true sentiment, and pathos. See his *Ma Biographie* (1857); Janin's *Béranger et son Temps* (1866); *One Hundred Songs*, trans. by W. Young (1847); *Œuvres Complètes* (3 vols. 1859-76); W. H. Pollock's *French Poets* (1879).

Berar. See HAIDARABAD.

Berat, or BIELOGOROD, tn., prov. Janina, Albania, Turkey, 30 m. N.E. of Avlona and 50 m. S.E. of Durazzo, near the site of the ancient Elyma; is the seat of a Greek archbishop. Two-thirds of the inhabitants are Greeks. Pop. 10,000.

Beraun, tn., Bohemia, 18 m. W.S.W. of Prague; has iron and cotton industries. Pop. 10,000.

Berber, tn., Nubia, Egypt, on r. bk. of Nile, 20 m. N. of its confluence with the Atbara, and nearly 200 m. N. by E. of Khartum. Pop. 10,000.

Berbera, seapt. on G. of Aden, cap. of British Somaliland; has a good harbour. Annual fair lasts from October to April, when caravans with the produce of the interior crowd to town. At that period the population increases from 4,000 to between 20,000 and 30,000. It was occupied by Britain in 1875.

Berberidaceæ, an order of 135 species of plants, placed between the buttercup and laurel orders, and found in temperate regions of both hemispheres (except in Africa and Australia), also in tropical mountains such as the

Himalayas. Common barberry (*Berberis vulgaris*) is the only native British species. Nearly fifty evergreen and twenty deciduous species have been introduced into Britain, most of them quite hardy. All the species of the genus *Berberis* are shrubby. The flowers of the order are mostly yellow; the perianth leaves are usually in sets of threes, of which the inner have honey-glands like the petals of buttercups. The stamens are usually six; the pollen escapes from the anthers by valves, as in laurels. Common barberry, found in Europe, Asia, and N. America, is used in hedges, on account of its compact habit and its persistent spiny leaves; but the ordinary foliage leaves are deciduous. It also forms an ornamental bush, especially in autumn, when its graceful pendulous racemes of small yellow and scarlet berries produce a flame of colour. Its use as a hedge is restricted, however, by the attacks of a parasitic cup fungus (*Aecidium berberidis*), the spores of which are blown to fields of wheat, and cause 'rust of wheat,' which is a second stage of the fungus, known as *Puccinia graminis*; it may also attack other cereals and grasses. At the same time, the fungus can be propagated in the absence of barberry; for rust may develop after wintering, in the spore stage, on species of Gramineæ. There are five species of the genus *Podophyllum*; the best known is *Podophyllum peltatum*, the 'American mandrake' or 'May apple'; its rhizomes yield a resin which is a powerful biliary purgative. All the species are astringent. The bark of many species is used for tanning, and dyes are obtained from the roots.

Berbers, a people of Hamitic race ranging over N. Africa southwards to the Senegal, forming three-fifths of the population of

Algeria, and a still larger proportion of the people of Morocco. Till the ingress of the Arabs in the 1st and 2nd centuries the Berbers had Mauritania for their exclusive habitat. The Moslem invasions of the 7th and 11th centuries drove them inland into the Atlas Mts., and imposed on them their religion, and in many places their language and usages. They have thus been largely assimilated to the kindred Arabs, from whom they can often be distinguished only by their somewhat coarser features and less finely shaped oval head. Blue eyes and light hair are prevalent in many parts of Morocco, Algeria, and the Sahara, whence the now widely-accepted view that the Berbers form the original stock of the European races. The term 'Afro-European' has been introduced to express this relation. Sharing the Arab's sense of personal dignity, the Berber, less fanatical, is more settled and more given to husbandry and manufacture. The Berbers, who are believed to represent the Tamahu of the Egyptian monuments, comprise four main divisions—the Kabyles of Algeria and Morocco, as far south as Fez; the Shellala (Shuluhs) of the upland Atlas valleys; the Haratin (Black) Berbers of the south Atlas slopes; and the Saharan Tuaregs. The Imazighen ('freemen,' 'nobles'), as the Berbers generally call themselves, number collectively perhaps 8,000,000. See Ibn Khaldun's *Hist. des Berbères* (1847-51); Rinn's *Les Origines Berbères* (1889); A. Wilkin's *Among the Berbers* (1900); E. Barclay's *Mountain Life in Algeria* (1881). See also BEDOUINS and MOORS.

Berbice. (I.) River of British Guiana, 350 m. long, with a drainage area of 13,500 sq. m. It enters the Atlantic N. of New Amsterdam. In 1836 Schomburgk discovered on its upper waters the beautiful Vic-

toria regia. See Glaisher's *Journey on the Berbice River* (1885). (2.) A division of British Guiana, drained by the river of the same name. It has fertile soil, and produces cocoa, vanilla, and tobacco. Pop. about 60,000. Chief town, New Amsterdam.

Berceo, GONZALO DE (fl. 1220-60), Spanish poet, one of the earliest and most prolific of sacred poets in the vernacular, but drawing his inspiration largely in form from the troubadour school of Langue d'Oc, especially from Gautier de Coinci. His long narrative and devotional poems are written in the monotonous four-rhymed verse (*quaderna via*), the most remarkable being the *Vida de Santo Domingo de Silos*, *La Estoria de Sant Millan*, *Milagros de Nuestra Señora*, and *Vida de Santa Oria*. Berceo is considered the founder of modern Spanish verse. See Amador de los Rios's *Historia de la Literatura española* (1841), and Ticknor's *Hist. of Span. Lit.* (1849).

Berceto, comm., Italy, prov. of and 30 m. s.w. of Parma. Pop. 8,000.

Berceuse ('cradle song'), a melody with a lulling, rocking accompaniment.

Berchem, suburb of Antwerp, Belgium. Pop. 27,000.

Berchem, or BERGHEM (1620-83), properly NICOLAAS (or CLAAS) PIETERSZ, Dutch painter, son of Pieter Claas, painter, was a pupil and follower of Weenix. He generally painted Italian scenery, though he lived in Holland. Pictures by him are in the Wallace Collection, the National, Edinburgh, Dulwich, and many Continental galleries. See Havard's *Dutch School of Painting*.

Berchet, GIOVANNI (1783-1851), Italian poet, whose influence, both on the Italian romantic school and on the political ideas of his countrymen, was considerable. He was an exile from 1829 to 1848,

and on his return home in the latter year was made minister of education in Milan. His works, among which are the *Profughi di Parga* (1824) and *Fantasia* (1829), were collected and prefaced with a biography by F. Cusani (1863). See, too, G. Bustelli's *Della Vita e degli Scritti di G. Berchet* (1841); M. Pasanisi's *G. Berchet* (1888), V. Imbriani's '*G. Berchet e il Romanticismo Italiano*,' in the *Nuova Antologia*, vol. viii. (1863).

Berchta, BERGDA, or BERTHA, a female being in European (chiefly Teutonic) tradition, whose fête-day occurs on or about Epiphany. She is described as a shaggy monster, with broad 'goose feet,' a long nose (or, according to some accounts, an iron nose), who walks round the house at night and tears bad boys to pieces. She rules over night-hags, enchantresses, elves, dwarfs, and the souls of unbaptized children. See Grimm's *Teutonic Mythology* (1879-88), Simrock's *Bertha die Spinnerin* (1853), and W. Müller's *Mythologie der deutschen Heldensage* (1886).

Berchtesgaden, tn., dist. Upper Bavaria, Germany, situated at an alt. of 1,875 ft., between the Untersberg and Watzmann, 12 m. s. by w. of Salzburg in Austria; a favourite summer resort. It produces large quantities of salt, and is famous for its wood-carving (crucifixes, etc.). Here are a royal (Bavarian) castle and a modern royal villa. Pop. 2,700.

Berck, or BERCK-SUR-MER, seaside resort, dep. Pas-de-Calais, France, 22 m. s. of Boulogne, with a sulphur spring and children's hospital belonging to the city of Paris. Pop. 9,600.

Berdichev, tn., Kiev gov., Russia, 115 m. by rail w.s.w. of Kiev; iron foundry, tobacco, ribbons, etc.; capital of the fanatical Hebrew sect of the Khasidim. Pop. 55,000.

Berdyansk, best harbour of the Sea of Azov, on N. side (much

improved since 1896), cap. of a dist. in Taurida gov., Russia, 300 m. E. by N. of Odessa. The town was only founded in 1827, but it has progressed rapidly. Grain is exported to the annual value of over £2,000,000, and agricultural machinery is manufactured. Pop. 30,000.

Bere. See BARLEY.

Berea. (1.) A suburb and park of Durban, Natal, beautifully situated above the harbour. (2.) A magisterial district in Basutoland, containing the mission station of Berea, 10 m. E. of Maseru.

Beregonium, a misprint for Ptolemy's *Rerigonium*, a town of the Novantæ, a tribe of Western Scotland. Boece and Hollinshed place Beregonium in Lochaber, Argyllshire; and it has been identified with the vitrified 'fort of the sons of Uisnach.' See Dr. Angus Smith's *Loch Etive* (1879).

Beregszasz, tn. of Hungary, co. Bereg, 93 m. by rail s.e. of Kaschau. Alum is mined. Pop. 10,000.

Berehaven, or BEAR HAVEN, channel between Bear I., s.w. Co. Cork, Ireland, and the mainland; forms a landlocked harbour much visited by British fleets.

Berendt, GOTTLIEB (1836), German geologist, born at Berlin; published in 1863 the first geological chart of Brandenburg, and became (1875) professor at Berlin University. Berendt specially investigated the geology of the N. German plain, and was one of the first exponents of the glacial theory. He has written *Geognostische Beschreibung der Umgegend Berlins* (1885), and *Die Theorie Darwins und die Geologie* (1870), in which he opposes the Darwinian theory.

Berengar I., king of Italy (d. 924), crowned king in 887, and emperor of the West in 915. His reign was marked by successive

struggles with his own turbulent nobles, and with invading Saracens, Hungarians, and Burgundians. In 904 he took prisoner Louis, king of Lower Burgundy, and deprived him of his sight, but suffered a crushing defeat at the hands of Louis's successor, Rudolf, in 923. Berengar was assassinated at Verona in the following year.—**BERENGAR II.**, son of Albert, Marquis of Ivrea, and grandson of Berengar I., was crowned king in 950. His rule was arbitrary, and in 961 he was deposed by Otto, emperor of Germany, and sent to Bamberg, where he died in 966.

Berengaria (d. after 1230), queen of Richard I. of England, daughter of Sancho VI. of Navarre; was married by the king in Cyprus, whither his mother, Eleanor, had brought her, while on his way to the crusades (May 12, 1191). Leaving Acre in 1192, she proceeded to Rome and Poitou after her husband's capture. She rejoined him in 1195. After Richard's death she resided at Le Mans as countess. See Strickland's *Lives of the Queens of England* (new ed. 1851-2).

Berengarius OF TOURS (998-1088), theologian, born at Tours; became director of the cathedral school. Developing liberal views concerning transubstantiation, he was condemned by a Romish synod, and was imprisoned by Henry I. of France. Rescued by friends, in 1059 he reached Rome, where he retracted his views, but, returning to Tours, promulgated them anew. Persecuted by Pope Gregory VII. and Lanfranc of Canterbury, he retired to St. Côme, near Tours, where he spent the rest of his days. A selection from his works was published by Vischer in 1834. See Lessing's *Berengarius Turonensis* (1770).

Berenice (mod. *Sakayt-el-Kubla*), anc. seapt. on w. of Red Sea, Egypt, 20 m. s.w. of Cape Ras Benas; founded (225 B.C.) by

Ptolemy II.; was once a very important trading centre. Numerous interesting sculptures and inscriptions have been found here.

Berenice, a Macedonian form of the Greek *Pherenice* ('bringer of victory'), was a name borne by several queens of the Ptolemies in Egypt, of whom the best known was the wife of Ptolemy III. (Euergetes, 247-222 B.C.). She dedicated her hair to the gods, to procure a safe return for her husband from an expedition to Syria, and it was fabled to have become the constellation *Coma Berenices* ('Berenice's hair'). She was put to death by her son, Ptolemy IV. (Philopator), when he succeeded to the throne. See Mahaffy's *The Ptolemies* (1896).

Berenson, BERNHARD (1865), historian and critic of Italian painting, born in Vilna, Russia. Among his works are *Venetian Painters of the Renaissance* (1894); *Florentine Painters of the Renaissance* (1897); *The Study and Criticism of Italian Art* (1901); *Lorenzo Lotto* (1903); *The Drawings of the Florentine Painters* (1903)—all in English.

Beresford, SIR JOHN POO (1766-1844), British admiral, a natural son of the first Marquis of Waterford. In 1795, as acting captain of the *Hussar*, on the N. American station, he engaged five French store ships, and captured two. As captain of the *Raison*, he captured, in 1797, a Spanish treasure ship near the Bahamas. In 1809 he was present, in the *Theseus*, at the action in Basque Road. In 1814 he reached the rank of rear-admiral, and was made a baronet; in 1819 K.C.B., and in 1838 an admiral. He represented various constituencies in Parliament between 1809 and 1835.

Beresford, LORD CHARLES WILLIAM DE LA POEB (b. 1846), British rear-admiral, a son of the fourth Marquis of Waterford;

entered the navy in 1859, became a captain in 1882, and attained post-rank in 1897. He commanded the *Condor* at the bombardment of Alexandria in 1882; commanded the naval brigade at the battles of Abu Klea, Abu Kru, and Metamah; and took the steamer *Safia* up the Nile to the rescue of Sir Charles Wilson's party. In 1875-76 he accompanied the Prince of Wales (Edward VII.) as naval A.D.C. to India. From 1874 to 1880 he represented Waterford in Parliament; from 1885 to 1889, Marylebone; from 1898 to 1900, York; and in 1902 he became M.P. for Woolwich. From 1886 to 1888 he was a lord of the Admiralty, resigning on the ground that his colleagues were not providing for the proper organization of the navy. In 1900 he was second in command in the Mediterranean. In 1903 he resigned his seat in Parliament. He became commander-in-chief in the Mediterranean (1905-7), and of the Channel Fleet (1907-1909). In 1911 he retired from active service. At the general election of January 1910 he was elected M.P. for Portsmouth as a Conservative, and was returned again in December of the same year. He was associated with Mr. H. W. Wilson in the compilation of a *Life of Nelson* (1898). He has also visited and written about China—*The Break-up of China* (1899).

Beresford, WILLIAM CARR, VISCOUNT BERESFORD (1768-1854), British general, saw service at Toulon with Hood; in Corsica, Egypt, and the Cape (1805); and commanded the regular troops when Sir Home Popham seized Buenos Ayres in 1806. After these troops were captured, Beresford made his escape (1807), and served in the Peninsula under Moore. In 1809 he undertook the reorganization of the Portuguese army, helped to win the battle of Busaco (1810), commanded at the

battle of Albuera (1811), and took part at Badajoz (1812), Salamanca (1812), and Toulouse (1814). He was made a baron in 1814, and a viscount in 1823. See J. W. Cole's *Peninsular Generals*; Napier's *Peninsular War*.

Berezin, ELIAS NICOLAIEVITCH (1818-96), Russian Orientalist and traveller, began in 1842 a series of journeys in Asia Minor, Persia, Egypt, and afterwards (1848) in Siberia, for linguistic and ethnographical studies. From 1855 he was professor of the Turkish language at St. Petersburg University, director of the Oriental Numismatic Museum in St. Petersburg, editor of the Oriental part of the great Russian *Encyclopædia*, and published several important books in Russian. He published, in French, *Recherches sur les Dialectes Musulmans* (2 vols. 1848-53).

Berezina. (1.) Riv. of Minsk gov., Russia, joins the Dnieper after a course of 340 m.; famous for the disastrous passage of the French Grand Army during its retreat from Moscow (1812). The Berezina Canal unites the river with the W. Dvina. (2.) Tn., Russia, gov. of and 50 m. E. of Minsk. Pop. 10,000.

Berezna, tn., Russia, gov. of and 24 m. E.N.E. of Chernigov; has candle and brick manufactures. Pop. 11,000.

Berezov, dist. tn. of Tobolsk gov., Siberia, 450 m. N.W. of Tobolsk, on the river Sosva. It is one of the worst places to which political prisoners have been exiled. Average temp. 25° F. Pop. 1,000.

Berezovsk, tn., gov. Perm, Russia, on E. slope of Ural Mts., 15 m. N.E. of Ekaterinburg; has gold mines. Pop. 10,000.

Berg, a suburb of Stuttgart, Würtemberg, Germany, situated on the Neckar, with mineral springs, iron works, woollen mills, and dye works. Pop. 6,000.

Berg, DUCHY OF, a former duchy of Germany, situated on the r. bk. of the Rhine, between Cologne and Koblenz, with an area of over 1,000 sq. m., and a pop. of over 250,000. It was created a duchy in 1101, and in 1423 became united with the duchy of Jülich (Juliers). In 1806 it was ceded to France, and Napoleon made it a grand-duchy under Joachim Murat. At the same time it was enlarged to an area of 6,700 sq. m., with a pop. of 900,000. Its capital was Düsseldorf. At the Congress of Vienna in 1815 it was ceded to Prussia. See Schmidt's *Le Grand-Duché de Berg* (1905).

Berga, tn., 52 m. N.W. of Barcelona, Spain. Pop. 5,500.

Bergaigne, ABEL (1838-88), French Orientalist and philologist, born at Vimy (dep. Pas-de-Calais). He was, in 1868, appointed reader in Sanskrit, and later director, at the *Ecole des Hautes Etudes* at Paris; afterwards became professor of Sanskrit and of comparative grammar at the Sorbonne. Among his numerous works are *Essai sur la Construction Grammaticale* (1873); *La Religion Védique d'après les Hymnes du Rig-Veda* (1878-83); *Les Inscriptions Sanscrites du Cambodge* (1882); *Chronologie de l'Ancien Royaume Khmêr* (1884); *Manuel pour étudier la Langue Sanscrite* (1884); *Etudes sur le Lexique du Rig-Veda* (1885); and several translations from the Sanskrit. After his death appeared *Manuel pour étudier le Sanscrit Védique* (1890), by him and V. Henry. See V. Henry's *L'Œuvre d'Abel Bergaigne* (1889).

Bergama, tn., Anatolia, Asia Minor, 50 m. N. of Smyrna; occupies site of ancient Pergamon. Pop. over 6,000.

Bergamo. (1.) Prov., N. Italy, partly in the Lombardy Plain and partly in the Dolomite Alps, with pastoral, agricultural, and manufacturing (silk, cloth, machinery)

pursuits. Area, 1,060 sq. m. Pop. 520,000. (2.) Anc. *Bergomum*, tn. and episc. see of Italy, cap. of prov. Bergamo; stands at the foot of the Alps, 34 m. by rail N.E. of Milan, and consists of a mediæval old town crowning a hill 480 ft. above the new town. In the former, among other buildings, are the cathedral (begun in 1350), a 9th century church with the tomb of Donizetti, and the library of the Broletto (1354). The business quarters are in the new town, the chief industries being the manufacture of cottons, silks, cloth, hats, paper, and metal wares. Its churches and the Carrara Academy contain paintings by Lorenzo Lotto, Moroni, Romanino, and other artists of the Lombard school. Donizetti, Mai (the philologist), Lorenzo Lotto, the elder Palma, Moroni, Torquato Tasso, and Count Thurn and Taxis were either natives of Bergamo or were intimately connected with it. Pop. 55,000.

Bergamot, a variety of the sweet orange (*Citrus aurantium*, var. *bergamia*) due to cultivation. From it is extracted oil or essence of bergamot, used in perfumery. The orange is cultivated chiefly in Italy and France. (See De Candolle's *Origin of Cultivated Plants*, 1884.) Certain varieties of pear, whose flavour recalls that of bergamot, are called by this name.

Bergedorf, tn. in the German free state of Hamburg, on the Elbe, 10 m. by rail E.S.E. of Hamburg. Its market gardens supply Hamburg, and it also produces beer, leather, glass, and bricks. Pop. 13,000.

Bergen, the Flemish name of Mons in Belgium.

Bergen (formerly *Björgvin*), fortified tn. and bishop's see, on the Byfjord in Norway, 60° 24' N. and 5° 18' E., built on a peninsula separated from the mainland by the narrow Buddefjord. Long the chief port of Norway,

it has latterly given way to Christiania. Its total trade amounts annually to over five millions sterling, the imports representing 70 per cent. of this. Of the exports fish are the principal commodity. The merchant fleet numbers over 700 vessels (vessels under 100 tons not included), with some 425,000 tons. Chief public buildings, the cathedral and the ancient church of the Holy Cross. Here were born the poets Holberg (1684) and Welhaven (1807), the violinist Ole Bull (1810), and the musician Grieg (1843). The fish market is interesting; the fish are kept alive in tanks until sold. The harbour is protected against the north-west wind by a mole. Bergen is the chief tourist centre for Western Norway. Historically, Bergen is one of the most ancient and interesting towns in Norway. Founded by King Olaf Kyrre about 1070-75, it was an important trading-place in the 12th century, and attracted the N. German merchants. In 1181 a great naval battle was fought off the headland Nordnes, between Kings Sverre and Magnus. In 1198 the Clerical party of the Bagler besieged King Sverre in his fortress, and there were several battles fought here in the beginning of the 13th century between them and the popular party of the Birkebeiner. The first coronations of the Norwegian kings were held at Bergen, and some were buried there. From 1164 to 1271 several Rigsdags assembled at Bergen. From the middle of the 13th century the Hansa League made its influence felt at Bergen, and in 1343 erected its own factory, which survives in the Tyskebryggen. In 1665 Bergen was the scene of an engagement between the English fleet and the combined Dutch fleet and Norwegian garrison. See Nielsen's *Bergen fra de ældste*

Tider (1877); Jäger's *Bergen og Bergenserne* (1889); and the magnificently illustrated *De Tyske Kontor i Bergen* by Koren-Wiberg (1899-1900), and F. Bruns's *Die Lübecker Bergenfahrer* (1900). Pop. 82,000.

Bergen-op-Zoom, tn., prov. N. Brabant, Netherlands, near the head of the E. Scheldt. It was formerly a strong fortress, and resisted the Spaniards in 1581, 1588, 1605, and 1622, and the English in 1814, but succumbed to the French in 1747. Pottery and bricks are made. Pop. of commune, 14,000.

Berger, ALFRED, BARON VON (1853), Austrian critic, born at Vienna; professor of philosophy at its university in 1894; director of the new Deutsches Schauspielhaus at Hamburg (1899). He has published *Dramaturgische Vorträge* (1894), *Studien u. Kritiken* (1900), and *Gesammelte Gedichte* (1891). See also his autobiographical *Im Vaterhaus* (1901), and *Jugenderringerungen* (1901).

Bergerac, tn., dep. Dordogne, France, on r. bk. of Dordogne R., 55 m. by rail E. of Bordeaux, is a flourishing industrial place. Besides flour mills, breweries, and paper mills, there are foundries, workshops for the making of railway plant, and chemical factories. The celebrated white wine Montbazillac is produced in the neighbourhood. Bergerac was English in 1450. Pop. 16,000.

Bergerac, SAVINIEN CYRANO DE (1619-55), French author, born at Bergerac; went to Paris, and served with distinction in the army (1639-41). Always of a turbulent disposition, he fought many duels, mostly in consequence of insulting or satirical references to his unusually large nose. The most famous productions of his pen were *Histoire Comique des Etats et Empires de la Lune* (1656), and a corresponding *Histoire Comique... du Soleil*

(1661), books written in a mocking spirit. Besides these he wrote a satire on Mazarin, a tragedy, *Agrippine* (1653), and one of the earliest French comedies of character in *Le Pédant Joué* (1654). Bergerac is the subject of a fine play by the modern French poet Rostand; the title rôle was first played (1897) by Coquelin, and by Sir Charles Wyndham at the Criterion Theatre, London. See *Œuvres Complètes* (1858; new ed. 1900), and *Life* by Brun (1893).

Bergh, JOHAN EDVARD (1828-80), Swedish landscape painter, born in Stockholm; the forerunner of the modern school. He studied at Düsseldorf under Gude, and in Geneva under Calame. His delicate landscapes are full of sentiment, and are painted with fresh, clear colour. His *View of Uri* is in the Berlin Academy. From 1861 he was professor in the Academy of Stockholm.—His son, SVEN RICHARD (1856), is a good landscape and figure painter. See Muther's *History of Modern Painting* (1895-6).

Berghaus, HEINRICH (1797-1884), German geographer, professor of mathematics at Berlin (1824-36), and afterwards director of the geographical school at Potsdam. The best known of a vast number of charts is his *Physikalischer Atlas* (1838-48; 2nd ed. 1850-52; 3rd ed. 1886). His nephew, HERMANN (1828-90), German cartographer, born at Herford in Westphalia, was employed from 1850 in Gotha, where he died. He prepared several maps for the atlases of Stieler and Sydow, and published several charts, as *General Map on Mercator's Projection* (1859; 2nd ed. 1869), the 11th edition of the *Chart of the World* (1886), *Physical Map of the Globe* (1874), *Mural Physical Map of Europe* (1875), *Map of the Alps* (1878), *Mural Physical Map of Africa* (1881); and undertook a new edi-

tion of the famous *Physikalischer Atlas* of his uncle, Heinrich Berg-haus, which was published in Gotha (1886, etc.), and to which he contributed nearly a third of the maps.

Bergk, THEODOR (1812-81), German humanist, born at Leipzig; filled the chair of philology at Marburg (1842), Freiburg (1852), Halle (1857), and Bonn (1869). He is best known for his *Poetae Lyrici Graeci* (3 vols. 1843; 5th ed. 1900), and an incomplete *Geschichte der Griechischen Literatur* (1 vol. 1872), completed by Hinrichs and Peppmüller (3 vols. 1883-7). He also issued editions of Anacreon (1834), Aristophanes (1857), and Sophocles (1858).

Bergmann, ERNEST VON (1836-1907), celebrated surgeon, was born at Rujen, Livonia. In 1866 he accompanied the Prussian army through the Bohemian campaign, and in 1870 again accompanied the German troops, and won for himself a great name by the success of his operations and his organization of the ambulance service. Shortly afterwards he was appointed professor of surgery at Dorpat, and in 1882 to the chair of surgery in the University of Berlin. He was one of the leading exponents of the purely aseptic treatment of wounds. In 1887 he was in attendance when the Emperor Frederick was attacked with cancer in the throat, and the calling in of Sir Morell Mackenzie, the English throat specialist, gave rise to a memorable but painful controversy between the two. He wrote several works on surgery.

Bergman, TORBERN OLOF (1735-84), distinguished Swedish chemist and mathematician. He studied at Upsala, where (1758) he became professor of physics, and subsequently of mineralogy and chemistry. He developed the theory of the determination of chemical processes by the vari-

ous degrees of affinity between substances, which was corrected by Berthollet in his conclusion that the quantitative difference of the substances concerned is also a factor in such determination. Bergman's scientific papers appeared as *Opuscula Torberni Bergman, Physica, Chemica et Mineralia* (1779-81), and were issued in English (1784-5).

Bergschrund, the crevasse which is found at the head of a glacier or snowfield where it abuts against the face of the mountain.

Bergson, HENRI LOUIS (1859), French philosopher, was born in Paris. He was educated at the École Normale, and became *docteur ès lettres* in 1889. After holding various teaching posts in Paris and the provinces, he became *maître de conférences* at the École Normale Supérieure in 1897, and professor at the Collège de France since 1900. In 1901 he became a member of the Institut. He first approached philosophy by the path of mathematics, and his earlier works were occupied with semi-mathematical problems. His position is in strong opposition to the school of German idealism. He regards the functions of the intellect as practical rather than theoretical, and holds that sensible reality is beyond the scope of any conceptualist logic. This attitude has made him a favourite authority with the new school of Pragmatists in England and America. His chief works are *Essai sur les données immédiates de la Conscience* (1889; Eng. trans. 1910), *Matière et Mémoire* (1896; Eng. trans. 1911), and *l'Évolution Créatrice* (1907; Eng. trans. 1911), besides numerous magazine articles. See Prof. W. James's *A Pluralistic Universe* (1909), and under PRAGMATISM.

Bergues, tn., dep. Nord, France, 5 m. by canal s. of Dun-

kirk. The town hall, with remarkable belfry, was built in 1664. Trade in corn, cattle, and butter. Pop. 5,000.

Bergün (Romansch, *Bravuogn*), a finely-placed vil. and summer resort (alt. 4,550 ft.) in the Swiss canton of the Grisons, on the route over the Albula Pass. Pop. 1,300.

Berg Wind, the name applied along the south coast of Cape of Good Hope to strong, hot, dry northerly winds which belong to the same category as the *föhn* of Switzerland and the *chinook* of Canada. They are frequent during May and August, and usually last for twenty-four hours, but sometimes for forty-eight hours.

Berhampur. (1.) Municipaltn., Ganjam dist., Madras Presidency, India, 16 m. s.w. of Ganjam; is a cantonment for native troops, and has a considerable trade in sugar and silk. Pop. 26,000. (2.) Municipal tn., Murshidabad dist., Bengal Presidency, India, 10 m. s. of Murshidabad; scene of the outbreak of mutiny in 1857. Pop. 25,000.

Beriberi, a form of peripheral neuritis, in which the characteristic symptoms are oppressive breathing, œdema, anæmia, paralytic weakness, and numbness in the lower extremities. It is often epidemic in China, Japan, Ceylon, India, Africa, the W. Indies, and Central and S. America. It has been brought to England by sailors, and has appeared among the crews of ships months after reaching port. Its cause is not yet understood, but the balance of evidence seems to point to its being a form of chronic poisoning probably due to unwholesome diet (inferior rice). The disease clings to particular districts and ships. There is no specific treatment, and recovery is generally spontaneous. See works on beriberi by Bentley (1893), Manson (1893), and Pol (1904).

Bering, or BEHRING, VITUS (1680-1741), explorer, born at Horsens, Jutland. Taken (1706) into Russia's naval service, he so distinguished himself in the wars against Sweden that Peter the Great charged him (1725) with the conduct of an exploring expedition. Reaching Kamchatka, he determined (1728) that Asia was not, as supposed, joined to America. Later, in 1741, he traversed the Sea of Okhotsk and the north coast of America, but died in Bering I. The account of the voyage (St. Petersburg, 1793) we owe to the survivor, Steller.

Bering (or BEHRING) **Sea** and **Strait** derive their names from Vitus Bering. They separate America from Asia, and are the most northerly division of the Pacific Ocean, from which they are demarcated by the Aleutian Is. On the N., Bering Sea communicates with the Arctic Ocean through Bering Strait, which is narrow, shallow, and bordered by bare, rocky shores. It receives the Yukon R. from Alaska, and the Anadyr from Siberia. From November to May Bering Sea is generally impassable, owing to fog and ice. A cold current flows from the Arctic Ocean through Bering Str.; a warm current runs through it from the Pacific. Proposals have been made to tunnel under the strait, or bridge it, and link up the Siberian Railway with the Canadian system.

Bering Sea Question, THE, was concerned with the right of Canadian fishermen to hunt, capture, and kill seals in the Bering Sea, and proved a fruitful source of difference, of irritation, and even of danger, for many years, between the governments of the United States, of Canada, and of Great Britain. Early in 1892 a treaty of arbitration was agreed to, and the final award of the majority of the arbitrators, who held their meetings in Paris, was

delivered on Aug. 15, 1893. It decided that the United States had no exclusive rights of jurisdiction in the Bering Sea, and that they had no right of protection or property in the fur seals frequenting the islands when such seals were found outside the ordinary three-mile limit. The arbitrators further decided that a zone of sixty miles around Pribylov Islands, the property of the United States, should be established, within which the pursuit, capture, or killing of seals by the citizens of either of the governments should be entirely prohibited, and also that the period between May 1 and July 31 should be observed as a close season. A bill giving effect to the award was passed by the Imperial Parliament on Apr. 23, 1894, and a similar measure was approved by the American House of Representatives and the Senate. A sum of £92,700 was subsequently paid by the government of the United States to the Canadian government as compensation to the owners of the vessels that had been unlawfully seized. See Stanton's *The Bering Sea Controversy* (1892); also *Report of the Bering Sea Commission* (1893), and *Tribunal of Arbitration* (5 vols. 1893).

Bériot, CHARLES AUGUSTE DE (1802-70), Belgian violinist, the husband (1836) of Malibran, the eminent vocalist; professor in the Conservatoire of Paris (1843), and of Brussels from 1843 until 1852. His compositions were numerous and popular.

Berislav, or BORISLAV, tn., Kherson gov., Russia, 40 m. E.N.E. of Kherson city. Pop. 12,000.

Berja, tn., prov. Almeria, Spain, 22 m. w. of Almeria. Exports grapes, and has foundries, cotton mills, and candle works. Pop. 13,000.

Berkeley. (1.) Parish and mrkt. tn., Tewkesbury div., Gloucestershire, England, on the river Avon, 15 m. s.w. of Gloucester.

Edward II. was murdered in Berkeley Castle in 1327. Birthplace of Jenner, who introduced vaccination. The Vale of Berkeley is famous for Gloucester cheese. Pop. of par. 5,000. (2.) City, Alameda co., California, U.S.A., 10 m. N.E. of San Francisco, on San Francisco Bay; the seat of the University of California and the state agricultural college. Pop. (1910) 40,434.

Berkeley, GEORGE (1685-1753), Irish metaphysician and philanthropist, born at Dysert, Kilkenny, and in 1700 entered Trinity College, Dublin. In 1707 he published his first works, *Arithmetica* and *Miscellanea Mathematica*. In 1709 he took orders. His *Essay towards a New Theory of Vision* (1709) argued that, at any rate, the immediate objects of sight are all mind-dependent appearances, which form what is practically a natural language whereby mankind are 'instructed and regulate their actions.' This essay was followed by the *Principles of Human Knowledge* (1710), in which he boldly represents as 'self-evident truth' that all those bodies which compose the mighty fabric of the world could have no real subsistence after the extinction of all percipient mind, nor active power after the extinction of all voluntary agency. By an unmetaphysical generation this was supposed to imply that the material world is only an idle dream, having no practical significance. To correct this misunderstanding Berkeley published *Three Dialogues between Hylas and Philonous* (1713), in which the questions at issue are discussed after the manner of Plato.

His next eight years were spent in England, France, and Italy. In 1713 he went to London, and was introduced by his countrymen Swift and Steele to the brilliant

society in which Addison and Pope were prominent. In 1714 he again visited France and Italy, as chaplain to the Earl of Peterborough, and lived in the latter country from 1716 till 1720.

Berkeley's return to England in 1720 was an era in his life. He found the country disturbed, economically and socially, by the South Sea catastrophe. The prevailing tone of morals shocked him, with its indifference to lofty ideals, and its selfish secularism, which had taken the place of the fanatical spirituality of the preceding century. He proposed a remedy in a fervid *Essay towards preventing the Ruin of Great Britain* (1721). Despairing of the Old World, and ready to look elsewhere for Utopia, he told his friend Lord Percival, in 1723, that he was determined to spend the rest of his life in Bermuda, at the head of an institution which might become a fountain of Christian civilization for America. To the carrying out of this project all his energies were now directed. In 1724 preferment came in the form of the deanery of Londonderry. Later in the same year he moved to London, where he spent the four following years collecting money for his enterprise, for which he proposed to surrender the deanery. His marvellous social charm and enthusiasm attracted Sir Robert Walpole, and a promise of £20,000 for Bermuda was voted by the House of Commons. In 1728 we find him, newly married, embarked, on his way to Bermuda, for Rhode Island, where he waited for three years for the promised endowment. He was in the end disappointed by Walpole, and in 1731 returned to London, where he published (1732) *Alciphron; or, The Minute Philosopher*, a book of dialogues on the philosophy of religion, pondered and prepared in the seclusion of Rhode

Island. A supplementary tract on *Visual Language*, 'showing the immediate presence and providence of a deity,' appeared a year after *Alciphron*.

The year 1734 was another turning-point in Berkeley's life, when he became bishop of Cloyne, by the favour of Queen Caroline. The change found him on the eve of a controversy concerning *mysteries* in religion, suggested by a dialogue in *Alciphron*—its mysteries being fatal to its authority, according to certain freethinking mathematicians. The *Analyst* (1734) was Berkeley's rejoinder, in which he showed that even mathematics is as open as religion to the charge of ultimate mystery.

The social state of Ireland next engaged his attention. In the *Querist* (1735-7) he raised questions of political economy that anticipated David Hume and Adam Smith. Berkeley's philanthropic zeal found varied exercise. In 1739 the diocese of Cloyne was ravaged by famine and fever. His American experience reminded him of the marvellous medicinal properties of tar, and his own experiments served to expand the conception. It assimilated curiously with studies in Plato, the Neoplatonists, and the mystics, in which he had been immersed for years; an eccentric ingenuity connected the medicine with metaphysics; and tar, as a possible panacea, suggested the final interpretation of the universe. This train of thought found expression in *Siris* (1744), the most curious book in English metaphysics, and Berkeley's last word on philosophy. Its profound speculation was, however, obscured by the prolonged controversy to which its therapeutic doctrines gave rise. Indifferent health induced Berkeley in 1752 to remove from Cloyne to an academic home in Oxford, where he

died in 1753. He was buried in the cathedral of Christ Church.

One need not look in Berkeley's works for an all-comprehensive system, as in Spinoza or Hegel. 'I had no inclination,' he tells his friend Johnson, 'to trouble the world with large volumes. What I have done was rather with a view to giving hints to thinking men who have leisure and curiosity to go to the bottom of things and pursue them in their own minds.'

The works of Berkeley first appeared in a collected form in 1784. About the middle of the 19th century Berkeley began to receive more sympathetic treatment in Britain from Ferrier and Collyns Simon; also, from a different point of view, in essays by Professor Campbell Fraser (1863-4); and in 1871 the University of Oxford published an annotated edition of the *Collected Works* (3 vols.) by Professor Fraser, along with a supplementary volume of *Life and Letters*. This was followed in 1874 by a volume of annotated *Selections* from Berkeley's philosophical works. See also *Berkeley*, Blackwood's 'Philosophical Classics,' by Professor Fraser (1881). Those works of Berkeley which had been published in his own lifetime appeared in 1898, with a biographical introduction by the Right Hon. A. J. Balfour. A second and revised complete edition of Berkeley's *Works* by Professor Fraser was published at Oxford, in 4 vols., in 1901.

Berkeley, SIR GEORGE CRANFIELD (1753-1818), British admiral, son of Augustus, fourth Earl of Berkeley, was in 1778 in the *Victory* in the action off Ushant. His captain's commission dated from 1780. At the relief of Gibraltar, in 1782, he was in command of the *Recovery* frigate, and at Lord Howe's victory in 1794 was wounded while in command of the *Marlborough*. In 1799 he was

in command of a squadron blockading Brest, and in 1810 became an admiral in the British navy, and was also made lord high admiral of Portugal. He was M.P. for Gloucester (1781-1812).

Berkeley, JAMES, THIRD EARL OF (1680-1736), British admiral, known in earlier life as Lord Dursley, was made a captain in 1701, and commanded the *Boyne* with great credit in Rooke's action off Malaga in 1704, and the *St. George* at the siege of Toulon. In 1717 he was appointed first commissioner of the Admiralty, and two years later was advanced to the rank of admiral and commander-in-chief of the fleet and vice-admiral of England; K.G., 1718.

Berkeley, MILES JOSEPH (1803-89), English botanist, was rector of Sibbertoft in Leicestershire (1868-89); published many papers on the fungoid diseases of plants, and described the fungi in Sir W. Hooker's *British Flora* (1836); *Introduction to Cryptogamic Botany* (1857); *Outlines of British Fungology* (1860). He was editor of the *Jour. Roy. Hor. Soc.* (1866-77), and co-editor of the *Micrographic Dict.* (1883). See *Proc. Roy. Soc.* (1890), by Sir J. Hooker; and *Annals of Botany* (1897), by Sir W. T. Thiselton-Dyer.

Berkhamstead, or GREAT BERKHAMSTEAD, par. and mkt. tn., Hertfordshire, England, 26 m. N.W. of London. Cowper the poet was born here in 1731. Has chemical works and straw-plaiting and makes carved and turned woodware. Pop. 5,200.

Berkovitza, tn., W. Bulgaria, on trib. of Ogost, 40 m. N. by W. of Sofia. Pop. 6,000.

Berkshire, an inland county of England, lying S. of the river Thames and W. of Surrey; 48 m. long, 29 m. broad. It is styled the 'royal county' of England, because it contains Windsor Castle. The royal seats of Frogmore,

Cumberland Lodge, and Cranbourn Lodge are also in this county. In the N.W. a low chalk ridge runs generally parallel to the Thames, and slopes S. to the 'Vale of the White Horse,' which is bounded on the S. by a continuation of the Chiltern Hills, locally known as the White Horse Hills. South of this range lies the valley of the Kennet, stretching E. to the Loddon. East of the Loddon the county is well wooded, and includes Windsor Great Park. The highest point is Inkpen Beacon (1,011 ft.), in the S.W. Agriculture and dairy-farming are the chief industries. Manufactures are limited, and chiefly centred in Reading, which has iron works, biscuit factories, and nurseries; whiting is made from the chalk at Kintbury. The county returns five members to Parliament, one for each of the three divisions—N. or Abingdon, S. or Newbury, E. or Wokingham; and one each for Reading and Windsor. It comprises one co. bor. (Reading), and six munic. bors. (Abingdon, Maidenhead, Newbury, Wallingford, New Windsor, Wokingham). Chief tn. Reading. It was the scene of the struggles between Alfred and the Danes in the 9th century. It also played an important part in the civil wars from the reign of Stephen to the death of Charles I. Area, 896 sq. m. Pop. 300,000. See Cooper-King's *Hist. of Berkshire* (1887), and Ditchfield and Page's *Berkshire* (1906).

Berlad, or BARLAD, cap. Tutova co., Roumania, on river Berlad and the state railway Galatz-Jassy; important entrepôt for the corn trade to Galatz. Pop. 25,000.

Berlichingen, GOETZ or GOTTFRIED VON, 'of the Iron Hand' (1480-1562), born at Jaxthausen in Würtemberg, was a typical example of 'the baronial robbers of the Rhine—stern, bloody, and rapacious, but frank, generous,

and, after their fashion, courteous.' He is the subject of Goethe's tragedy, translated by Scott in 1799. At the siege of Landshut (1505) he lost his right hand, and the artificial hand which he used in its place was the origin of his nickname. Fighting against the Swabian League, he made a heroic defence of Möckmühl, but was taken prisoner at Heilbronn (1519), and only released through the exertions of his friends, Georg von Frundsberg and Franz von Sickingen. In the Peasants' war of 1525 he headed a party of the revolted peasants, and after the dissolution of the Swabian League (1540) he took part with Charles V. (1542) against the Turks and Francis I. (1544). His autobiography, edited and published by Pistorius (1731; new ed. by Schön-huth 1886), furnished Goethe with materials for his drama. See Pallmann's *Der historische Götz von Berlichingen* (1894).

Berlin. (1.) Capital of Prussia and German empire, in prov. of Brandenburg, on the river Spree (affluent of Elbe), 84 m. by rail from Stettin and 178 m. from North Sea, within 25 hours' journey from London and 23 from Paris. On an island in the centre of the city stands the royal palace, a square pile built at different times between 1451 and the present day. Opposite it are the old (1824-8) and new (1843-55) museums, the national gallery, the cathedral (1894, etc.), with the Hohenzollern mausoleum, and the national monument to the Emperor William I. (1897). From this island stretches westwards the noblest street in Berlin, Unter den Linden ('under the lime trees'). The triumphal arch at the west end of the street, the Brandenburg Gate (a copy, made in 1789-93, of the Propylæa at Athens), forms the entrance to the large park (630 ac.) of the Thiergarten. In the E. is the

magnificent avenue of the Siegesallee or Avenue of Victory, adorned (1898-1901) with thirty-two marble groups of the rulers of Prussia and Brandenburg. In the Unter den Linden are many splendid public edifices, among which may be mentioned the armoury (1695-1706), the opera-house, the royal library, the new town hall (1861-70), the university (with over 9,500 students), the palaces of William I. and the Empress Frederick, and the monument to Frederick the Great by Rauch (1851). In the N.E. of the Thiergarten stands the most imposing building of the city, the Imperial Diet or Parliament, erected from designs by Wallot, in 1884-94, at a cost of over £1,000,000. In the S.W. are the famous zoological gardens and Emperor William I. memorial church (1891-5). Near the N.W. is the royal palace of Bellevue. In Wilhelm Street are the Prussian parliament houses (1893-8), the post office (1871-98), and the handsome Anhalt railway station (1875-80). The churches of Berlin are mostly built of brick, the oldest being St. Mary and St. Nicholas. The educational, artistic, and scientific institutions of Berlin are numerous, and some of them are of more than German reputation—*e.g.* the observatory, seminary for Oriental languages, high schools for music, the fine arts, and veterinary science, the Academy of Sciences, Industrial Art Museum, Ethnological Museum, and Mining academy.

Berlin is probably the largest manufacturing centre in Germany, the industrial quarters lying to the N.E. and S.E. of the old town. The chief commodities produced are clothing, linen, hats, buttons, machinery, books, paper, porcelain, pottery, chemicals, and jewellery. A large trade is also carried on in corn, wines, spirits, and building mate-

rials. The river traffic aggregates over ten million tons annually.

The city was originally a Wendish fishing village named Kölln. First known in the 12th century, it was granted municipal rights about 1240. In 1448 it was chosen as their place of residence by the Hohenzollern rulers of Brandenburg. It suffered very severely in the Thirty Years' war. In 1650 the Great Elector began the work of making it one of the finest cities in Europe—a work continued by Frederick I., Frederick William I. (who named it Berlin), Frederick the Great, and William II.

In 1878 the congress of European powers which regulated the affairs of the Balkan Peninsula, and in 1884-5 the Congo conference, sat at Berlin. Pop. (1900) of Berlin alone, 1,888,848; of 'larger Berlin,' 2,523,461, including suburbs and a garrison of over 20,000 men. In 1905 the pop. was 2,040,148 and 2,989,126 respectively. See *Berlin und seine Bauten*, issued by the Architects' Association (1877); Ring's *Die Deutsche Kaiserstadt* (2 vols. 1883); and historical works by Fidicin (5 vols. 1837-42), Streckfuss (8 vols. 1863-9; new ed. 1900), Schwebel (1889); Ludwig Geiger's *Berlin, 1688-1840*, a history of the city's intellectual development (1893-5).

(2.) Town, cap. of Waterloo co., Ontario, Canada, 60 m. S.W. of Toronto. Manufactures boots, shoes, iron goods, and furniture. Pop. 10,000.

(3.) City of Coos co., New Hampshire, U.S.A., on the Androscoggin R., 15 m. N.N.E. of Mt. Washington. It has great water power utilized for pulp, paper, and lumber mills. Pop. 9,000.

Berlin, CONGRESS OF (June 1878), a meeting of representatives of the European powers invited by Prince Bismarck to revise the Russo-Turkish treaty of San Stefano (1878). By it the

independence of Roumania, Servia, and Montenegro was recognized. Bulgaria was enlarged, and became a self-governing Turkish tributary state, with an elected prince not a member of any reigning European dynasty. Eastern Roumelia received administrative autonomy and a Christian governor, but remained under the control of the Sultan. Greece was promised a modification of her frontier, which was carried out in 1881. Bosnia and Herzegovina were placed under the administrative control of Austria, while Roumania returned to Russia the Bessarabian territory taken from her by the treaty of Paris, receiving in return the Dobrudja. Ardahan, Kars, and Batum were ceded by the Porte to Russia. The British representatives at the congress were Lords Beaconsfield and Salisbury. Britain, by establishing herself in Cyprus, assumed virtual control of the eastern part of the Mediterranean. See Hertslet's *The Map of Europe by Treaty*, vols. iii. and iv. (1891); Holland's *The European Concert in the Eastern Questions* (1885); Andrew's *The Historical Development of Modern Europe*, vol. ii. (1899); and *Political History of England*, vol. xii. (1907).

Berlinhafen, port of N.W. Kaiser Wilhelm Land, German New Guinea, about 142° 45' E.

Berlioz, HECTOR (1803-69), French musical composer, studied at the Paris Conservatoire, and won (1830) the Prix de Rome. On returning from Rome to Paris in 1832, he started concert tours in Europe, which established his reputation as a composer and musician of the first rank. Among his best-known works are his symphonies, *La Damnation de Faust* (1846), *Symphonie Fantastique*, *Roméo et Juliette* (1839), *Symphonie Funèbre*, and *Harold*; a sacred trilogy,

L'Enfance du Christ (1854); the operas, *Les Troyens* (1863), *Benvvenuto Cellini* (1838), and *Béatrice et Bénédict* (1862); the overtures, *Le Carnaval Romain* (1843), *King Lear* (1831), and *Waverley* (1828); a requiem, *Messe des Morts* (1837); and a celebrated *Te Deum*. Berlioz had a supreme command of orchestration, especially excelling in novel musical combinations and effects; and in this he was a worthy colleague of Wagner, whom in many respects he resembled as a composer. He wrote numerous books, including a *Traité d'instrumentation* (a standard work on the subject), *Voyage Musicale en Allemagne* (1844), *Soirées de l'Orchestre* (1853), *Les Grotesques de la Musique* (1859), and *Mémoires* (1870), the last of which was translated into English in 1884. See also *Hector Berlioz et la Société de son Temps*, by J. Tiersot (1904), and *Hector Berlioz* (German), by R. Louis (1904).

Berma, tn., Egypt, in Nile Delta, 8 m. N.W. of Tanta. Pop. 10,000.

Bermejo, RIO, riv. in N. of Argentina, S. America; flows S.E., and enters the Paraguay R. 35 m. above its confluence with the Parana. Length, over 1,300 m.

Bermeo, seapt., Spain, on Bay of Biscay, 16 m. N.N.E. of Bilbao. Pop. 9,000.

Bermondsey, met. and parl. bor. and civic par. in the S.E. of London, England; chiefly noted for its tanneries, it is now a centre for the leather industry. Hat-making employs a great number of hands. For parliamentary purposes the borough is known as Southwark, and returns three members. Area, 1,500 ac. Pop. of met. bor. 130,000.

Bermuda Grass, or BAHAMA GRASS. See CYNODON.

Bermudas (formerly spelt Bermoothes—'the still-vexed Bermoothes,' *Tempest* i. 2), from Bermudez, their Spanish discoverer

(1515); called also Somers Islands, from Sir George Somers, who was wrecked here in 1609, a group of small islands lying in the Atlantic, between 32° and 33° N. lat., and about 600 m. from the coast of the United States. The islands are of coral formation, 360 in number, of which 20 are inhabited; but most of the land area is contained in the five islands of Hamilton or Bermuda (13 m. long), St. George, St. David, Somerset, and Ireland. The highest point is Sear's Hill (260 ft.). The climate is temperate, and of exceptional salubrity. The inhabitants, more than two-thirds of whom are negroes or coloured, are chiefly occupied in growing potatoes and onions for the New York market. Arrowroot and lilies are also cultivated. The chief town is Hamilton—pop. 2,250. Ireland is (since 1869) a naval station, and has a dockyard and victualling yard. In 1902, a floating dock, the largest in the world, was fixed here (from Sheerness). The islands are visited as a health resort, especially in the winter, by Americans. The group was colonized by the British in 1612. Area, 20 sq. m. Pop. 18,000 (whites, 6,500). See Heilprin's *The Bermuda Islands* (1889); Newton's *Glimpses of Life in Bermuda and the Tropics* (1897); Bell's *Beautiful Bermuda* (1902); and Verrill's *The Bermuda Islands* (1902).

Bern, or BERNE. (1.) The most populous—650,000—of the Swiss cantons, and the second in size; area, 2,657 sq. m., 2,172 sq. m. being productive. Of the 485 unproductive sq. m. no less than 111 sq. m. are occupied by glaciers. The canton stretches N.W. towards the German and French frontiers. The central portion is formed by the valley of the Aar, from its source to Büren, N.W. of Bern. The population is German-speaking and Protestant,

except in the Bernese Jura, where it is French and Roman Catholic. The canton entered the Confederation in 1353. (2.) Capital of the above canton, and (since 1848) of the Swiss Confederation also, 80 m. N.E. of Geneva. It is finely situated on a high bluff, washed on all sides but one by the Aar, flowing in a deep valley below, and commands a superb view of the snowy Bernese Oberland Alps. It was founded in 1191 by Berthold v., Duke of Zähringen. It ranks as the fourth town in Switzerland, coming after Zürich, Basel, and Geneva. The name seems really to be derived from 'bear,' and live bears have for centuries been kept in a pit outside the town. The chief mediæval buildings are the 15th century *Münster* or collegiate church (wrongly called a cathedral, as there never has been a bishop of Bern), the 15th century town hall, and some quaint watch-towers in the main street with its delightful arcades, its fountains and clock. The principal modern buildings are the Federal Houses of Parliament, the historical museum, and the national library. The university, founded in 1834, has over 1,600 students. Bern is the seat of several international bureaus, as the International Telegraphic Union, opened Jan. 1, 1869; the International Postal Union, formed as the result of the postal congress held at Bern on Sept. 15, and ratified Oct. 9, 1874; the International Bureau for the Protection of Artistic and Literary Property, formed Jan. 1, 1888; and the International Transport, opened Jan. 1, 1893. Pop. 80,000 (mainly German-speaking and Protestant). See W. F. von Müllinen, *Berns Geschichte, 1191-1891* (1891); E. von Rodt, *Bernische Stadtgeschichte* (1886). (3.) Commune in the grand-duchy of Oldenburg, Germany, near the

l. bk. of the Weser, 12 m. E. by N. of Oldenburg; was formerly capital of the Stedinger Land. Pop. 3,400.

Bernadotte, French general who in 1810 became king of Sweden, and founded the dynasty now reigning in that country. See CHARLES XIV. of Sweden and NAPOLEON.

Bernalda, tn., prov. Potenza, Italy, 35 m. by rail w. by s. of Taranto; produces cotton and saffron. Pop. 7,000.

Bernard (fl. 865), traveller in Palestine, styled 'Sapiens,' quoted by William of Malmesbury. See Francisque Michel, *Bernard et ses Compagnons en Egypte et Terre Sainte* (1839); and Mabillon, in Migne's *Patrologiæ* (1857-66). A translation will be found in *Early Travels in Palestine* (Bohn's Antiq. Lib., 1847, etc.).

Bernard OF MORLAIX, French Benedictine monk of the 12th century, author of a dactylic poem, *De Contemptu Mundi*. Published in 1483 at Paris, it is well known through Neale's translation.

Bernard, ST., OF CLAIRVAUX (1090-1153), a notable theologian of the middle ages, came of a noble Burgundian family. After two years spent in the Cistercian monastery of Citeaux, in 1115 he became first abbot of the newly-founded monastery of Clairvaux, in Champagne. Bernard's saintly life and eloquence gave him an unexampled influence in Christendom, and he founded no fewer than 70 monasteries. Men of all ranks were drawn to him, and he became known as 'the mellifluous doctor.' In 1128 Bernard drew up, by request, the statutes of the Knights Templars, and it was owing to him that Innocent II. was recognized by the sovereigns of Europe. He was largely instrumental in securing the condemnation of Abelard at the Council of Sens (1140). Pope Eugenius III. was his disciple. When

at the Council of Vezelay (1146), he stirred the enthusiasm of France for the second crusade, and thousands of religious enthusiasts, fired by his eloquence, took up arms against the infidel. Bernard was canonized in 1173. The reformed Cistercians, an order instituted by him, are often called Bernardines. Many of his noble hymns (e.g. 'Jesus, the very thought of Thee') have been translated. Mabillon printed his works at Paris, in 6 vols. (1667-90); trans. by Eales, 2 vols. (1889). See Ratisbonne's *Histoire de Saint-Bernhard et de son Siècle* (1841); Morison's *Life and Times of St. Bernard* (1863); R. S. Storrs's *Bernard of Clairvaux* (1892); Vacandard's *Vie de St. Bernard* (1895); and Abbot Gasquets's *Letters of St. Bernard* (1904).

Bernard, CLAUDE (1813-78), French physiologist, born at St. Julien, near Villefranche; studied medicine at Paris; was appointed to the chair of general pathology there in 1855; was elected to the French Academy (1869), and became president of the Academy of Sciences and of the Biological Society (1867-78). On his death his eulogy was pronounced by Renan. He made many important discoveries, notably on the pancreatic juice, on the blood, the sympathetic nerves, and the saccharine function of the liver and its connection with the nervous system. Among his numerous works are *Leçons de Physiologie Expérimentale Appliquée à la Médecine* (1865); *Leçons de Pathologie Expérimentale* (1871); *Leçons sur les Anesthésiques et sur l'Asphyxie* (1875); and *Leçons sur les Phénomènes de la Vie commune aux Animaux et aux Végétaux* (1879). See Malloizel's *L'Œuvre de Claude Bernard* (1881), and M. Foster's *Claude Bernard* (1899).

Bernard, MOUNTAGUE (1820-82), English lawyer and jurist, born in Gloucestershire, and appointed

the first professor of international law at Oxford in 1859. He visited America in 1871, in connection with the treaty of Washington; and Geneva in 1872, on the question of the *Alabama* arbitration.

Bernard, WILLIAM BAYLE (1807-75), Anglo-American dramatist, the son of British parents, but born at Boston, Mass. From 1830 he produced plays and farces with great rapidity—114 in all. The best known are *Rip Van Winkle* (1832), *The Man about Town* (1836), *His Last Legs* (1839). His last piece was *The Doge of Venice* (1867). In 1874 he issued a biography of Samuel Lover.

Bernard-Beere, MRS. FANNY MARY (1859), English actress, was prepared for the stage by Hermann Veizin; made her début at the Opéra Comique, but shortly afterwards married Captain E. C. Dering, and retired into private life. After her husband's death, in 1876, she returned to the stage, appearing at St. James's Theatre, London, as Julia in *The Rivals*, and later as Lady Sneerwell and Emilia. In 1882 she appeared at the Globe in *Far from the Madding Crowd*, and the following year under the Bancrofts at the Haymarket, where her impersonation of *Fédora* in Sardou's play took the public by storm. While manager at the Opéra Comique she produced *As in a Looking-glass* in 1887, *Ariane and Masks and Faces* in 1888. Early in 1889 she appeared in *Still Waters Run Deep* at the Criterion, and later with Forbes Robertson at the Garrick in *La Tosca*. She has played in America (1892) and Australia, and during a second visit to New York appeared in *The Fringe of Society*. In 1897 she appeared at the Comedy Theatre in *A Wolf in Sheep's Clothing*; was engaged by Sir Charles Wyndham in 1901 for *The Mummy and the Humming Bird*; reappeared in 1905 in

The Spy, by Cecil Raleigh. In 1900 she married Mr. H. C. S. Olivier.

Bernard (Great St.) Pass, the easiest pass over the Pennine Alps (8,111 ft.); leads from Martigny (in the Swiss canton of Valais) to the Italian valley of Aosta, above Ivrea. It was known to the Romans as 'Alpis Pœnina,' and as 'Mons Jovis' (Montjoux) because of the temple of Jupiter on the summit. A hospice existed there as early as the 9th century, and was refounded in the 11th century by St. Bernard of Menthon (d. 1081), archdeacon of Aosta (not to be confounded with St. Bernard of Clairvaux), whence its name. Since the 12th century the hospice has been served by Austin Canons Regular, who extend hospitality to travellers, and succour, with the help of the dogs that are called by St. Bernard's name, those who have succumbed to cold and fatigue. A carriage road was built a few years ago. Napoleon led his army across the pass in May 1800.

Bernard (Little St.) Pass (7,179 ft.) leads from the French valley of the Upper Isère (or Tarentaise) to the Italian valley of Aosta, and is traversed by a carriage road, completed about 1870. It was known to the Romans as 'Alpis Graia' (as it was the chief pass over the Graian Alps), and later as 'Mons Joveti' or Montjouvet (from an old temple of Jupiter, the name being in the diminutive to distinguish the pass from its neighbour, the Great St. Bernard).

Bernau, tn., Brandenburg, Prussia, 12 m. N.E. of Berlin; manufactures silks, cottons, and gloves. It made a brilliant defence against the Hussites in 1432. Pop. 10,000.

Bernauer, AGNES, a German lady, born in Augsburg, of plebeian descent; was secretly married in 1432 to Albert of Bavaria, the only son of Ernest, Duke

of Bavaria. Thereupon Agnes was imprisoned by order of the duke, condemned as a witch, and drowned in the Danube, near Straubing, on Oct. 12, 1435. This tragic story was a fruitful subject for German dramatists and novelists, as in a tragedy by Fr. Hebbel (1855), and another (uncompleted) by Otto Ludwig (after 1852).

Bernay (anc. *Bernacum*), tn. in dep. of Eure, France, in valley of Charentonne, 26 m. w. of Evreux, is an important industrial place with a mineral spring. Its chief industries are cotton spinning and weaving. Pop. 8,000.

Bernays, LEWIS ADOLPHUS (1831-1908), scientist, and clerk of the Queensland Legislature for over forty years. The founder of the Queensland Acclimatization Society, he rendered valuable service to economic botany. He published *Cultural Industries for Queensland*, *The Olive and its Products*, etc.

Bernburg, tn., duchy Anhalt, Germany, on both banks of the Saale, 44 m. by rail s. of Magdeburg, with iron works, and manufactures of machinery, sugar, and pottery. In the vicinity are the saline springs of Leopoldshall. Pop. 35,000.

Bern Convention. See COPYRIGHT.

Berners, or BARNES, DAME JULIANA (fl. in the first half of the 15th century), by tradition daughter of Sir James Berners of Berners Roding, Essex, and prioress of Sopwell nunnery, near St. Albans. Of the treatises ascribed to her—*Hawkyng*, *Huntyng*, *Fysshynge*, *Lynage of Cote Armiris*, *Blasyng of Armys* (all of which, except *Fysshynge*, appeared in the *Boke of St. Albans* in 1486)—probably only that on *Huntyng* and a part of that on *Fysshynge* were written by her. A facsimile of the treatise on *Fysshynge* appeared in 1880, and of the *Boke of St. Albans* in 1881.

Berners, JOHN BOURCHIER, SECOND BARON (1467-1533), statesman and author, time of Henry VII. and Henry VIII. He assisted in suppressing Perkin Warbeck's rebellion (1497); accompanied Henry VIII. to Calais, and was present at the capture of Terouenne (1513); travelled with Princess Mary to France as chamberlain on her marriage to Louis XII. (1514); was chancellor of the exchequer (1516); accompanied Henry VIII. to the Field of the Cloth of Gold (1520); deputy of Calais from 1520 to 1533. He was the first English translator of Froissart's *Chronicles* (1523-5), San Pedro's *Castell of Love* (1540), and *Huon of Bordeaux* (1534). Under the title of *The Golden Boke of Marcus Aurelius* (1534), he wrote a French version of Guevara's *Relox de Principes o Marco Aurelio*. See Early English Text Society's reprint of *Huon of Burdeux* (1882-7), especially part iv.

Bernese Oberland Alps rise to the N. of the main chain, from which they are separated by the upper portion of the Rhone valley. In the narrower sense the Bernese Oberland Alps extend from the Grimsel Pass, on the N.E., to the Gemmi Pass, on the S.W. But the term is also used in a wider sense so as to comprise, on the N.E., the whole district between the Grimsel Pass and the Lake of Lucerne and Upper Reuss valley, thus including the Damastock or Rhone Glacier region (11,920 ft.), the Titlis group (10,627 ft.), and the Uri Rothstock group (9,620 ft.); while to the S.W. of the Gemmi Pass the Oberland range is held to extend through the Wildstrubel (10,673 ft.) and the Wildhorn (10,709 ft.) to the Diablerets (10,650 ft.). The best-known tourist resorts on the N. slope are Thun, Interlaken, Meiringen, Lauterbrunnen, Mürren, Grindelwald, and Kandersteg. The principal summits of the Bernese

Oberland are the Finsteraarhorn (14,026 ft.), the Aletschhorn (13,721 ft.), the Jungfrau (13,639 ft.), the Gross Schreckhorn (13,386 ft.), the Gross Viescherhorn (13,285 ft.), the Eiger (13,042 ft.), the Bietschhorn (12,970 ft.), and the Wetterhorn (12,166 ft.); besides the viewpoints of the Sparrhorn (9,928 ft.), the Schilthorn (9,754 ft.), the Eggishorn (9,626 ft.), the Faulhorn (8,803 ft.), and the Niesen (7,763 ft.). Among the more important passes may be mentioned the Lauithor (12,140 ft.), the Mönchjoch (11,680 ft.), the Jungfrauoch (11,385 ft.), the Strahlegg (10,995 ft.), the Petersgrat (10,516 ft.), the Tschingel Pass (9,265 ft.), the Löttschen Pass (8,842 ft.), the Gemmi (7,641 ft.), the Grimsel (7,100 ft.), the Little Scheidegg or Wengern Alp (6,772 ft.), and the Great Scheidegg (6,434 ft.). See Th. Wundt's *Die Jungfrau und das Berner Oberland* (1897); H. B. George's *The Oberland and its Glaciers* (1866); and Grande's *The Bernese Oberland in Summer and Winter* (1911). See also ALPS.

Bernesque Poetry is that type which blends satire, wit, mockery, and serious thought, as in Byron's *Don Juan*, Paludan-Müller's *Adam Homo* (1841-9), Ibsen's *Peer Gynt* (1867), and the poetry of Francesco Berni (1497-1535), from whom the name is derived.

Bernhard, DUKE OF SAXE-WEIMAR (1604-39), one of the Protestant champions in the Thirty Years' war, son of John, third Duke of Saxe-Weimar. After serving under Ernst von Mansfeld and Christian von Braunschweig, he entered the army of Christian IV. of Denmark (1625), and in 1630 joined Gustavus Adolphus. In the famous storming of Wallenstein's intrenched camp at Nuremberg (1632) he played an honourable part. On the fall of Gustavus at the battle of Lützen (1632) Bernhard took the command, com-

pleted the victory, and drove the Imperialists out of Saxony. In the following year he captured the strong imperialist city of Regensburg (Ratisbon)—an exploit which was, however, neutralized by his defeat at Nördlingen by Gallas (1634). Then making an agreement with Richelieu, although he was already in Swedish service, he defeated the Imperialists at Rheinfelden (1638), and finished up the campaign by the capture of the strong fortress of Breisach, which he intended before his death to make the centre of an independent principality. See Droysen's *Bernhard von Weimar* (1885).

Bernhardi, THEODOR VON (1802-87), German historian and diplomatist, born at Berlin, and after many travels settled in Germany about 1860. In 1865 he was appointed military attaché at Florence, and from 1867-71 was employed in diplomatic missions in Italy, Spain, and Portugal. Among his works are *Denkwürdigkeiten aus dem Leben des Russischen Generals Karl Friedrich von Toll* (2nd ed. 1865-6, 4 vols.), important for the history of the liberation wars; *Geschichte Russlands und der Europäischen Politik in den Jahren 1814-31* (1863-77, 3 vols.); *Friedrich der Grosse als Feldherr* (1881, 2 vols.).

Bernhardt, SARAH (christened ROSINE BERNARD), French actress, born in Paris, of Jewish parents, Oct. 22, 1844. She married in 1882 M. Jacques Damala. Entering the Paris Conservatoire in 1859, she made her début at the Théâtre Français in 1862 in *Iphigénie*, when she received special notice from the critic Francisque Sarcey. But her impetuous disposition led to trouble with a senior member of the company, and Sarah had to leave the Français. In 1867 she secured an engagement at the Odéon, and made her first hit there, in 1869, as Zanetto in *Cop-*

pée's *Le Passant*. In 1872, as the Queen in *Ruy Blas*, she gained great success, and was warmly praised by Victor Hugo. Returning to the Français, she played in *Mademoiselle de Belle-Isle*, and as Phèdre, in 1874, was recognized as the successor of Rachel. Two other great successes of this period were Doña Sol in Victor Hugo's *Hernani*, and in *Dame aux Camélias* by Dumas the Younger. In 1880 she visited the United States, and the next nine years were a triumphal progress round the world. But Sarah Bernhardt became not so much an exponent of tragedy and comedy as an exploiter of herself. Her great parts, such as *Fédora*, *Théodora*, *La Tosca*, etc., were designed to exhibit one personality, and her style became exaggerated and coarse. Her appearance as Jeanne d'Arc at the Porte St. Martin (1890) marks the beginning of her career as manager in Paris. Coquelin *aîné* now joined her company, and appeared with her in *L'Amphitryon* and in Sudermann's *Magda*. Her *Hamlet* (1899) was received with unanimous applause—the Danish prince was for the first time made intelligible to a French audience; and her impersonation of the title rôle in Rostand's *L'Aiglon* (1900) was a marvel of dramatic power. She has paid flying visits to England on several occasions and given matinées. Sarah Bernhardt still retains her extraordinary vitality, her unique grace, and her famous *voix d'or*. She engages in painting and sculpture, and now directs a Parisian theatre of her own. See *Biography* by Jules Huret (Eng. trans. 1899), W. Archer in his *Theatrical World for 1893*, and *Ma double Vie: Mémoires de Sarah Bernhardt* (1907) (Eng. trans. 1908).

Berni, FRANCESCO (1497–1536), Italian poet, travelled for

some time with Ghiberti, whose secretary he had been, and in 1530 settled in Florence, where he gained the favour of the Medicis. His poems, mainly comic and burlesque, are unsurpassed for their wit, lightness, and elegance of form, notably his *Rime Burlesche* (1538). He recast in the same spirit Boiardo's epic, under the title of *Orlando Innamorato* (1541; new ed. 1827), which ranks next to Ariosto's *Orlando Furioso*. See Virgili's *Francesco Berni* (1882).

Bernicia, a kingdom of the Angles, comprising the s.e. part of the present Scotland and the adjoining part of Northumberland, England, founded by Ida in the 6th century. It was subsequently united to Deira, its southern neighbour, under Ethelric, thus forming the kingdom of Northumbria, which extended from the Humber to the Forth.

Bernina Alps. See RHÆTIAN ALPS.

Bernina Pass (7,645 ft.) leads from Samaden, the cap. of the Upper Engadine (Switzerland), to the Italian Valtellina (valley of the Adda) at Tirano. It is now traversed by a carriage road, and has a hospice on the summit.

Bernini, GIOVANNI LORENZO (1598–1680), Italian architect, sculptor, and painter, designed a palace for Urban VIII., and the great colonnade of St. Peter's. Under Urban VIII., Innocent X., Alexander VII., and Clement X. he was superintendent of the building of St. Peter's and director of public works in Rome. See Leader Scott's *Sculpture: Renaissance and Modern* (1886).

Bernoulli, family of mathematicians, refugees from Antwerp and Alva, settled at Frankfort (1583), and afterwards at Basel, where all but Daniel were born. JAMES (1654–1705), versifier in Latin, French, and German, self-taught in geometry, published tables on dialling, a system of

teaching mathematics to the blind, a treatise on comets (1680); visited England, where he knew Boyle; discussed the weight of the air (1683); and professed mathematics at the University of Basel (1687). From a hint of Leibniz he developed and made his own the differential calculus; solved the problem of the logarithmic spiral (1690)—'Eadem mutata resurgo' and the spiral were graven on his tombstone—of the isochronous curve, catenary, and of isoperimetrical figures (1696), over which he quarrelled with his brother John; applied the calculus of probabilities to life and its accidents; and in his *Ars Conjectandi* (1713) prepared the way for Lagrange's calculus of variations. His collected works were published at Geneva (1744).—JOHN (1667-1748), brother of the above, professor of mathematics at Groningen (ten years), and his brother's successor at Basel, was a rival of Newton and Leibniz, and excelled in differential, integral, and especially exponential calculus. He sided with Descartes, as James did with Newton. He wrote on navigation, the planets, and the laws of motion. His works were published at Geneva (1742), his correspondence with Leibniz in 1745.—DANIEL (1700-82), born at Groningen, 'son of John Bernoulli' (his signature and pride), published *Exercitationes Mathematicæ* (1724); was professor of mathematics at St. Petersburg (1725-32); wrote his treatise, *Hydrodynamica* (1738), the first on the subject, in which he advocated the Bernoulli system of propulsion for ships; professor, at different times, of anatomy, physics, botany, and filled the chair of natural and of speculative philosophy at Basel.—Not so distinguished, but men of mark, were NICHOLAS (1687-1759), professor of mathematics at Padua; JOHN (1710-90), wrote

on capstan, magnet, light; JOHN (1744-1807), astronomer-royal of Berlin at nineteen; JEROME (1715-1829), naturalist; JAMES (1759-89), professor of physics at Basel, died at St. Petersburg; CHRISTOPHER (1782-1863), professor of natural history at Basel.

Bernoulli Numbers, a series of numbers of importance in connection with the expansion of a large number of functions. If

$$\frac{x}{e^x - 1} = 1 - \frac{x}{2} + \frac{B_1}{2!}x^2 - \frac{B_2}{4!}x^4 + \frac{B_3}{6!}x^6 - \dots$$

$B_1, B_2, B_3 \dots$ are Bernoulli's numbers. Thus $B_1 = \frac{1}{6}$, $B_2 = \frac{1}{30}$, $B_3 = \frac{1}{42}$, but the higher numbers become very complicated.

Bernstein, EDUARD (1850), German political writer and Social Democrat leader, born in Berlin; contributor to and editor of several socialistic publications. Lived in London (1888-1901); then he returned to Germany, and was a member of the Imperial Reichstag (1902-6). He published *Gesellschaftliches und Privateigentum* (1891); *Die Kommunistischen und Demokratisch-Sozialistischen Bewegungen in England während des 17 Jahrhunderts* (1895); *Zur Geschichte und Theorie des Sozialismus* (1900). His book, *Die Voraussetzungen des Sozialismus und die Aufgaben der Sozialdemokratie* (1899), caused keen discussion among the German Socialist party.

Bernstorff, ALBRECHT, COUNT VON (1809-73), German diplomatist, was minister in Vienna (1848) and Naples (1852), and, with the exception of a short period as minister of foreign affairs (1861-62), was the Prussian ambassador to St. James's from 1854 until his death.

Bernstorff, ANDREAS PETER, COUNT (1735-97), Danish statesman. As minister of foreign affairs (1773), he concluded a defen-

sive alliance with Russia directed against Sweden. He was induced by Russia in 1780 to join the armed neutrality compact; and his agreement with Britain five days previously, fixing the meaning of the phrase 'contraband,' was taken so ill by Russia that he had to resign. He returned to power in 1784, and during the revolutionary wars rigorously observed the non-intervention principle. See Eggers's *Denkwürdigkeiten aus dem Leben des Grafen A. P. von Bernstorff* (1800), and Holm's *Danmark-Norges udenrigske Historie 1791-1807* (1875).

Bernstorff, CHRISTIAN GUNTHER, COUNT (1769-1835), Danish diplomatist, son of Andreas Peter Bernstorff, was born at Copenhagen; became minister of foreign affairs (1797-1810), and plenipotentiary at the congress of Vienna (1814). Afterwards entering the Prussian service, he acted as foreign minister for that state from 1818 till his retirement in 1832.

Bernstorff, JOHANN HARTWIG ERNST, COUNT (1712-72), Danish statesman, son of the Hanoverian baron and minister, Joachim von Bernstorff. From 1733 to 1744 he was in the Danish diplomatic service, but was recalled in 1751 to succeed Schubin as minister of foreign affairs, a position he held for the next nineteen years, during which period he earned the reputation of one of the greatest of European statesmen. A war with Russia in 1762 was happily averted by the dethronement of Czar Peter III., and Bernstorff succeeded in adjusting satisfactorily the long outstanding Gottorp difficulty, whereby Denmark surrendered Oldenburg and Delmenhorst in exchange for Schleswig. Bernstorff, regarding Russian support as a necessary counterpoise to the hostile Franco-Swedish league, was successful in forming subsequently an alliance with Russia. He was styled by Fred-

erick the Great the 'Oracle of Denmark.' See Vedel's *Den ældre Grev Bernstorff's Ministerium* (1882).

Beroë, a small marine organism belonging to the Ctenophora. It differs from its near allies in not possessing tentacles, and in having a wide, slit-like mouth. Locomotion is, as in the other members of the group, effected by eight bands of fused cilia, the *combs*, which break up the light and produce beautiful iridescence. Beroë is found abundantly near the surface of the sea in summer.

Berœa. (1.) Now VERRIA, an ancient town in Macedonia, S.W. of Pella, and about 20 m. from the sea. It was unsuccessfully besieged by the Athenians (432 B.C.), but occupied by the Romans (168 B.C.). Paul preached there in the year 54 A.D. In 1375 it was captured by the Turks. (2.) The modern Aleppo, a town in Syria, near Antioch, enlarged by Seleucus Nicator, who gave it the name of Berœa. In Ezek. 27:18 it is mentioned as Helbon, from which its modern name Haleb (Aleppo is the Europeanized form) is derived.

Berœans, or BEREANS, a religious sect in Scotland, founded in 1773 by John Barclay. See BARCLAY, JOHN.

Berosus (c. 330-250 B.C.), a priest of Belus at Babylon, who wrote a history of Babylon in the Greek language. Though it is lost, Josephus, Eusebius, and the Christian fathers have preserved a number of fragments, published by Scaliger in his *Opus de Emendatione Temporum* (1598). See Duncker's *Hist. of Antiq.* (1877), and Rawlinson's *Oriental Monarchies* (1832-76).

Berre, ETANG DE, salt water basin (area, 60 sq. m.) in dep. Bouches-du-Rhone, France, connected with the Mediterranean by the Canal de Bouc (3 m. long). Has salt pans and chemical factories, and fishing is carried on.

Berri, CHARLES FERDINAND, DUC DE (1778-1820), younger son of Charles X., was born at Versailles; fled (1789) to Italy at the Revolution, and served with Condé against France. In 1801 he went to England, where he married an English lady, Miss Brown, whom he abandoned on his return to France in 1814. He married the Princess of Naples in 1816, and in 1820 was assassinated at the opera. See Chateaubriand's *Mémoires du Duc de Berri* (1820).

Berrima, tnship, Camden co., New South Wales, 75 m. s.w. of Sydney; coal, shale, iron, and copper are found. Pop. (dist.) 10,000.

Berruguete, ALONZO (c. 1480-1561), Spanish sculptor, painter, and architect, born at Parades de Nava, near Valladolid. He studied in Florence (1503) under Michael Angelo, whom he accompanied to Rome in 1505. Returning to Spain (1520), he was appointed royal sculptor and painter to Charles V. He was the architect of Charles's unfinished palace at Granada, and also of the palace of the archbishop of Toledo at Alcala. His sculptures are numerous, and include his masterpiece, the archbishop's stall in the cathedral of Toledo, representing *The Transfiguration*, worked in marble. His last work was the tomb of Cardinal Tavera in St. John's, Toledo. Berruguete introduced the Italian *cinquecento* style into Spain.

Berry. See FRUIT.

Berry, or BERRI, former prov. of France round Bourges, now corresponding approximately to the depts. of Cher and Indre.

Berry, vil., Camden co., New South Wales, 80 m. s. of Sydney; has coal mines. Pop. 2,000.

Berry, SIR EDWARD (1766-1831), British rear-admiral, son of a London merchant, served with Nelson in 1796. In the

victory off Cape St. Vincent he led the boarding party in the capture of the *San Josef* and *San Nicolas*. He was flag-captain to Nelson at the battle of the Nile. On his way home with dispatches announcing the victory, he was taken prisoner in the *Leander*. He was nevertheless created a baronet. He was in command of the *Foudroyant* at the capture of the *Généreux* and *Guillaume Tell* in 1800. In the *Agamemnon* he took part in the battles of Trafalgar and San Domingo. In 1815 he was given a K.C.B., and attained flag rank in 1821.

Berry, SIR GRAHAM (1822-1904), Australian politician, was born at Twickenham in England; emigrated to Victoria when about thirty, bought local newspapers, and entered the Legislative Assembly in 1860. In 1870 he was treasurer in the Macpherson cabinet, premier of Victoria (1875-80), chief secretary and postmaster-general (1884-5), agent-general for Victoria in London (1886-91), and speaker of the Legislative Assembly of Victoria (1894-7). It was mainly through his efforts that the Victorian Upper Chamber was reformed, after a prolonged struggle.

Berry, MARY (1763-1852), English authoress, born in Yorkshire, where, and at Chiswick, her early years were spent. In the winter of 1788 she made the acquaintance of Horace Walpole, then almost seventy years of age, who bequeathed to her and to her sister Agnes £4,000 each and his MSS. An edition of *The Works of Horace Walpole* (1798) was edited by her (ostensibly by her brother). Among other works Mary Berry published *England and France: a Comparative View of the Social Condition of both Countries* (1844), and a *Life of Rachel Wriothesley* (1819). See her *Journals and Correspondence* (2nd ed. 1866), and Lord Houghton's Monograph.

Berryer, PIERRE ANTOINE (1790-1868), French lawyer and politician, born in Paris. Along with his father, Pierre Nicolas Berryer (1757-1841), who was also a lawyer, he defended Marshal Ney. Among his other great political defences are those of Lamennais (1823), Chateaubriand (1833), Prince Louis Napoleon (1840), and Montalembert (1858). Berryer was a great and eloquent speaker, with a sympathetic appearance, a pleasant voice, a brilliant imagination, and high intelligence. Although a fervent royalist and Catholic, he held liberal views. From 1829 to 1852, when he retired into private life, he was uninterruptedly a deputy, and one of the leaders of the Legitimist party. In 1855 he was elected a member of the Academy. His works were published under the titles *Discours Parlementaires* (5 vols. 1872-4) and *Plaidoyers* (4 vols. 1875-8). See Lecanuet's *Berryer: sa Vie et ses Œuvres* (1893).

Bersaglieri (It. 'marksmen'), the sharpshooters of the Italian army, a brave and picturesque body of men, conspicuous by their plumed hats. They were organized in 1836, and played a great part in the long struggle for Italian unity. There are about 15,000 under arms, and 31,000 on unlimited leave. The Bersaglieri militia numbers some 56,000.

Berseem (*Trifolium alexandrinum*), Egyptian clover, allied to the ordinary red clover; a leguminous annual, the principal green fodder plant of Lower Egypt. It is the first crop planted after reclaiming alkali or salt lands, and is largely used to feed work-horses, cattle, camels, and donkeys. It forms a suitable food for milch cows, producing finely-flavoured butter.

Berserks, or **BERSERKR** (the Norse plural), warriors who figure in the ancient sagas, subject to

savage, animal-like frenzies, in which they bit their shields, bel-lowed and howled, and rushed like mad dogs among their foes, striking terrible blows with their weapons, regardless of their own defence. Of a certain band of Berserks, twelve brothers, it is said that 'it was their custom to go ashore and wrestle with large stones or trees; otherwise they would have slain their friends in their rage' (*Hervarar Saga*, ch. ix.). The Berserks are also described as 'shape-changers,' taking on the shape as well as the ferocity of brutes. This, again, connects them with *werewolves*. Among numerous references to Berserks may be noted those in Du Chaillu's *Viking Age*, vol. ii. ch. xxvi. (1889), the *Story of the Ere-Dwellers* (trans. William Morris and Magnusson, 1892), and Green's *Story of Egil Skallagrimsson* (1893). See LYCAN-THROPY.

Bert, PAUL (1833-86), French politician and physician, born at Auxerre; studied law and medicine, becoming professor of natural sciences at Bordeaux (1866), and afterwards professor of physiology at Paris (1869). He was appointed prefect of the north in 1870, and minister of public instruction under Gambetta's ministry (1881). In 1886 he was made governor of Tongking and Annam, but died at Hanoi soon after his arrival. He published *Discours Parlementaires* (1881) and other works. One of the ablest pupils of Claude Bernard, he made many important physiological researches with the aid of vivisection. See Berillon's *L'Œuvre Scientifique de Paul Bert* (1887).

Bertani, AGOSTINO (1812-86), Italian medical man, revolutionist and politician; was implicated in the revolution of 1848, and in 1859 joined Garibaldi's force as surgeon. He became Garibaldi's lieutenant, organized the Sicilian

expeditions, and later became his chief's secretary. During his parliamentary career, which lasted from 1861 until his death, he became leader of the extreme Left. His *Scritti e Discorsi* were edited by Mario (1890). See *Life* by the same (1888).

Bertha, BERCTA, or ADILBERGA, the name of several famous women. (1.) BERTHA (d. before 616), daughter of Haribert, king of the Franks, who married Æthelbert, king of Kent (c. 560); came to England with Lindhard, bishop of Senlis, and introduced Christianity at Canterbury. (2.) The daughter of Burkhard, duke of Alemannia, and wife of Rudolf II. (937), king of Upper Burgundy. (3.) BERTHA, *alias* Agatha, the betrothed of Hereward. (4.) BERTHA (d. 783), called 'Bertha with the big foot' (*au grand pied*), because one of her feet was larger than the other; daughter of Charibert, Count of Laon. She married Pippin the Short, and was mother of Charlemagne. This last Bertha is so much identified with the traditional Berchta that it is impossible to separate fact from fable in the poems and legends in which she is introduced.

Berthelot, MARCELLIN PIERRE EUGÈNE (1827-1907), French chemist and statesman, was born and died in Paris. He was minister of public instruction (1886-7) and of foreign affairs (1895-6), and in 1899 was made perpetual secretary of the Academy of Sciences in succession to Pasteur. Berthelot, whose researches were directed especially to organic chemistry, published memoirs on explosives, polyatomic alcohols, and on thermo-chemistry. His studies in the synthesis of organic substances have been of great importance in the advance of the science, as well as in the improvement of industrial processes. He wrote *Traité Élémentaire de Chimie Organique*

(1872; 4th ed. 1898), *Sur la Force de la Poudre et des Matières Explosives* (1872; 3rd ed. 1883), *La Synthèse Chimique* (1875; 8th ed. 1897), *Traité Pratique de Calorimétrie Chimique, fondée sur la Thermo-chimie* (1879), *Thermo-chimie* (1897), and *Les Carbures d'Hydrogène* (1901). He also published books on the alchemists (1885 and 1888), and on mediæval chemistry (1893).

Berthier, LOUIS ALEXANDRE (1753-1815), French marshal, born at Versailles, began his military career as an officer of Louis XV., and fought under Lafayette in America (1778-82). He took a leading part in all Napoleon's great campaigns, and was created a marshal of France by Napoleon in 1804, Prince of Neuchâtel in 1806, and Prince of Wagram in 1809. See his *Mémoires* (1827).

Berthold von Regensburg (c. 1220-72), one of the most famous German popular preachers of the middle ages, who frequently officiated in Alsace, Switzerland, Austria, Hungary, Poland, and Italy. Wherever he preached he was received with enthusiasm. His sermons are written in language full of graphic imagery and intense realism. Luxury he strenuously opposed, and did much to accelerate the decline of Middle High German poetry by his condemnation of the elegant world of chivalry. He may be regarded as the forerunner of Luther in attacking the clergy for the sale of indulgences, and for the excessive pilgrimages of the time. His *Sermons* (2 vols.) have been edited by Pfeiffer and Strobl (1862 and 1880). See J. Paul's *Berthold von Regensburg und das bürgerliche Leben seiner Zeit* (1896).

Berthollet, CLAUDE LOUIS, COUNT (1748-1822), French chemist, born at Talloire in Savoy; studied at Turin, and received in 1794 a professorship in Paris. He was sent in 1796 to Italy, to make

a selection from the art treasures extorted by Napoleon, and accompanied the latter in 1799 to Egypt. Elected to the Academy of Sciences in 1781, Berthollet was an ardent reformer of chemical nomenclature; he was the first to analyze ammonia, discovered chlorate of potash and fulminating silver, and studied the properties of chlorine. He also introduced and applied the principle of chemical equilibrium. He was created senator and count by Bonaparte, and was raised to the peerage by Louis XVIII. His published works include monographs on chemical nomenclature (with Lavoisier, 1787), dyeing (1805), bleaching with chlorine (1795), the laws of chemical affinity (1801), and *Essai de Statique Chimique* (1803).

Bertholletia. See BRAZIL NUT.

Berthon, EDWARD LYON (1813-99), Anglican clergyman, who invented the two-bladed marine propeller, 'Berthon's marine log,' and the 'Berthon' collapsible boats and canoes, made of canvas on wooden frames, which can be opened out and got ready for sea in a few seconds, and which are extensively used as well in the navy as in the merchant service. Berthon was born in London, and held the livings, successively, of Fareham and Romsey. See his *Retrospect of Eight Decades* (1899).

Berthoud. See BURGDORF.

Bertie, PEREGRINE, LORD WILLOUGHBY D'ERESBY (1555-1601), English military commander, son of Richard Bertie and Catherine, baroness of Willoughby d'Eresby; was born at Lower Wesel, Cleves, naturalized in England (1559), and succeeded to his mother's title (1580). He was present at the relief of Grave in Brabant, and was made governor of Bergen-op-Zoom. In 1586 he captured a large Spanish convoy bound for

Antwerp, assisted in the surprise of the city of Axel (1586), and shortly afterwards routed the Spanish at Zutphen. He succeeded Leicester in the command of the English forces in the Low Countries. In Sept. 1589 he was sent with 4,000 men to assist Henry of Navarre at Dieppe, and took a prominent part in the capture of Vendôme, Mons, Alençon, and Falaise. From 1598 till his death he was English governor of Berwick-on-Tweed. See the account of Bertie in *Five Generations of a Loyal House*, by Lady Georgina Bertie (1845); and *Memoir*, ed. by Parry (1838).

Bertillon System OF ANTHROPOMETRY, a scientific method, devised by M. Alphonse Bertillon (born at Paris in 1853), for the identification of criminals. Certain measurements are taken from every convicted person, and these physical records of prisoners are kept on cards, any one of which can readily be found by an elaborate system of classification. The measurements are taken on the left side of the subject, as these are less liable to alteration than are those on the right side. The determination of the convict's height is taken always at the same hour, because the stature may be as much as half an inch greater after a night's sleep than it is in the evening. The colour of the iris of the eye, and the characteristic lines made by the print of the finger, are also recorded. The following measurements are made: the length and width of head; the length of the left foot, and of the middle and little fingers of the left hand; the stature of the whole body, as well as the length of its upper and lower portions; the span of the outstretched arms; the length and breadth of the left ear, and the length of the left arm. The system has been employed in Paris since 1880. See the inven-

tor's system in *Identification Anthropométrique* (2nd ed. 1893). See also ANTHROPOLOGY.

Bertin, LOUIS FRANÇOIS (1766-1841), called *l'Ainé* to distinguish him from a brother of the same name; was born in Paris; edited during the Revolution *L'Eclair* (which was suppressed in 1798 by the Directory), and in 1800 began to conduct the powerful *Journal des Débats* (founded 1789). Bertin was sent to Elba by Bonaparte in 1801, but resumed his work in Paris in 1804 with the *Journal de l'Empire*, and, after the restoration of the Bourbons, with the *Débats*.

Bertin, LOUIS MARIE ARMAND (1801-54), son of the above, served as secretary to Chateaubriand in London after the restoration, and assisted his father on the *Journal des Débats* from 1820, being chief editor after 1841. The paper was directed by his brother Edward (1797-1871) after Louis's death.

Bertinovo, tn., Italy, prov. of and 7 m. S.E. of Forli; has mineral springs. Pop. 7,800.

Bertrand, HENRI GRATIEN, COUNT (1773-1844), French general, born at Châteauroux; served under Napoleon in Egypt, Austria, and Russia, distinguishing himself at Austerlitz, Grossbeeren, Leipzig, and Waterloo; was created count and governor of Illyria (1809), and shared in Napoleon's banishment to St. Helena, remaining there until after Napoleon's death, whose remains he brought back to France. His posthumous work, *Campagnes d'Egypte et de Syrie, Mémoires pour servir à l'Histoire de Napoléon, dictés par lui-même à Sainte Hélène*, was published in 1847.

Bertran de Born, Provençal troubadour, was born about 1140 in the viscounty of Limoges (diocese of Périgueux). He was of noble family, and in 1169 joined the barons of Limoges, Poitou,

and Périgord in their endeavours to throw off Richard Cœur de Lion's yoke (1182-3). About 1196 he became a monk in the Cistercian abbey of Dalon, where he died about 1215. According to Dante, who places him in his *Inferno* among the sowers of discord (canto xxviii.), Bertran was 'the great singer of arms' (*De Vulg. El.*, ii. 2). His poems, forty-five of which have come down to us, are mostly *sirventeses* in support of the barons and Henry of England, and against Richard Cœur de Lion and his ally. They are rough and often unpolished, but highly effective and picturesque. Tender without being sentimental are the love-songs. The poems have been edited by Stimming (1879 and 1892) and by Thomas (1888). See the biographies in these works; and also H. C. Barlow's *The Young King and Bertran de Born* (1862); Laurens's *Le Tyrtée du Moyen Age, ou Hist. de Bertran de Born* (2nd ed. 1875); Clédat, *Du Rôle Historique de Bertran de Born* (1879).

Beruni, or AL-BERUNI (d. 440), Arabian historian, who wrote the famous *Chronology of Ancient Nations* (Eng. trans. 1879), contributions to the history of India and of Khwarizm (Khiva).

Bervic, CHARLES CLÉMENT (1756-1822), French engraver, born at Paris; studied under J. G. Wille, and is best known by his portrait of Louis XIV., although his *chef-d'œuvre* is his engraving of the Laocoon. See Le Blanc's *Manuel de l'Amateur d'Estampes* (1854-89).

Bervie, or INVERBERVIE, par. and roy. bur., Kincardineshire, Scotland, 13 m. N.N.E. of Montrose; has flax mills. Pop. of par. 2,500; of tn. 1,200.

Berwick, JAMES FITZ-JAMES, DUKE OF (1670-1734), was the natural son of James II. and Arabella Churchill, sister of the

Duke of Marlborough. He was educated in France, and learned the art of war under Duke Charles of Lorraine against the Turks (1686-7). Created a duke in 1687, he fought in Ireland in 1689, and in the following year was wounded at the battle of the Boyne. He accompanied James to France, served Louis XIV. in Flanders, and in 1706 was created a marshal of France and sent into Spain, where, by the victory of Almanza (1707), he firmly seated Philip V. on the throne. He was made a grandee of Spain and Duke of Liria. In 1709 the duke conducted a skilful defensive campaign in Dauphiny; in 1714 he captured Barcelona; and in 1716 he was appointed commandant of Guienne. After some years of inactivity, he was called in 1733 to superintend the French operations on the Rhine in the war of the Polish Succession. At the siege of Philipsburg in June 1734 he was killed by a cannon-ball. Berwick was a man of high personal character and of superior military talents, and he was warmly eulogized by Bolingbroke and Montesquieu. See Berwick's *Mémoires*, written by himself, and completed by Abbé Hosk (1778); and C. P. Wilson's *Duke of Berwick, Marshal of France* (1883).

Berwick, NORTH. See NORTH BERWICK.

Berwick-upon-Tweed, port, munic. bor., mrkt. tn., England, at the mouth of the Tweed. Berwick, with Tweedmouth and Spittal, forms a 'county of a borough and town,' of which the area is 8 sq. m. The ramparts which surround the town, built in the reign of Queen Elizabeth, are in an excellent state of preservation. The town is connected with Tweedmouth and Spittal by a bridge (1609-34) of fifteen arches, and a railway viaduct, the Royal Border Bridge (1850), designed

by Robert Stephenson. The chief industries are fishing, iron-founding, and agricultural implement making. Records of Berwick date back to the 12th century. It was involved in much of the Border warfare, the siege by the English in 1296 being especially memorable. It was by an Act of Parliament (1885) included in England. Pop. 13,500. See Fuller's *History* (1799), and J. Scott's *History* (1888).

Berwickshire, the most S.E. co. of Scotland, bounded on the N. by Haddingtonshire, N.E. and E. by the German Ocean, S.E. by Berwick-upon-Tweed, Northumberland, and Roxburghshire, W. by Roxburghshire and Edinburghshire. Area, 457 sq. m., or 292,577 ac. Greatest length, 29 m.; greatest breadth, 21 m. Pop. 31,000. The county town is Duns. Towards the south the land is in general low and flat, but rises gradually in the north. The coast is bold and rocky, and the few harbours are much exposed. The chief mountain range is the Lammermuir; the highest peak, Seenes Law (1,683 ft.). The principal rivers are the Tweed—which forms the boundary for 21 m.—and its tributaries. Berwickshire is famed for its scientific farming; cattle and sheep are reared. The manufactures include woollen goods, linen, and paper. The fisheries are very valuable. Lauder is the only royal burgh; Duns, Eyemouth, and Coldstream are police burghs. Ruins of monastic houses are at Dryburgh, Coldingham, Abbey St. Bathans, and of old castles at Lauder, Cockburnspath, Leitholm, Hutton, and Eccles. Berwickshire, which was originally known as Merse (*i.e.* a march), down to 1020 formed part of the kingdom of Northumbria, but in that year it was bestowed by Malcolm II. on the Earl of Northum-

berland and Dunbar. Again restored to the crown, it was given by King Edgar to his brother David. See Redpath's *Border History* (1776); Groome's *A Short Border History* (1887); Henderson's *Popular Rhymes, Sayings, etc., of the County of Berwick* (1856); Robson's *Churches and Churchyards of Berwickshire* (1893).

Beryl, a silicate of aluminium and beryllium, which crystallizes in long, six-sided prisms. It is usually green, and the more transparent and finely-coloured varieties are known as emerald and aquamarine. Common beryl is of little value, and is found mostly in granite and other crystalline rocks. It has a somewhat greater hardness than quartz (7.5), and is often yellowish green, semi-opaque, and of a dull lustre.

Beryllium (Be), also known as GLUCINUM (Gl; 9.1), a rare metallic element occurring in beryl and other silicates. It is prepared from its chloride by displacement by sodium, and is steel-coloured, hard, and crystalline. It is not easily oxydized directly, though it forms an oxide, BeO, and a series of salts with a sweetish taste.

Beryx, a genus of fossil fishes resembling the perch, and belonging chiefly to the Cretaceous system. It is common in the chalk of S.E. England, where it is known as John Dory.

Berzelius, JÖNS JAKOB, BARON (1779-1848), celebrated Swedish chemist, was born in E. Gotland; studied chemistry and medicine at Upsala. Graduating in 1804, he became professor of chemistry at Stockholm (1815), and was secretary of the Stockholm Academy of Sciences (1818-48). He discovered selenium, thorium, and cerium; isolated silicon and other elements; but his chief work was in the determination of the combining proportions and atomic weights of the elements by

an improved analytical method. He introduced a system of symbols which are the basis of those used to-day, and was a pioneer in organic chemistry. He wrote *Lärobok i Kemien* (6 vols. 1808-30; 2nd ed. 1817-30); also *Annual Reports on the Progress of Physics, Chemistry, and Mineralogy* (27 vols. 1821-48). See his *Själfbio-grafiska Anteckningar*, ed. Söderbaum (1901).

Bes, an Egyptian god, probably of foreign origin, who became more prominent after the 20th dynasty. He is represented as a grotesque figure, clad in a panther hide, and with a large crown of feathers on his head. Bes is the god of art, of song, and of dance. He was also worshipped in Cyprus and Phoenicia.

Besançon (anc. *Vesontio*, *Besontium*), tn., dep. Doubs, France, on peninsula on l. bk. of Doubs, 200 m. S.E. of Paris; is a fortress of the first class; and the headquarters of the 7th Army Corps. There are an academy with faculties of law, medicine, and science; an observatory, and a good library. It is also the seat of an archbishopric. The town contains some Roman remains, a triumphal arch (167 A.D.), and an amphitheatre. The cathedral of St. Jean dates from the 11th century. Besançon is an important manufacturing centre for watchmaking. There are also flour mills, workshops for railway plant, and distilleries. The Doubs is used as a canal between the Rhone and the Rhine. Important under Roman rule, Besançon was created a free town in the 12th century. Birthplace of Cardinal Granvelle and Victor Hugo. Pop. 56,000.

Besant, MRS. ANNIE, *née* WOOD (1847), theosophist, was married in 1867 to the Rev. Frank Besant, vicar of Sibsey, Lincolnshire, from whom she legally separated in 1873. She co-operated with Chas.

Bradlaugh in the 'seventies and 'eighties in his freethought and radical movement, and was co-editor with him of *The National Reformer*. She has also played a prominent part in labour and socialist agitations. In 1889 she became a disciple of the theosophist Madame Blavatsky. From 1887 to 1890 she was a member of the London School Board, and has been president of the Theosophical Society (since 1907). She has written *Reincarnation* and *Seven Principles of Man* (1892), *Death and After* (1893), *Man and his Bodies* (1896), *Four Great Religions* (1897), *Evolution of Life and Form* (1898), *Dharma* (1899), *Avatâras* (1900), *The Pedigree of Man* (1903), *Theosophy and the New Psychology* (1904), *The Wisdom of the Upanishats* (1906), etc.; besides editing *The Theosophical Review*, in collaboration with Mr. Mead. She published her biography, *Through Storm to Peace*, in 1893.

Besant, SIR WALTER (1836–1901), English novelist and author, was born at Portsmouth; became (1861) senior professor in the Royal College of Mauritius (the 'Palmiste Island' described in more than one of his novels). In consequence of ill-health he returned to England in 1868, and began to publish novels written in conjunction with his friend James Rice—*e.g.* *Ready-money Mortiboy* (1871), *The Golden Butterfly* (1876), *The Monks of Thelema* (1878), *The Chaplain of the Fleet* (1881), etc. Rice died in 1882, and after that date Besant went on writing alone, his most successful novels being *All Sorts and Conditions of Men* (1882), *All in a Garden Fair* (1883), *Dorothy Forster* (1884), *The World went very well then* (1887), *Armored of Lyonesse* (1890), *Beyond the Dreams of Avarice* (1894), etc. His novel *All Sorts and Conditions of Men*,

considered 'utopian' in theory, led to the erection of the People's Palace (1887) in the East End of London. Besant worked in other fields besides that of fiction. In 1873 he wrote *The French Humorists, from the 12th to the 19th Century*. For a time he acted as secretary to the Palestine Exploration Fund, and, in conjunction with Professor E. H. Palmer, wrote a *History of Jerusalem* (4th ed. 1899). In 1883 he published a sympathetic memoir of Palmer, after the latter's tragic death. He edited the series of books of biography entitled *The New Plutarch*, and, with W. H. Pollock, he wrote *The Charm* and other drawing-room plays, and successfully adapted Banville's *Gringoire*. Besant's other works are as follows:—*Rabelais*, for the 'Ancient and Foreign Classics Series'; *Coligny*; *Whittington*; *The Eulogy of Richard Jefferies*; *Captain Cook*, in the 'English Men of Action Series'; and *The Story of King Alfred*. The last years of his life were devoted to the preparation of a modern Stow's *Survey of London*, in the course of which he published preliminary volumes on S. London (1901), Westminster (1902), *London in the Time of the Stuarts* (1903), *London in the Time of the Tudors* (1904), E. London (1902), and *Mediæval London* (1906). Besant was founder (1884) and first president of the Incorporated Society of Authors, and he also edited *The Author*, a journal published in the interests of literary men. He was knighted in 1895. Besant's novels reveal an extensive knowledge of London life in its humble aspects, and are eminently readable from their excellent blending of humour and pathos, with frequent reminiscences of Dickens. He wrote the historical article on London for this work. See his *Autobiography* (1902).

Besika Bay, on N.W. coast of Asia Minor, opposite island of Tenedos, s. of the Dardanelles; was a station of the British navy during the Crimean war, and again in 1877-8.

Beskid or BIESKID MOUNTAINS. See CARPATHIANS.

Beskow, BERNHARD VON, BARON (1796-1868), Swedish author, a determined opponent of the new romanticists; held minor offices at court, and was director of the Royal Theatre (1831-2). His best works are the dissertations and biographies (1860-6, 1870) published by the Academy, whose secretary he was from 1834 to his death—notably his noble and eloquent panegyric of Gustavus III., *Gustaf III. såsom Konung och Människa*. His most meritorious poems were *Karl XII.* (1819) and *Sveriges Anor* (1824), and his best tragedy *Thorkel Knutsson* (1830). See Rydqvist's *Bernhard von Beskow*.

Besnard, PAUL ALBERT (1849), French painter, born at Paris; was educated there, and gained the Grand Prix de Rome (1874). In 1884 his sincere and lifelike portraits attracted attention, and his delicate, luminous frescoes in the School of Pharmacy confirmed his reputation. His decorative work in the Hôtel de Ville, the *mairie* of S. Germain l'Auxerrois, and the New Sorbonne, and his brilliant, daring easel paintings, have strongly influenced contemporary art. His wife (Charlotte Dubray) is a sculptor of talent. See Rose Kingsley's *History of French Art* (1899).

Besni, or BESHNI, tn., Asia Minor, 50 m. N.W. of Urfa. Pop. 10,000.

Bessarabia, gov. in extreme S.W. of European Russia, between the Black Sea and the Dniester, Pruth, and Danube. The high ground is richly wooded, and the valleys are very productive. Wine-making is an important in-

dustry, especially in the Dniester valley. The exports are chiefly cereals, wine, and fruits; the imports timber and manufactured goods. Bessarabia became a Turkish possession in 1503. Russia annexed it in 1812, and added to it after the war of 1877 by acquiring from Roumania the district between the Pruth and the Dniester. Area, 17,140 sq. m. Pop. 2,350,000. Cap. Kishinev.

Bessarion, JOHANNES (1403-72), Greek cardinal, was born at Trebizond. Appointed archbishop of Nicæa by John VII. (Palæologus) in 1437, he accompanied him next year to the Council of Ferrara, and was created a cardinal by Pope Eugenius IV. in 1439. He died at Ravenna, on returning from an embassy to Louis XI. He was one of the small band who revived the study of Greek in Italy, and so initiated the humanistic movement in Europe. His works are collected in Migne's *Patrologia Græca*, vol. clxi. (1866). See Vast's *Le Cardinal Bessarion* (1879), and W. von Goethe's *Studien über... Kardinal Bessarion* (1871).

Bessbrook, tn., S.E. Co. Armagh, Ireland, 36 m. S.W. of Belfast; has linen manufactures and bleach-fields. Pop. 3,000.

Bessèges, tn., dep. Gard, France, on Céze R., 34 m. N.N.W. of Nîmes; has coal and iron mines, smelting furnaces, and a glass factory. Pop. 8,200.

Bessel, FRIEDRICH WILHELM (1784-1846), Prussian astronomer, born at Minden. In 1810 he was appointed director of the new Königsberg observatory, and professor of astronomy at Königsberg University. His most notable achievements were the discovery of the parallax of the fixed star 61 Cygni, and his great *Fundamenta Astronomiæ* (1818), a reduction of Bradley's Greenwich observations of fifty years before, with continuations in 1830 and

1841-2. In the field of astronomical mathematics he also greatly distinguished himself. He embodied the results of many years of labour in *Astronomische Beobachtungen* (1815-44). His collected *Abhandlungen* were published in 1876. See Herschel's *F. W. Bessel*, and Durège's *Life*, in German (1861).

Bessel Functions, a class of functions of the greatest importance in mathematical physics, introduced by the distinguished astronomer Bessel, who discovered them in investigating a problem connected with elliptic motion. They are of use in physical problems concerning cylindrical distributions, such as the flow of heat or electricity in a cylinder, the vibration of circular membranes, etc. They are defined as solutions of a certain differential equation—Bessel's equation—and can be expressed as definite integrals. They are often called cylindrical harmonics, and are closely connected with spherical harmonics. See Gray and Mathew's *Bessel Functions* (1895).

Bessels, EMIL (1847-88), Arctic explorer, born in Heidelberg; studied natural science and medicine. In 1869 he undertook his first Arctic expedition to the eastern part of the sea between Spitzbergen and Novaya Zemlya and Gillis Land. In 1871 Bessels was entrusted by the United States government with the leadership of the scientific staff of the polar expedition under Charles Francis Hall. The expedition (1871-3), in the *Polaris*, reached lat. $82^{\circ} 23'$; but unfortunately the ship was wrecked, and all the collections were lost. Bessels wrote *Report on the Scientific Results of the 'Polaris' Expedition* (1876), and *Die Amerikanische Nordpolexpedition* (1878).

Bessemer, city, Jefferson co., Alabama, U.S.A., 11 m. s.w. of

Birmingham; has blast furnaces, iron foundries, and rolling and planing mills. Pop. 6,500.

Bessemer, SIR HENRY (1813-98), English metallurgist and inventor, was born at Charlton, Hertfordshire. His process of the manufacture of steel, which revolutionized that industry over the whole world, was put forward in 1855. He also patented inventions for die-casting, railway signalling, bronze-painting, and preventing sea-sickness—this last being an adjustable cabin which should always preserve a horizontal floor, though when put to the test in 1875-6 it failed to answer. Bessemer was knighted in 1879. See *Sir Henry Bessemer: an Autobiography* (1905).

Bessemer Process. See STEEL.

Bessières, JEAN BAPTISTE (1768-1813), Duke of Istria (1809) and marshal of France (1804), was born at Preissac (Lot), and served as a private soldier under Louis XVI. Attracting the attention of Napoleon, he became one of his most trusted lieutenants, and served brilliantly in Egypt and at Marengo, where his cavalry charge decided the day; and again at Austerlitz, Jena, Eylau, and in the Spanish and Russian campaigns. He was killed at the battle of Lützen.

Bessonov, PETER ALEXEIEVITCH (1828-98), Russian philologist, born in Moscow; professor of Slav literature at the University of Cracow since 1879. He published important works on the language and literature of the Bulgarians and Servians, and also the first great critical collection of popular songs (folklore) of these peoples—the Bulgarian collection under the title *Bolgarskiya Pésni* (1855), and the Servian under the title of *Lazarica* (1857). He also edited a collection of Russian popular songs.

Bessus, satrap of Bactria under Darius III., whom he seized soon after the battle of Gaugamela in 331 B.C., and carried him off; but being pursued by Alexander, he murdered Darius. He was soon betrayed to Alexander, who had him executed (328 B.C.).

Best, GEORGE (d. 1584?), author of an account (1578) of his companion Martin Frobisher's three voyages of discovery (1576-8), in which he attempted to find the North-West Passage. The work was republished by the Hakluyt Society in 1867.

Best, WILLIAM THOMAS (1826-97), English organist, born at Carlisle. He filled important posts in Liverpool (1840), London (1852), and Liverpool (1854). Best did much to familiarize the public with the organ works of Bach, and published educational works on organ-playing—e.g. *The Modern School for the Organ* (1853), and *The Art of Organ-playing* (1870).

Bestiality. Any one committing this offence is liable to be kept in penal servitude for life (24 and 25 Vict. c. 100, s. 61).

Bestiary (Fr. *bestiaire*), a popular series of mediæval books, consisting of descriptions of animals which are afterwards treated as allegorical types of the spiritual life. These bestiaries (or *physiologi*, as they were first called) were the product of the allegorizing tendencies of the early Christians applied to the natural history of the elder Pliny. The foundation of the class is the unpublished Greek *Physiologus*, which must date back before the 4th century, as Epiphanius refers to it in his controversy with Origen. The oldest translation into a European language is the 8th century Anglo-Saxon version of the *Panther*, the *Whale*, and the *Partridge* found in the Exeter Book (edited for the Early English Text Society by Mr. Israel Gol-

lancz). The Old High German version dates from before the 11th century. Philippe de Thaun produced in the 12th century his French *Livres des Créatures* and *Le Bestiaire* (printed in T. Wright's 'Popular Treatises on Science,' 1841). A Middle English 13th century version will be found, along with the Latin text of Bishop Theobald, in Morris's *An Old English Miscellany* (Early English Text Society, 1872). See also T. Wright's *Reliquiæ Antiquæ* (1841-3), and *Das Thierbuch des Norm. Dichters R. Reinsch* (1890).

Besuki (Du. *Besoeki*), residency of Java, Dutch E. Indies, the easternmost in the island, with an area of 3,922 sq. m. and a pop. of 760,000.

Beta. See BEET.

Betanzos (anc. *Brigantium Flavium*), tn., prov. Corunna, Spain, 12 m. S.E. of Corunna, on railway to Lugo and Madrid, with excellent fishery. Pop. 9,000.

Betelgeux (α Orionis), a red star varying irregularly from 1.0 to 1.4 magnitude. Its spectrum is a banded one of the third type. A small parallax of 0".02 indicates a distance of 160 light years, and it is receding at the rate of 15 m. a second from the sun, whose brilliancy it exceeds a thousand-fold.

Betel Leaf, or BETEL PEPPER (*Piper betle*), of the order Piperaceæ, is cultivated in India and the Malayan archipelago. It is a climbing plant, and the leaf is chewed with the betel nut.

Betel Nut Palm, or PINANG (*Areca catechu*), is a native of the Malay Peninsula. The fibrous fruit, about the size of a hen's egg, contains a hard seed or nut as large as a filbert. The natives cut the nut into slices, add lime to them, roll them up in a betel-pepper leaf, and chew them. This habit, which is common to all Indian and Malayan races, colours the mouth and lips red,

blackens but preserves the teeth, and gives a pleasant odour to the breath. A kind of catechu is extracted from the nuts. The palm is cultivated, and the nuts are exported.

Betham-Edwards, MATILDA BARBARA (1836), English novelist and writer on French rural life, has published *The White House by the Sea* (1855), *John and I* (1862), *Doctor Jacob* (1864), *Kitty* (1869), *A Dream of Millions* (1891), *A Storm-rent Sky* (1898), *A Suffolk Courtship* (1900), etc.; *Poems* (1885), *The Roof of France; or, Travels in Lozère* (1889), *Anglo-French Reminiscences* (1899), *France of To-day* (1892-4), *Mock Beggars' Hall* (1902), *Barham Brocklebank, M.D.* (1903), *Home Life in France* (1905), and *Literary Rambles in France* (1907). She also edited Arthur Young's *Travels in France* (1889).

Bethania, tn., Great Namaqualand, German S.W. Africa, 150 m. E. of Angra Pequena.

Bethany. (1.) Village on s.e. slope of Mount of Olives, Palestine, 2 m. s.e. of Jerusalem, and on the highway from Jerusalem to Jericho. Its modern name is El-Azariyeh. It has a lofty tower, part of a convent founded in the 12th century for Benedictine nuns: underneath is a vault, reputed to have been the tomb of Lazarus. The place is frequently mentioned in the gospels as the home of Martha and Mary and their brother Lazarus (Matt. 21: 17; Mark 11:1; John 11:18-44). The ascension of Christ took place here (Luke 24:50, 51). (2.) Town, Natal, 35 m. s.w. of Ladysmith. (3.) Town, Transvaal, 20 m. w.n.w. of Pretoria.

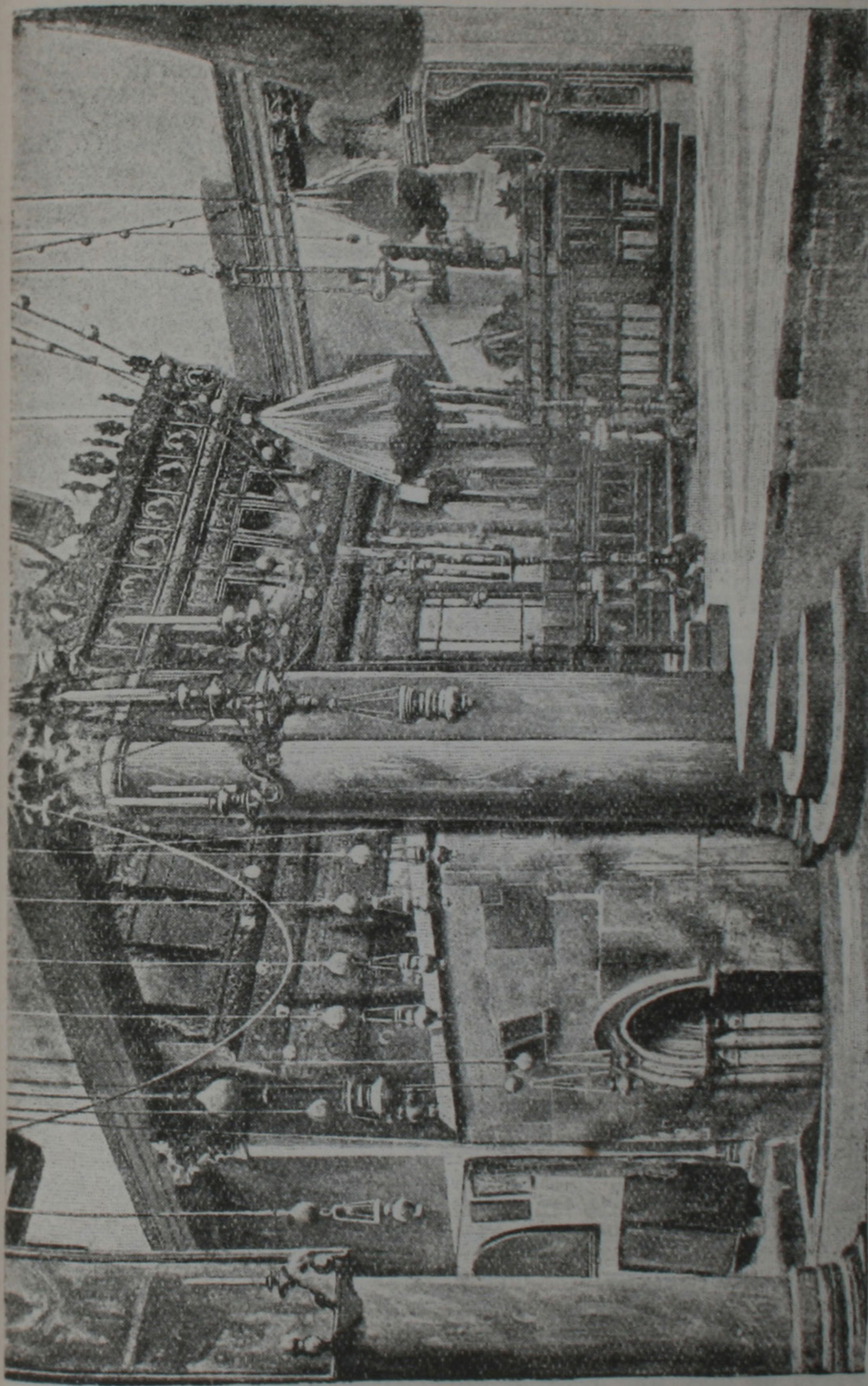
Bethel ('house of God'), vil., 12 m. N. of Jerusalem, Palestine; its earlier name was Luz, and its modern name is Beitin. It stands 2,880 ft. high, on a stony ridge. Abraham pitched his tent in the neighbourhood, and built an altar

Gen. (12:8). It was the scene of Jacob's vision (Gen. 28:19). In the time of the judges it became a sacred place (Judges 1:22), and there Jeroboam placed one of the golden calves for Israel to worship (1 Kings 12:28, 29).

Bethesda ('house of the stream'). (1.) In Palestine a pool with five porches (John 5:2). The site is doubtful. (2.) Town, Carnarvonshire, Wales, 4 m. s.e. of Bangor, on L. & N.W.R.; entirely dependent on the great Penrhyn slate quarries; the scene of great labour disputes (1896) renewed in July 1901, after the quarries had been closed for many months, and continued until 1903. Pop. 5,000.

Beth-horon, two villages 12 m. N.W. of Jerusalem, Palestine, commanding an important pass on the frontier between Benjamin and Ephraim; scene of victory of Joshua over the Amorites (Josh. 10:10). Another battle was gained here by Judas Maccabaeus over the Syrians in B.C. 166. The modern name is Beit-Ur.

Bethlehem. (1.) Village, 5 m. s. of Jerusalem, Palestine; was the birthplace of King David, and afterwards of Christ (Matt. 2:1-6). Its modern name is Beit Lahm, and it is now a thriving town with a population of over 8,000 Christians. The Church of the Nativity stands at E. end of town, on the reputed site of the manger, and is probably the oldest Christian church in the world. The town has been sacred to Christians from the earliest times. The crusaders made the safety of its inhabitants their special care prior to the capture of Jerusalem in 1099. (2.) Post bor. on l. bank of Lehigh R., Northampton co., Pennsylvania, U.S.A., 50 m. N.N.W. of Philadelphia. It is of Moravian origin, dating from 1741. It is connected by a bridge across the river with S. Bethlehem



Bethlehem: Entrance to the Church of the Nativity.

hem (pop. 8,000), the seat of the Lehigh University. There are great iron and steel works here, silk mills, and paint works. Pop., including West Bethlehem (incorporated with it in 1904), 11,000. (3.) Town, Grafton co., New Hampshire, U.S.A., about 15 m. N.W. of the Crawford Notch. It is one of the most famous resorts of the White Mt. region. Pop. 1,300. (4.) Town, Orange Free State, British S. Africa, on ry. 56 m. W. of Harrismith. Pop. 1,500 (whites).

Bethlehemites, a name assumed by several orders in the Catholic Church. Of these one was established in England, with a monastery at Cambridge (1257); another, founded in 1459, to resist the advance of the Ottoman power; and a third arose in America (c. 1665), with the special purposes of teaching in schools and nursing the sick, but became extinct in 1845. This name has also been given to the disciples of John Huss, who preached in the Bethlehem Church at Prague.

Bethlen, GABOR—*i.e.* GABRIEL—(1580-1629), Transylvanian prince, of a celebrated Hungarian family. At one time the supporter of Gabriel Bathori, Prince of Transylvania, he took advantage of his fall to ingratiate himself with the Turks, by whose aid he was elected to the throne in 1613. He invaded Austria in 1619 in support of the Bohemians, and was crowned king of Hungary in 1621. Owing, however, to the antagonism aroused by his alliance with the Turks, he was obliged to relinquish the throne to Ferdinand II. of Austria, but he remained Prince of Transylvania till his death. See Gindely's *Bethlen Gabor u. sein Hof* (1890).

Bethmann - Hollweg, THEOBALD VON (1856), German statesman, was born in Hohen-Finow, Brandenburg; educated at Bonn, where he met, and became the

friend of, the Emperor William II. In 1905 he became Prussian minister of the interior, and in 1907 Prussian vice-chancellor and minister of imperial home office. In 1909 he succeeded Von Bülow as German chancellor. In 1910 he brought forward the abortive Prussian Franchise Reform scheme.

Bethnal Green, met. and parl. bor. and civ. par. of London; a populous district in the East End Area, 759 ac. The museum in Cambridge Road, a branch of the Kensington Museum, was opened in 1872. Pop. 130,000.

Bethphage, a vil. of Palestine, on Mount Olivet (Matt. 21:1; Mark 11:1; Luke 19:29), apparently near Bethany. The site is unknown.

Bethsaida, a vil. of Palestine, E. of R. Jordan, near its entrance into Sea of Galilee; was the scene of Christ's miracle of the feeding of the five thousand (Luke 9:10-17). Another village, supposed to have stood to the W. of Jordan, on the N. shore of the lake, was the native place of Philip, Peter, and Andrew (Mark 6:45).

Beth-shemesh ('house of the sun'). (1.) Was a city of N. Judah, Palestine, between Kirjath-jearim and Timnah; town of the Levites (Josh. 21:16), and afterwards regarded as the chief city in Dan; scene of the capture of Amaziah, king of Judah, by Jehoash, king of Israel (2 Kings 14:11); now the ruined village of Ain Shems, in the valley of Sorek. (2.) A 'fenced city' of Naphtali, in Upper Galilee (Josh. 19:38). (3.) A city of Issachar (Josh. 19:22). (4.) Temple of On, Lower Egypt (Jer. 43:13).

Bethulie, tn. in the Orange Free State, British S. Africa, 110 m. by rail. S. of Bloemfontein. Coal is found in the dist. Pop. 1,700.

Béthune, tn., dep. Pas-de-Calais, France, 20 m. W.S.W. of

Lille, with which it communicates by canal. Numerous rich coal mines are found in the vicinity. The chief industries are sugar-making, distilling, and linen-weaving; and a trade in corn, cattle, and horses is carried on. Its celebrated belfry was erected in 1388. Pop. 13,600.

Bethune, EDWARD CECIL (1855), English soldier, began his military career in 1875. He received his captaincy in February 1884, and was promoted lieutenant-colonel in 1900. Bethune served in the Afghan war of 1878-80, and was present in the operations around Cabul (Dec. 1879), for which he received the medal with clasp. He served through the Boer war of 1881, also that of 1899-1902, in which he raised and commanded Bethune's Mounted Rifles (1899-1900), better known, perhaps, as 'Bethune's Horse.' In 1905 he was appointed to the general staff with rank of brigadier-general, and in 1908 was made a major-general.

Betony Wood (*Stachys betonica*) belongs to the order Labiatae. Its reddish-purple flowers are conspicuous by the roadsides and in woods during July and August in many parts of England, but it is seldom seen in Scotland and Ireland. The leaves are from one to four inches long; their deep, rounded teeth are characteristic.

Betsileo, a Negroid people living in the mountainous part of Madagascar. Subjugated by the Hovas (whom they resemble in many of their customs) at the beginning of the 19th century, they now occupy a fertile region with a healthy climate (3,750 ft. alt.), and are good agriculturists. They number about 300,000. Principal tn. Fianarantsoa.

Bettelheim, ANTON (1851), Austrian man of letters, born at Vienna; worked as a journalist (1881-6); has distinguished him-

self as biographer and literary critic; by writing lives of Anzengruber (1891; 2nd ed. 1897) and Marie von Ebner-Eschenbach (1900); editing an excellent biographical series called *Führende Geister*, afterwards *Geisteshelden* (from 1890 onwards), and *Biographisches Jahrbuch* (1897 onwards). His essays were collected as *Die Zukunft unsers Volkstheaters* (1892), *Deutsche u. Franzosen* (1895), and *Acta Diurna* (1899).

Betterment, in United States Federal law, is the increase in the value of landed property through some scheme of public improvement, or from other indirect causes, such increase of value being subject to a graduated tax. Fortuitous increase of value of this kind has been defined as 'unearned increment.' Efforts have been made in Great Britain to raise a new source of revenue by taxing this unearned increment. A Land Values Assessment and Rating Bill passed its second reading in 1904, but was dropped. The Finance (1909-10) Act, 1910, imposes a duty of one-fifth of any increment in the site value of land, payable on any change of ownership, but this cannot be said to depend on the principle of betterment.

Betterton, THOMAS (?1635-1710), English actor, dramatist, and theatrical manager, was born at Westminster. He appeared at the Cockpit Theatre about 1659-61. A visit made to Paris at the command of Charles II. brought him under the influence of Molière, with the ultimate effect of transforming the producing and staging of plays in England. Betterton was an admirable actor, and his character ranked high in a dissolute age. He was buried in Westminster Abbey. Of the seven plays attributed to him, some are adaptations from the French or from the older dramatists, but all of

them are poor in quality. See Colly Cibber's *Apology for my own Life* (new ed. 1888); R. W. Lowe's *Life of Betterton* (1891).

Bettia, tn., Champaran dist., Bengal Presidency, India, 90 m. N.N.W. of Patna. Pop. 25,000.

Bettinelli, SAVERIO (1718-1808), Italian writer, was born at Mantua. A Jesuit, he was successively teacher of rhetoric at Venice (1748), of history and literature at Parma (1751), and of eloquence at Modena. He was the author of many tragedies and poems, but he is best known in Italian literature as the writer of an elaborate treatise on *Il Risorgimento d'Italia negli Studi, nelle Arte e ne' Costumi dopo il Mille* (1775). In 1801 an edition of his collected *Opere* was published in 24 vols. See Napione's *Vita* (1819), and Tipaldo's *Biografia degli Italiani Illustri* (10 vols. 1834-45).

Betting. At the end of the 19th century the practice of backing horses on the turf had developed to an enormous extent; but among the richer and more cultured classes wagering of every kind had greatly decreased since the 'fifties. At that period immense sums changed hands on the turf, Mr. James Merry and Sir Joseph Hawley being among the most fortunate winners. The eccentric Lord Glasgow was said to have laid Lord George Bentinck £90,000 to £30,000 against a certain horse; the Marquis of Exeter would put many thousands upon his own horses; the Marquis of Hastings lost considerably over £100,000 when Hermit won the Derby, and Captain Machell netted £63,000. But since that time the bulk of the money has come to flow from the pockets of the humbler classes.

By the Betting Acts, 1853 and 1874, which apply to Scotland as well as to England, it is enacted

that no house, office, room, or other place shall be used for the purpose of the owner or occupier betting with persons resorting thereto. It has been held that a stool, an umbrella, a tree, but not an enclosure at a racecourse, is a place (see *Powell v. Kempton Park Racecourse Co.*, L.R. 1899, App. Cas. 143); and by recently confirmed municipal by-laws, a common stair or entrance to a tenement dwelling has been declared to be a place. The 'resorting' must be physical—*i.e.* not by letter or telegram. The penalty for infringement is a fine of £100, or six months' imprisonment. Any person receiving money on condition of paying a bet is liable to a fine of £50. Money so paid may be recovered. Advertisements and circulars relating to betting-houses are forbidden. An appeal lies to quarter sessions. A betting-house is declared to be a common nuisance, and may be treated as a common gaming-house under the Gaming Act, 1845. The Betting and Loans (Infants) Act, 1892, makes it a misdemeanour to send betting circulars to persons under twenty-one, and the Street Betting Act, 1906, makes it an offence to frequent streets or public places for the purpose of betting or settling bets.

A bet *per se* is not illegal; but if the backer deposit his stake money with the layer in advance, the transaction is contrary to the statute. Cockburn's Act of 1853, and Anderson's Act, which extended the principle to Scotland in 1874, drove those bookmakers who wished to deal with the ready-money public to Boulogne, and later to Holland. It was recently attempted by the Anti-Gambling League to make these acts applicable to the bookmaker who betted to ready money in the ring; and the action *Hawke v. Dunn* went through every stage

known to the law, until at length the pursuer, defeated on a technical point, retired from the field.

It is not to be supposed that the bookmaker always wins. Still, provided he 'bet to figures,' he possesses an advantage which brings him out uppermost in the long run. Supposing there are three horses in a race, and all hold equal chances, each will have one chance in three, or, in other words, there will be one chance in its favour and two against it—*i.e.* the odds against it would be 2 to 1. Let us suppose the actual chances possessed by three are in the ratios of three, two, and one. The just odds will then be calculated as follows:—A has a chance (three) exactly equal to that of the other two put together (two and one). Therefore its chances of success or defeat are even. B has two chances of winning, against four possessed by its rivals (three and one), so that the odds against it are 4 to 2 or 2 to 1. C has only one chance against the five held by the others conjointly (three and two), so that the odds against it are 5 to 1. The proper odds would therefore be: Evens A, 2 to 1 against B, 5 to 1 against C. But the bookmaker who would offer such prices as these has not yet left home. These are more like the ordinary ring prices. Evens A, 6 to 4 B, 75 to 20 C. Represented in another way, the chances of A, B, and C, as we have estimated them, are $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{6}$ of the whole chance of winning, and added together they make an exact unit. At the odds laid by the bookmakers, they are credited with chances amounting to $\frac{1}{2}$, $\frac{2}{5}$, and $\frac{1}{3}$, which, added together, make $1\frac{1}{10}$; and this odd tenth is the bookmaker's profit. It often happens that only two or three horses are backed, no matter how large the field; and should one of the three win, the

bookmaker will be fortunate if he 'gets out.' On the other hand, it may happen that, in a field of three or four, each is favourite in turn; and here the professional reaps a large harvest. Given a good connection and sufficient capital, bookmaking is a very lucrative profession; but bad debts are many, and often large.

The object of the man who backs the field against all comers is to lay the same amount against every horse at the relative odds. Thus, with the betting 5 to 4 against A, 2 to 1 against B, 4 to 1 against C, and 100 to 12 against D, he would, if making a £1,000 book, like to lay £1,000 to £800 A, £1,000 to £500 B, £1,000 to £250 C, and £1,000 to £120 D. And if he were to lay against no more horses, his would be what is called a one-eyed book, involving a certain loss in the event of the victory of A, the favourite. And the maker of one-eyed books would not last long. But this extreme case is given to show plainly that there is more profit for the layer when an outsider wins than when a favourite is successful. It often happens that, through inability to lay enough money against the other runners to 'straighten' his book, the maker is what is called 'bad against' the favourite, or some other horse well backed—in other words, that he has 'overlaid' his book against that particular horse. There are then two courses open to the defender of the field: he may accept the odds against that horse from some other bookmaker—a system technically known as 'backing it in'—or he may face the situation, and trust to luck. Again, some layers frequently make a book for some particular horse in which they may be more or less interested—*i.e.*, while laying against the rest according to the first principles of

bookmaking, betting as little as possible against that one, in order to keep it. But these are methods seldom employed by the fielder, who has found out that the straightest way to success is to bet to figures. 'You cannot be backer and layer at the same time,' is a maxim of the ring.

Post betting, as the name implies, takes place on the scene of action, and begins as soon as the numbers of the starters have been displayed in the frame set apart for that purpose. 'Ante-post' betting refers to wagers made before the day of the race—it may be twelve months or more in advance. But this form of betting has long been on the decline, since so many well-backed horses are 'scratched' before the day of the race; and the Derby, Cesarewitch, and Cambridgeshire are the only races upon which much 'ante-post' wagering now takes place. For nearly thirty years 'P.P.'—i.e. 'play or pay'—betting was, according to the written rules, the exception, the cases in which bets were to be P.P. being specifically enumerated; that is to say, it was understood that, save in certain races, the bet was off (void) if the horse selected by the backer did not start. He was allowed a run for his money. In 1886, however, the committee of Tattersall's (now amalgamated with that of the Newmarket Rooms, Tattersall's being but seldom resorted to for betting purposes, though the old room is still kept open) ordained that all bets should be P.P., with four exceptions—(1) when the nominator of the horse dies before the decision of the race; (2) when the race is postponed, or its conditions altered, after the bet is made; (3) bets on matches; (4) bets made, after the running numbers are put in the frame,

about a horse which is not subsequently under the starter's orders.

But towards the latter end of the century a new form of betting was introduced which quite revolutionized the old system—that is, 'starting price' 's.p.' betting. Most people are unable to attend race meetings save, perhaps, one or two yearly but they can none the less bet upon them to the fullest extent. The layer contracts to lay the exact price as quoted in a certain sporting paper, the backer, as a matter of course, getting a run for his money. In the early days of this system considerable rivalry existed between the two leading racing papers, and the starting prices given in the *Sporting Life* used to differ somewhat from those in the *Sportsman*; but now the prices given are practically the same. A reporter for each newspaper is told off to get the price, using his own observation, and being perhaps allowed to peruse the betting book of one of the magnates of the ring; and this price is subsequently wired all over the country. Most s.p. layers decline to accept more than £1 for one horse less than half an hour before the time fixed for the race, the reason being obvious. Should the layer receive a large amount, he would, in order to insure himself, have to 'cover at the post'—i.e. wire to back the horse in the ring. But some s.p. mongers take no thought for covering, their method being simply a gamble; for, as it is impossible to tell what the starting price will be until after the race has been run, so is it impossible to make certain of winning over any one of the possible results. Hence s.p. betting can be by no means a safe business to pursue.

The chief rock ahead of the

bookmaker is the statute familiarly known as the Gaming Act. A customer who is lacking in conscience has only to plead this act in a court of law to get absolved from all betting liabilities. See GAMING.

The *paris-mutuels* or 'mutual bets' system of wagering, introduced into France about 1835, and carried to England three or four years later, has never commended itself to British authorities. A self-registering machine was introduced on British racecourses by a Spaniard named Oller some time in the 'sixties, and became so popular that more than one British bookmaker adopted the system, when outside betting was permitted by the authorities. The 'Parry,' as it was familiarly called, was perfectly fair to the backer. It was impossible for any one to cheat; and the money taken over the losing horses, less 10 per cent. deducted from the gross takings, went to pay the backers of the winner. It was very simple; and as they frequently obtained better odds on the winner than would have been offered them in the ring, punters patronized the apparatus freely. But after a year or two the law stopped the 'Parry.' The system is still used in Australia, India, and France, but the machine has disappeared. In France there are *paris-mutuels bureaux*, where the units are different sums—from 10 francs to 100 francs and over—and the backer invests his cash on the number of the horse he may select. After the race a statement of the value of each winning bet, calculated on a unit of 10 francs, is placed on a board visible to all the operators. Backers of successful horses, both winners and placed horses, can thus easily calculate their winnings, which are obtainable from a *bureau*

corresponding to that whence the voucher was issued. In France the percentage deducted from the gross sum invested is divided between the race fund and the poor; but in the British colonies, where the system is called the 'Totalizator,' the race funds get it all. See Stutfield's *Tattersall's Rules on Betting* (1888), E. Spencer's *Great Game* (1900), A. E. T. Watson's *The Turf* (1898), Hogge's *Betting and Gambling* (1904), and Rowntree's *Betting and Gambling* (1905).

Betto, BERNARDO DI. See PINTURICCHIO.

Bettws-y-Coed, par., vil., and tourist resort, Carnarvonshire, Wales, on the L. & N.W.R., 3 m. s. of Llanrwst; beautifully situated among pine-clad hills, at the junction of the Llugwy with the Conway. The Swallow Falls, Fairy Glen, and Miner's Bridge are much visited by tourists. It was a favourite haunt of David Cox, and is an excellent centre for fishing, and for exploring the Snowdon district. Pop. 900.

Betty, WILLIAM HENRY WEST (1791-1874), a precocious boy actor, known as the 'Young Roscius,' was born at Shrewsbury. He first appeared at Belfast in 1803, and till 1806 played in London and the provinces. He retired from the stage in 1807 with a large fortune. He reappeared in 1812-24, without success. See his autobiographical *Life of Young Roscius*.

Betul, or BAITUL, a hilly dist. in Central Provs., India, 110 m. N.W. of Nagpur; forms the W. section of the great Satpura plateau. It was once the centre of the ancient Gond kingdom of Kherla. Coal is found. Area, 3,826 sq. m. Pop. 285,000.

Betula. See BIRCH.

Betulaceæ, in botany, an order of seventy-five species, chiefly in north temperate regions; closely

related to Cupuliferæ; includes the birch and alder.

Betwa, riv., rising in the Vindhya Mts., Bhopal, Central India Agency; flows N.E. through Bundelkhand, and joins the Jumna on the r. bk. near Hamirpur, after a course of nearly 400 m.

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Beuthen, tn., prov. Silesia, Prussia, 50 m. S.E. of Oppeln, near the Polish frontier; stands in the middle of the Upper Silesian coal, iron, and zinc industries. Pop. 60,000.

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Beuzee - Conq., comm., Finistère dep., France, 12 m. S.E. of Quimper. Pop. 5,000.

Bevagna, tn., Italy, prov. of Perugia, and 16 m. S.E. of Perugia; has large wine trade. Pop. 6,000.

Beveland. (1.) NORTH, isl., prov. Zeeland, Netherlands; lies N. of Walcheren and S. Beveland, and is washed on the N. by the E. Scheldt. It is 12 m. long by 4 m. broad. (2.) SOUTH, isl., prov. Zeeland, Netherlands; lies between the E. and W. Scheldt, behind the island of Walcheren. It is 25 m. long by 5 to 6 m. wide, and is bisected by the S. Beveland Canal, made in 1865. In 1530 and 1532 it was overwhelmed by the sea, but has since been entirely reclaimed. Its chief town is Goes, or Ter Goes.

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Beverley, par. and munic. bor., E. Riding of Yorkshire, England, 8 m. N.W. of Hull. The twin-towered church of St. John (Beverley minster) is one of the finest ecclesiastical buildings in England, the 14th century 'Percy shrine' being of exquisite design and workmanship. The other parish church is that of St. Mary's. Beverley is the seat of a suffragan bishop. Tanning, brewing, iron-founding, and agricultural implement making. Pop. 13,000.

Beverly, city, Essex co., Massachusetts, U.S.A., on the N. coast of Massachusetts Bay, opposite Salem, 16 m. N.E. of Boston. It is a fashionable summer resort. Manufactures carriages, machinery, shoes, oilcloths, and belting, and has considerable fisheries. Pop. 16,000.

Beverwijk, tn., N. Holland prov., Netherlands, 8 m. N. of Haarlem. Pop. 5,300.

Béveziers, BATTLE OF. See BEACHY HEAD, BATTLE OF.

Bevis of Hampton, or the French *Beuve d'Hanstone*, was the name of one of the oldest Italian romances of chivalry, popular in mediæval England. Included in the Carolingian cycle of romances, the subject is an old French story, written in *ottava rima* in the beginning of the 14th century, published in 1489, and printed by Vérard as a French prose romance in 1500. An English poetical version of the story was edited by Dr. E. Kölbing for the Early English Text Society (1885-94), xlvi., xlvi., lxv.

Bewcastle, par. and vil., Cumberland, England, 10 m. N.E. of Brampton. In the churchyard stands a cross, 14 ft. high, with runic inscription, supposed to date from the 7th century.

Bewdley, par. and munic. bor., Worcestershire, England, on riv. Severn, 3 m. W.S.W. of Kidderminster. Manufactures combs, brassware, ropes, and bricks. Pop. 3,000. See Burton's *History of Bewdley* (1883).

Bewick, THOMAS (1753-1828), English wood-engraver, who revived the art, first attracting notice in 1775, and brought it to a perfection which it had never previously attained. Among his best works were the illustrations to a *General History of Quadrupeds* (1790), *History of British Birds* (1809), *Aesop's Fables* (1818), and blocks for editions of the poets printed by Bulmer of the Shakespeare Press. His woodcuts are much prized by collectors. In 1870 an edition of over two thousand *Bewick Woodblocks* was issued by Reeve. See *Memoir of T. Bewick, by himself* (1862), and *Lives* by Thomson (1882), Dobson (1884), and Rosin (1888); Jackson and

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Bewcastle, par. and vil., Cumberland, England, 10 m. N.E. of Brampton. In the churchyard stands a cross, 14 ft. high, with runic inscription, supposed to date from the 7th century.

Bewdley, par. and munic. bor., Worcestershire, England, on riv. Severn, 3 m. W.S.W. of Kidderminster. Manufactures combs, brassware, ropes, and bricks. Pop. 3,000. See Burton's *History of Bewdley* (1883).

Bewick, THOMAS (1753-1828), English wood-engraver, who revived the art, first attracting notice in 1775, and brought it to a perfection which it had never previously attained. Among his best works were the illustrations to a *General History of Quadrupeds* (1790), *History of British Birds* (1809), *Æsop's Fables* (1818), and blocks for editions of the poets printed by Bulmer of the Shakespeare Press. His woodcuts are much prized by collectors. In 1870 an edition of over two thousand *Bewick Woodblocks* was issued by Reeve. See *Memoir of T. Bewick, by himself* (1862), and *Lives* by Thomson (1882), Dobson (1884), and Rosin (1888); Jackson and

Chatto's *Hist. of Wood-engraving* (1861), Linton's *Hints on Wood-engraving* (1879), and Hamerton's *Graphic Arts* (1882).

Bex (pron. *Bé*), small tn., canton Vaud, in the Rhone valley, Switzerland, 25 m. s.e. of Lausanne; starting-point of the electric line to Gryon and Villars. Pop. 4,600.

Bexhill, or BEXHILL-ON-SEA, coast par. and wat.-pl., E. Sussex, England, 5 m. s.w. of Hastings; has mineral springs and a *kursaal* of the continental type. Pop. 12,200.

Bexley, tn. and par., N.W. Kent, England, 7 m. s.e. of Greenwich. Pop. (par.) 13,000.

Beyerland, Dutch isl. See BEIJERLAND.

Beyerlein, FRANZ ADAM (1871), German dramatist and novelist, born at Meissen; wrote two of the greatest successes of the year 1903, the play *Zapfenstreich* and the novel *Jena oder Sedan*. Both deal with military life, and both are written in the naturalistic spirit, and show considerable talent. Besides these, Beyerlein has written the plays *Dämon Othello* (1895), *Das Siegesfest* (1896), *Der Grossknecht* (1905), and the novels *Das graue Leben* (1902), and *Ein Winterlager* (1906).

Beyle, MARIE HENRI (1783-1842), French author, known under the pseudonym of 'Stendhal' (from Stendal, the home of Winckelmann, whom he greatly admired), was born at Grenoble, and served in the army during the Napoleonic invasions of Italy and Russia. From 1830 to 1833 he was French consul at Trieste, which post he exchanged for a similar one at Civita Vecchia (1833-41). In 1831 his greatest novel, *Le Rouge et le Noir*, appeared; and in 1839 *La Chartreuse de Parme* brought him additional fame. Among his other works are *L'Histoire de la Peinture en Italie* (1817) and

De l'Amour (1822). He also attracted notice by *Shakespeare et Racine* (1823), a manifesto in favour of romanticism. His writing is brilliant, morbid, and cynical; but the plots of his novels are weak, displaying a constant straining after effect which is never realized. Prosper Mérimée is regarded as his pupil. Two excellent accounts of Beyle and his literary career have been written — Paton's *Henry Beyle* (1874) and Rod's *Stendhal* (1892). See also Sainte-Beuve's *Causeries de Lundi*, Maurice Hewlett's introduction to *La Chartreuse de Parme* (1902), Chuquet's *Stendhal-Beyle* (1902), and Stryienski's *Comment a vécu Stendhal?* (1900).

Beypur, seapt. near mouth of Beypur R., Malabar dist., Madras, w. coast, India, 7 m. s.e. of Calicut; station on railway across India from Madras. Pop. 6,700.

Beyrich, HEINRICH ERNST (1815-96), German geologist and palæontologist, born at Berlin, where he became (1856) professor of geology and palæontology at the university, and (1873) director of the geological department. He published the geological chart of Germany, due in great part to his labours. Among his principal works are *Untersuchungen über Trilobiten* (2 vols. 1846); *Konchylien des Norddeutschen Tertiärgebirges* (1853-7); *Ueber einige Cephalopoden aus dem Muschelkalk der Alpen* (1867).

Beyrout. See BEIRUT.

Beyschlag, WILIBALD (1823-1900), German evangelical writer, and professor of theology at Halle (1860-1900). He has published numerous works, including *Die Christologie des Neuen Testaments* (1866), *Das Leben Jesu* (3rd ed. 1893), *Neutestamentliche Theologie* (1891-2; trans. 1896), *Der Brief des Jakobus* (6th ed. 1897), *Der Altkatholizismus* (3rd ed. 1883), and *Aus meinem Leben* (1896-9).

Beza, THEODORE, or DE BÈZE (1519-1605), Genevan reformer, was born at Vezelay. In 1548 his religious convictions became so strong that, on recovering from a severe illness, he felt compelled to join Calvin at Geneva. Earlier in the same year appeared his *Poëmata Juvenilia*, the publication of which he afterwards deeply regretted. For about ten years he was professor of Greek at Lausanne; but returning to Geneva in 1558, he was appointed professor of theology and president of the college. While at Lausanne he published (1550) a drama, *Abraham's Sacrifice*. The consummate tact with which he conducted negotiations on behalf of the oppressed Vaudois, or Waldenses, in 1557 and 1558, led to his appointment as representative of the Protestants at the conference of Poissy (1561). Detained in Paris by the religious wars, he became the most trusted adviser of the reformed leaders. In 1563 he returned to Geneva, and on Calvin's death, in the following year, was appointed his successor. In 1562 the French government permitted the publication of the Huguenot Psalter, most of which was written by Beza. To him also the Huguenots owed the final revision of their Bible. He presented Cambridge University with the uncial New Testament MS. known as the Codex Bezae. (See BIBLE.) His best-known works are his edition of the Greek Testament (1565), his *Histoire Ecclésiastique des Eglises Réformées du Royaume de France* (1580; new ed. 1883), and his translation of the New Testament into Latin (1556). See H. M. Baird's *Life of Beza* (1899), and bibliography there.

Bezant, in heraldry, one of the charges called roundels; is a small disk of gold. On the Continent it may be either gold or silver.

Bezants, the coins of the Byzantine empire, but specially the gold bezant (*bizantium, nummus aureus* or *solidus aureus*), struck between 395 and 1453, and varying in value between ten shillings and twenty shillings for the gold piece, and between one and two shillings for the silver. The *dinar* of the Caliphate was called by the crusaders the 'Saracen bezant,' and this latter coin gradually displaced the Greek bezant. For centuries the bezant was used as the basis of all transactions between the East and the West, but it eventually gave way before the Venetian ducat. The 'white bezant,' current in England in the 14th century, was worth about two shillings.

Bezdan, tn., co. Bacs-Bodrog, Hungary, near the r. bk. of the Danube, where the Franzen or Bacser Canal (from the Theiss) enters the river; 22 m. s. of Baja. Pop. 8,000.

Béziers, tn., dep. Hérault, France, beautifully situated on the slope of a hill overlooking the fertile valley of the Orb, and on the Canal du Midi, 50 m. by rail s.w. of Montpellier. There are remains of a Roman amphitheatre. Largely a commercial town, Béziers has an important market for wines, fruit, and cattle. The crusade against the Albigenses resulted, in 1209, in the wholesale massacre of the inhabitants. Pop. 52,000.

Bézique, a card game in which the name *bézique* is applied to the occurrence in one hand of the knave of diamonds and queen of spades, may be played by two, three, or four persons, with two, three, or four packs of cards from which have been removed cards with from two to six pips; the remaining cards rank in this order—ace, ten, king, queen, knave, nine, eight, seven. If two are playing, eight cards are dealt to each, thus leaving forty-eight

to form what is called 'stock,' the top card of which is turned up for trumps. It is laid at the side of the stock, of which it is the last or bottom card. The non-dealer leads, the dealer follows, not necessarily in the same suit. If he play a higher card of the suit led, or trumps, he secures the lead. In the case of a tie the leader wins. After every trick the players each draw a card from the stock, the winner of the trick taking the top one, his opponent the next. Thus they continue to play and draw alternately until the stock is exhausted. After that point the second player must follow suit when possible, and take the trick when he can. The first to score 1,000 points wins the game. If his opponent has not scored 500, the game counts double.

The objects of the play are (1) to promote in the hand certain combinations of cards to which, on being declared, different scores attach; (2) to win aces and tens; and (3) to win the so-called last trick—so named not because it is the last trick of the hand, but because it is the trick just before the drawing of the last cards from the stock. Combinations of cards are declared by the winner of a trick before he draws from the stock, the cards (one of which must not have been declared before) being placed face upwards upon the table, where they remain still part of the hand and still playable, as though they had not been declared. A player is not obliged to declare, though he may win a trick and hold scoring combinations. More than one declaration may succeed one trick. The combinations, on being declared, count as follows:—Class 1. Marriage (king and queen of any suit), 20; royal marriage (king and queen of trump suit), 40; sequence of five highest trumps (ace, ten, king, queen,

and knave), 250. Class 2. Béziqne (queen of spades and knave of diamonds), 40; double béziqne (all the béziqne cards), 500. Class 3. Any four aces, 100; any four kings, 80; any four queens, 60; any four knaves, 40. Each ace and ten won in tricks counts 10. The last trick counts 10. In turning trumps, the dealer scores 10 if he turn the seven; either player scores 10 for exchanging from the hand a seven of trumps for a turned trump not a seven, and 10 for declaring the second seven of trumps, which is simply shown on being declared, and not put on the table.

Though more than one declaration may be made to one trick, no card of one combination may form part of another declared after the same trick. For instance, four knaves and a marriage may be declared after the same trick, but king and queen of spades and knave of diamond cannot be declared together to score marriage and béziqne. The player must first declare one combination, say béziqne; and when he comes to declare after another trick, he can score marriage by declaring the king. A declaration cannot be made of cards that have already all been declared. If a sequence in trumps is declared, marriage of the king and queen on the table cannot be declared. To score both is only possible by declaring marriage first, and, after winning another trick, adding the remaining sequence cards. A card once declared can be declared again only in combinations of a different class. The winner of the last trick has the privilege of declaring anything in his hand under the general regulations affecting declaring, and after that further declarations cease. To him also falls the remaining unturned card of the stock, the loser taking the turn-up card, or the seven that may have been ex-

changed for it. The cards on the table that have been declared but not played are now taken up, and the last eight tricks are played under different rules. The winner of the last trick leads, and the other player *must* follow suit if possible; if not possible, he *must* win the trick by trumping if he can. The tricks now won are valuable only for the aces and tens they may contain. If a player revokes in the course of these tricks, or does not win when able, the last eight tricks are forfeited to his opponent.

The lead in *béziq*ue is considered a disadvantage; therefore players are cautioned against winning tricks, unless they wish (1) to declare, (2) to make an ace or ten of the suit led, (3) or to win an ace or ten that has been led. Except in trumps, sevens, eights, and nines are valueless; knaves, too, unless they are *béziq*ue and trump knaves, are of little account. The rule in difficulties is to lead an ace or a ten in preference to a king or a queen. Generally, in trying for aces players sacrifice some other score, and are pretty sure to lose some of the aces after declaring them. See Camden's *Standard Rules of Béziq*ue (1889), and M. Berkeley's *Béziq*ue and *Cribbage* (1890).

Bezoar, a morbid concretion occasionally found in the stomach and intestines of ruminants (*e.g.* antelopes, vicuña, llama, chamois, wild goat, and domestic cattle), formed by lime or magnesium phosphate adhering to some foreign substance, or by a portion of undigested food. The 'Oriental bezoar stone,' as it is termed, sometimes consists of a ball entirely of hair or vegetable fibre. These hair balls are frequently found in the stomachs of British cattle, their origin being ascribed to the common habit of a cow licking the hide of its calf or of another cow.

Bezold, WILHELM VON (1837-1907), German meteorologist, was born at Munich; became a professor there (1868), and in 1885 went to Berlin as professor of meteorology and director of the Meteorological Institute. He has published *Die Farbenlehre im Hinblick auf Kunst und Kunstgewerbe* (1874), *Die Kälterückfälle im Mai* (1883), *Ueber Zündende Blitze im Königreich Bayern* (1884), etc.

Bezawada, tn., Krishna dist., Madras, India, 45 m. N.W. of Masulipatam; of some commercial importance since the introduction of the railway. Has rock-cut Buddhist temples. Pop. 24,000.

Bhagalpur. (1.) Division of Bengal, India. Area, 20,511 sq. m. Pop. 8,700,000. (2.) District (area, 4,226 sq. m.) in above; is bisected by the Ganges. Indigo is the chief product. Pop. 2,100,000. (3.) Chief tn. of the above dist.; is situated on the r. bk. of the Ganges, 110 m. E. by s. of Patna. Contains interesting Jain temples. Pop. 76,000.

Bhagavad Gita ('The Song of the Blessed One'), the work of an unknown author, was shown by J. N. Farquhar (*East and West*, September 1904) to have been written in the late classic Sanskrit (400-500 A.D.), and added to the *Mahabharata* (Book vi.) for the advancement of the worship of Brahma, who here appears incarnate in Krishna. Hence the poem has at all times exercised a powerful influence on the worshippers of Vishnu. Attempts have been made to identify Krishna with Christ, and to ascribe the striking resemblance of many of its verses with those of Holy Writ to the influence on Hinduism of early Christians and Jews—a theory combated by the late Kasinath T. Telang of Bombay in his scholarly treatise on the *Bhagavad Gita* in

vol. viii. (1898) of Max Müller's *Sacred Books of the East*. It has also been translated into English by Davies (1882), Sir Edwin Arnold, *The Song Celestial* (1885), and Dr. Barnett (1903).

Bhagavatapurana. See PURANAS.

Bhagirathi. (1.) Branch of the Ganges, in Bengal, India; passes through the Murshidabad dist., joins the Jalangi, becoming the Hugli. (2.) River in Garhwal state, India; joins the Alaknanda at Deoprayag, and forms the Ganges.

Bhainsror, tn. and fort in Udaipur dist., Rajputana, India, 120 m. S.E. of Ajmere; has vast ruins of ancient temples to Siva.

Bhamo, tn. on l. bk. of Irawadi, 40 m. W. of Chinese frontier, and over 200 m. by rail and river N.E. of Mandalay, Upper Burma. It is an important caravan centre between China and Burma, and marks the limit of navigation on the Irawadi. Pop. 9,000.

Bhandara, tn., Bhandara dist., Central Provinces, India, 40 m. E. of Nagpur, on the Wainganga R. Pop. 14,000.

Bhang, BANG, or BANGUE, the Indian name for the dried leaves of the hemp plant (*Cannabis indica*); strongly narcotic, and used either with or without tobacco or opium for smoking. An infusion gives the drink *hashish*, which produces a peculiar delirium, and catalepsy. A sweetmeat called *majun* is also made with the leaves. The drug is used in medicine as an anodyne, hypnotic, and antispasmodic.

Bhanpura, walled tn., 60 m. S. of Kotah, Indore state, Central India. Pop. about 20,000.

Bhartpur, or BHURTPORE, cap. of the feudatory state of the same name, in Rajputana, India. In 1805, the British, under Lord Lake, made four unsuccessful attempts to capture the fort, which was stormed by Lord Combermere in 1826. Pop. 44,000. The state

has an area of 1,982 sq. m., and a pop. of 627,000. See Jvātānā hāya's *Hist. of Bhartpur* (1898).

Bhartrihari, a Hindu poet who is believed to have flourished in the 1st century. He is the reputed author of the *Three Centuries* (*Sat-takas*) of Sanskrit apophthegms upon love, wise conduct of life, youth, and old age. The best edition of his writings is that edited by K. T. Telang, in the 'Bombay Sanskrit Series;' and there are translations by C. H. Tawney (1877) and B. H. Wortham (1886).

Bhatgaon, tn., Nepal, India, 5 m. S.E. of Khatmandu. Brahman resort.

Bhatkal, seapt. in N. Kanara, Bombay Pres., India, 80 m. N.W. of Mangalore. From the 14th to the 16th century it was a flourishing trade centre. Pop. 7,000.

Bhatnair, now called HANUMANGARH, tn. and fort in the north of Bikanir state, Rajputana. The fort was captured by Tamerlane in 1398, and afterwards by George Thomas, the Irish adventurer. In 1807 it was taken by the rajah of Bikanir.

Bhau Daji (1822-74), a physician and antiquarian, born in Manjare, Sawantwari state, Bombay, India. He first taught in the Elphinstone Institution, Bombay, after which he took up medicine and became assistant professor of Grant Medical College, Bombay, and from 1851 practised with great success in Bombay. He executed valuable research work in leprosy while studying the old Sanskrit drugs. The values of the ancient Sanskrit numerals were determined by him.

Bhaunagar, or BHAVNAGAR, chief tn. and port of the state of the same name, Kathiawar peninsula, Bombay, India. Exports cotton. Pop. 57,000. The state has an area of 2,860 sq. m., and a pop. of about half a million.

Bhavabhuti, a celebrated Indian dramatist of the 7th century

8th centuries, who, with Kalidasa and Harsha, completes the great dramatic trio. Three of his plays have reached us—viz. the *Malati-madhava*, *Maha-vira-carita*, and *Uttara-rama-carita*; the history of Rama forming the subject of the two latter. The first has been translated by H. H. Wilson in *Theatre of the Hindus* (3rd ed. 1871), the second by J. Pickford (1871), and the third by C. H. Tawney (1874).

Bhavani-Kudal, tn., Madras Pres., India, 40 m. w. by s. of Salem; has famous temples to Vishnu and Siva. Pop. 10,000.

Bhavishyapurana. See PURANAS.

Bhel. See BAEL and ÆGLÉ.

Bhera, munic. tn., Shahpur dist., Punjab, India, 80 m. s. of Rawal Pindi. Pop. 20,000.

Bhils, an aboriginal tribe who inhabit the hilly tracts of the Vindhya range, Central India, and the jungles of Khandesh dist., Bombay Presidency; a primitive, dark, sturdy race of hunters. Their territory is traversed by the Narbada, which they regard with the utmost veneration and fear. Of a low civilization, they are improving under British rule, and are remarkable for their truthfulness and fidelity. They number nearly 1½ millions. See Rowney's *Wild Tribes of India* (1882).

Bhilsa, tn., Bhopal, Central India, 26 m. N.E. of Bhopal. Grows coarse tobacco, and is noted for its Buddhist topes. The Great Tope at Sanchi is to the s.w. of Bhilsa. See Maisey's *Sanchi and its Remains* (1892).

Bhima, riv., S. India, rises in Bengal and flows s. and s.e. to join the Kistna, 20 m. N. of Raichur, Hyderabad. Length, 400 m.

Bhir, or BIRH, tn., Hyderabad, India, 70 m. E. of Ahmednagar. Pop. 18,000.

Bhiwandi, tn., Tanna dist., Bombay Presidency, India, 30 m. N.E. of Bombay. Pop. 10,000.

Bhiwani, tn., Hissar dist., Punjab, India, 70 m. w. by N. of Delhi. Commercial centre, with an important trade in sugar, salt, pepper, and metals. Pop. 36,000.

Bhojpur, tn., Shahabad dist., Bengal, India, 7 m. E. of Buxar. Pop. 10,000.

Bhopal, chief tn. of the feudatory state (area, 6,874 sq. m.) of the same name, Central India, 105 m. N.E. of Indore. The Bhopal dynasty was founded at the beginning of the 18th century by Dost Mohammed, an Afghan in the service of Aurungzebe. Pop. 77,000. Pop. of state, about 1,000,000.

Bhor, a feudatory state, Bombay Presidency, India; cap. Bhor, (pop. 4,200), 30 m. s. of Poona. Area, 1,491 sq. m. Pop. 140,000.

Bhotan. See BHUTAN.

Bhownagree, SIR MANCHERJEE MERWANJEE (1851), son of a Parsee merchant; born at Bombay, and educated at Elphinstone College and Bombay University. He became sub-editor of the *Statesman* newspaper (1871), and in 1881 came to England to study law, and was called to the bar at Lincoln's Inn (1885). He assisted (1887-91) the maharaja of Bhaunagar to establish a constitutional administration, and to reorganize the judicial and police departments. Returning to London (1891), he entered Parliament as Conservative member for Bethnal Green, N.E., London (1895-1906). He was knighted in 1897. His works include *Hist. of the Constitution of the E. I. Company* (1871); Gujerati translation of Queen Victoria's *Life in the Highlands*.

Bhuj, cap. of feudatory state of Kutch, Bombay Presidency, India, 120 m. w. by N. of Ahmadabad. Pop. 26,000.

Bhurtpore. See BHARTPUR.